Chapter 3: Discovering Tut: the Saga Continues

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Exercise 3.1 — Understanding the Text

Q1 Give reasons for the following.
(i) King Tut's body has been subjected to repeated scrutiny.
(ii) Howard Carter's investigation was resented.
(iii) Carter had to chisel away the solidified resins to raise the king's remains.
(iv) Tut's body was buried along with gilded treasures.
(v) The boy king changed his name from Tutankhaten to Tutankhamun.

SOLUTION

(i) King Tut's body has been subjected to repeated scrutiny because his death at a young age, the end of his dynasty, and persistent speculation about whether he was murdered have made him one of history's most intriguing figures. Since the discovery of his tomb in 1922, modern science has kept revisiting him — first an X-ray in 1968 revealed missing bones, and more recently a CT scan in 2005 was conducted to probe the medical mysteries of how he died and how old he was at death.

(ii) Howard Carter's investigation was resented because, in the process of removing the mummy from its solid gold coffin, he caused severe damage to Tut's remains. The ritual resins had hardened and cemented Tut to the coffin, and Carter's men had to chisel the resin away and ultimately remove the mummy's head and sever nearly every major joint. This destructive handling of a royal mummy was seen as disrespectful and irreversible.

(iii) Carter had to chisel away the solidified resins because they had hardened over the centuries and had firmly cemented Tut's mummy to the bottom of his solid gold coffin. Carter first tried using the desert sun's heat — placing the mummy in blazing sunshine that reached 149 degrees Fahrenheit — but nothing moved. As he wrote, 'no amount of legitimate force could move them,' and chiselling the consolidated material away from beneath the limbs and trunk was the only way to raise the king's remains.

(iv) Tut's body was buried along with gilded treasures because the royals of ancient Egypt believed they could take their riches with them into the afterlife. In Tut's time the royals were fabulously wealthy, and they hoped their gold and precious objects would serve them in the great beyond. Accordingly, Tut was buried with glittering goods — precious collars, inlaid necklaces and bracelets, rings, amulets, a ceremonial apron, sandals, sheaths for his fingers

and toes, and his iconic inner coffin and mask, all of pure gold — as well as everyday items like board games, a bronze razor, linen undergarments, and cases of food and wine.

(v) The boy king changed his name from Tutankhaten to Tutankhamun because he oversaw a restoration of the old religious ways. His predecessor Akhenaten had promoted the worship of the Aten (the sun disk) and suppressed the worship of Amun. When Tut came to power, he reversed these changes. The name Tutankhamun means 'living image of Amun,' reflecting his reinstatement of the worship of the god Amun, which was central to Egypt's traditional religion.

Answer: Tut's repeated scrutiny is driven by mystery around his death; Carter's damage, the cemented resins, gold burial beliefs, and the restoration of Amun worship explain the other four points.

Q2 (i) List the deeds that led Ray Johnson to describe Akhenaten as 'wacky'.
(ii) What were the results of the CT scan?
(iii) List the advances in technology that have improved forensic analysis.
(iv) Explain the statement, 'King Tut is one of the first mummies to be scanned — in death, as in life ...'

SOLUTION

(i) Ray Johnson, director of the University of Chicago's research centre in Luxor, described Akhenaten as 'wacky' because of several radical and disruptive acts. Akhenaten promoted the exclusive worship of the Aten, the sun disk, abandoning Egypt's traditional polytheism. He changed his own name from Amenhotep IV to Akhenaten, meaning 'servant of the Aten.' He moved the religious capital from the established city of Thebes to the new city of Akhetaten (modern Amarna). Most shockingly, he attacked Amun, a major and deeply revered god — smashing his images and closing his temples. These acts destabilised centuries of tradition.

(ii) The CT scan of Tut's mummy produced 1,700 digital X-ray images in cross section, creating a detailed three-dimensional virtual record of his body. The scan revealed eerie detail of his head (scanned in 0.62 millimetre slices), and also showed neck vertebrae with great clarity, a hand, several views of the rib cage, and a transection of the skull. The results were handed over to a team of specialists in radiology, forensics, and anatomy to study the secrets of Tut's life and death. Zahi Hawass was visibly relieved that no data had been lost during the procedure.

(iii) The text mentions the following advances in technology that have improved forensic analysis: (a) X-ray technology — used in 1968, more than forty years after Carter's discovery, when an anatomy professor X-rayed the mummy and revealed that the breast-bone and front ribs were missing beneath the resin. (b) Computed Tomography (CT scan) — a modern diagnostic imaging tool by which hundreds of X-rays in cross section are assembled like slices of bread to create a three-dimensional virtual body, giving far more detail than a standard X-ray. (c) Portable CT machines — made possible by the National Geographic Society and Siemens, allowing scanning to take place at the archaeological site itself rather than moving the mummy to a hospital.

(iv) The statement 'King Tut is one of the first mummies to be scanned — in death, as in life, moving regally ahead of his countrymen' draws a parallel between Tut's high royal status during his lifetime and his privileged place in modern scientific study. Just as he was a king who moved ahead of ordinary Egyptians in life — in rank, wealth, and ceremony — so too in death he is among the first mummies chosen for the advanced CT scanning technology being used in the Egyptian Mummy Project. The project has recorded almost 600 mummies and plans to scan them with a portable CT machine; Tut leads this process, maintaining the regal precedence he always held.

Answer: Akhenaten's radical religious revolution made him 'wacky'; the CT scan gave 1,700 detailed images; X-ray and CT technology improved forensic study; Tut leads in death as he did in life — first to be scanned among Egypt's mummies.

Exercise 3.2 — Talking about the Text

Q1 Scientific intervention is necessary to unearth buried mysteries.

SOLUTION

For the motion: Science has been indispensable in understanding Tut's story. Without the X-ray of 1968, no one would have known that Tut's breast-bone and front ribs were missing beneath the resin — a startling fact that fuels theories about his death. Without the CT scan in 2005, producing 1,700 cross-sectional images, scholars would have no precise data for a forensic reconstruction of his age and condition at death. Computed tomography created a three-dimensional virtual body, allowing experts in radiology, forensics, and anatomy to probe details impossible to see with the naked eye. Scientific tools also enable researchers to study remains without further destructive handling of the kind Carter's team was forced to perform. Mysteries buried for 3,300 years are simply inaccessible without modern technology.

Against the motion: Scientific intervention can itself cause harm to what it seeks to study. Carter's methods — though the best science available in the 1920s — left the mummy in 'very bad condition,' with its head removed and nearly every major joint severed. Even today, scanning involves moving a fragile mummy and exposing it to mechanical processes, as seen when the million-dollar scanner broke down due to sand. Moreover, science does not always yield conclusive answers; the CT scan raised new questions rather than definitively solving the mystery of how Tut died. There is also a moral dimension: archaeological sites and human remains carry cultural and spiritual significance. Repeated intervention, however well-intentioned, risks reducing sacred history to a subject of endless scientific curiosity.

Answer: Science has revealed crucial truths about Tut (X-ray, CT scan) but can also cause damage and rarely gives fully conclusive answers — both sides of the debate are grounded in the text.

Q2 Advanced technology gives us conclusive evidence of past events.

SOLUTION

For the motion: The CT scan of Tut's mummy demonstrates how advanced technology can generate precise, objective data about the past. The machine created 1,700 digital cross-sectional X-ray images, allowing specialists to view neck vertebrae, the rib cage, the skull, and individual hand bones with exceptional clarity. This kind of detailed imaging goes far beyond what any written record or visual examination could provide. The scan was designed to answer two of the biggest lingering questions — how Tut died and how old he was — with the expectation that forensic specialists could reconstruct the answers from hard physical evidence rather than speculation.

Against the motion: Technology provides data, but not always definitive conclusions. The article raises questions — how did Tut die? how old was he? — but does not report that the CT scan resolved them. The scan produced images; the interpretation of those images still depended on teams of specialists whose conclusions could differ. Similarly, the 1968 X-ray revealed missing

bones but could not explain why they were missing or who was responsible. Technology also has limits: the million-dollar scanner in the desert broke down due to a clogged fan. Evidence from the past is inherently incomplete, and even the best tools can only work with what survives. Advanced technology gives us better evidence, not necessarily conclusive evidence.

Answer: Technology yields precise data (1,700 CT images, earlier X-ray findings) but interpretation remains open — the text itself leaves Tut's cause of death unresolved despite the scan.

Q3 Traditions, rituals and funerary practices must be respected.

SOLUTION

For the motion: Tut's tomb and mummy represent the culmination of elaborate ancient Egyptian funerary traditions — sacred rituals of burial, the placement of gilded treasures, and the application of ritual resins, all designed to ensure the pharaoh's passage to the afterlife. Tourists still visit the Valley of the Kings to pay their respects, some reading in whispers, others standing silently pondering his untimely death. Repeated disturbance of the mummy — first by Carter, then by X-ray, then by CT scan — shows a pattern of treating a sacred burial as a scientific specimen. The pharaoh's curse, though treated as a joke by a nervous guard, reflects a deep cultural belief that the dead deserve to rest undisturbed.

Against the motion: Respecting tradition should not mean allowing historical mysteries to go unexplored forever. Carter's intervention, though damaging, preserved the mummy from almost certain theft and destruction by grave robbers who had already ransacked the tomb in antiquity. The CT scan was conducted with great care and took less than three hours, after which Tut was returned to his resting place. Understanding the past — including how rulers lived and died — enriches our knowledge of human civilisation. Rigid adherence to funerary traditions would have left us with no knowledge of Tut's missing bones or the details of his burial. Respectful, minimally invasive scientific study can coexist with reverence for the past.

Answer: Tut's burial embodies sacred tradition that deserves respect, but responsible scientific study — minimally invasive and conducted with care — can be justified when it deepens our understanding of history.

Q4 Knowledge about the past is useful to complete our knowledge of the world we live in.

SOLUTION

For the motion: The story of Tut encapsulates how knowledge of the ancient past enriches our understanding of the present world. Learning about the eighteenth dynasty — its golden age under Amenhotep III, the religious revolution of Akhenaten, and the restoration under Tut — tells us how political and religious power operate, how dynasties rise and fall, and how the death of a young ruler can end an entire lineage. The advances in forensic science driven partly by Egyptology (X-ray, CT scan) have applications across medicine and criminal investigation today. The Egyptian Mummy Project, cataloguing hundreds of mummies, is

building a record of how ancient people lived, what they ate, and what diseases they suffered — information directly relevant to medical history and even to understanding modern genetics.

Against the motion: While historical knowledge is enriching, there are limits to its practical usefulness. Knowing exactly how Tut died 3,300 years ago does not change the circumstances of the modern world. The enormous resources devoted to scanning one mummy — a million-dollar CT machine, teams of specialists, national media attention — might be better directed to solving present-day problems. Furthermore, our knowledge of the past is always incomplete and filtered through later interpretations. Akhenaten's 'wacky' religious reforms, Tut's restoration of the old ways — we reconstruct these events from fragments, and our conclusions may say more about our own assumptions than about what really happened. History provides context but rarely clear answers.

Answer: Knowledge of Tut's era illuminates how empires and dynasties function, and forensic advances have modern applications — but resources spent on ancient mysteries must be weighed against present-day needs.

Exercise 3.3 — Thinking about Language

Q1 Read the piece of information from The Encyclopedia of Language by David Crystal about the Egyptian language (from the textbook). [Reading comprehension passage — no separate answer required for Q1.]

SOLUTION

This question asks students to read the given passage from The Encyclopedia of Language by David Crystal, which states that Egyptian is now an extinct language whose history dates from before the third millennium B.C. It was preserved in hieroglyphic inscriptions and papyrus manuscripts. Around the second century A.D., it evolved into a language called Coptic, which may have been spoken as late as the early nineteenth century and is still used as a religious language by Monophysite Christians in Egypt.

The key points to note: (a) Egyptian is one of the world's oldest recorded languages. (b) Languages can become extinct — Egyptian as a spoken tongue died out, surviving only in religious use as Coptic. (c) Languages evolve over time (Egyptian → Coptic). (d) Written records (hieroglyphs, papyrus) can preserve a language's history even after it is no longer spoken. This sets the context for the discussion questions that follow on language extinction and preservation.

Answer: Egyptian, one of the world's oldest languages, evolved into Coptic by the 2nd century A.D. and is now extinct as a spoken language, surviving only in Coptic Christian religious use — illustrating how languages can die out while leaving written traces.

Q2 What do you think are the reasons for the extinction of languages?

SOLUTION

Languages become extinct for a range of interconnected reasons. The most direct cause is the disappearance of the community that speaks them — through conquest, displacement, epidemic, or assimilation into a dominant culture. When a more powerful language offers social, economic, or political advantages, speakers often shift to it voluntarily, abandoning their mother tongue within a generation or two. In the case of Egyptian, conquest by Greek-speaking rulers (after Alexander the Great) and later by Rome, followed by the spread of Arabic with the Islamic conquest, steadily marginalised the language until it ceased to be spoken in everyday life.

Other reasons include: the lack of a written script (oral languages leave no permanent record and vanish completely when the last speakers die); deliberate suppression by colonial or state authorities who impose a single official language; and the prestige attached to dominant languages, which draws younger generations away from their heritage tongue. Urbanisation and globalisation accelerate these processes today, with thousands of minority languages at risk worldwide.

Answer: Languages go extinct when their speaker communities are conquered, assimilated, or decimated; when dominant languages offer greater social and economic opportunity; and when there is no written record to preserve them.

Q3 Do you think it is important to preserve languages?

SOLUTION

Yes, it is important to preserve languages, for several reasons. Every language encodes a unique way of perceiving and describing the world — its vocabulary, grammar, and idioms reflect the particular environment, history, and values of its speakers. When a language dies, that entire intellectual and cultural heritage is lost. Oral traditions, folk knowledge, medicinal plant lore, and poetic forms that exist only in a given language cannot be translated without loss.

Languages are also repositories of historical and archaeological information. The survival of Coptic, for instance, has helped scholars decode ancient Egyptian hieroglyphs and understand the history of one of humanity's earliest civilisations. From a scientific standpoint, linguistic diversity gives researchers insight into how human cognition and communication work across different structures. Practically, preserving endangered languages requires documenting them through recordings, dictionaries, and grammars — even if a language ultimately cannot be kept alive as a spoken medium, its record can survive for future study.

Answer: Yes — each language carries irreplaceable cultural knowledge, history, and ways of thinking; its loss is permanent and impoverishes both the community that spoke it and humanity's collective heritage.

Q4 In what ways do you think we could help prevent the extinction of languages and dialects?

SOLUTION

Several practical measures can help prevent the extinction of languages and dialects. First, documentation is essential: linguists and community members should record spoken language through audio and video, compile dictionaries and grammars, and transcribe oral literature before the last fluent speakers die. Second, education policies can make a significant difference — including minority languages as a medium of instruction or as a taught subject in schools gives children both competence in and pride for their heritage tongue.

Third, governments and cultural institutions can officially recognise and support minority languages through broadcasting (radio, television, digital media) in those languages, making them visible and living. Fourth, communities themselves can establish language nests — immersive environments, especially for young children, where the endangered language is the sole medium of interaction. Fifth, technology now offers powerful tools: apps, websites, and online platforms can make learning a minority language accessible and appealing to younger generations. The key is to make speakers feel that their language is valued, not a barrier to progress.

Answer: Document languages through recordings and writing; include them in schools and official media; create immersive community spaces; and use technology to make learning them accessible — all while giving speakers pride in their linguistic heritage.

Exercise 3.4 — Working with Words

Q1 Given below are some interesting combinations of words. Explain why they have been used together.
(i) ghostly dust devils (ii) desert sky (iii) stunning artefacts (iv) funerary treasures (v) scientific detachment (vi) dark-bellied clouds (vii) casket grey (viii) eternal brilliance (ix) ritual resins (x) virtual body

SOLUTION

(i) ghostly dust devils — 'Dust devils' are small whirlwinds of dust. The adjective 'ghostly' is used because they are insubstantial, eerie, and swirling — and their appearance near Tut's tomb on the night of the scan heightens the atmosphere of supernatural dread associated with the pharaoh's curse. The combination evokes both a physical and a spectral image.

(ii) desert sky — A simple but evocative collocation. The sky above Egypt's Valley of the Kings is shaped by its desert environment — vast, harshly lit by day, star-filled by night, and crossed by dust-laden winds. The phrase situates the reader precisely in the landscape.

(iii) stunning artefacts — 'Stunning' means astonishing or overwhelmingly impressive. It is used with 'artefacts' because the golden objects found in Tut's tomb — collars, necklaces, masks — were so extraordinary in their craftsmanship and preservation that they caused a 'sensation at the time of discovery.' The combination conveys both beauty and shock.

(iv) funerary treasures — 'Funerary' means relating to a funeral or burial. 'Funerary treasures' are the riches placed with Tut specifically for his journey to the afterlife. The phrase distinguishes these objects from ordinary wealth — they were sacred, ceremonial items meant for the dead.

(v) scientific detachment — Carter wrote about the damage he caused to the mummy with cool, objective, unemotional language — the detachment of a scientist recording facts rather than expressing regret. The combination captures the tension between the violence of what was done and the clinical tone in which it was reported.

(vi) dark-bellied clouds — The underside of storm clouds appears dark and heavy with moisture. 'Dark-bellied' is a vivid, almost animate image — it gives the clouds a bodily, threatening quality, enhancing the ominous atmosphere on the night of the CT scan. It also visually echoes the dark, enclosed spaces of the tomb.

(vii) casket grey — A 'casket' is a coffin. 'Casket grey' describes the colour of the cloud-veiled sky — a grey that evokes death, enclosure, and the coffin that held Tut for millennia. The phrase is deeply appropriate for the setting: a cemetery, a mummy, and a night of scrutiny over the dead.

(viii) eternal brilliance — The gold of Tut's burial objects was 'meant to guarantee resurrection.' 'Eternal' reflects the ancient Egyptian belief that gold, which does not tarnish, symbolises immortality. The 'brilliance' of the gold has indeed lasted 3,300 years. Together the words capture the spiritual purpose behind the dazzling physical objects.

(ix) ritual resins — Resins were applied to the mummy as part of the sacred burial ceremony.

'Ritual' emphasises that the application was not merely practical but part of prescribed religious practice. Ironically, these ritual resins — meant to honour the dead — were what cemented Tut to his coffin and caused Carter so much trouble.

(x) virtual body — CT scanning produces hundreds of cross-sectional X-ray images assembled into a three-dimensional digital model — a body that exists only in a computer. 'Virtual' distinguishes this digital reconstruction from the physical mummy, highlighting how technology allows scientists to study Tut's remains without touching them further.

Answer: Each collocation pairs a noun with an adjective that adds atmosphere, specificity, or irony — ghostly/casket grey evoke the supernatural; funerary/ritual signal sacred purpose; scientific/virtual mark the modern analytical gaze.

Q2 Here are some commonly used medical terms. Find out their meanings.
CT scan, MRI, tomography, autopsy, dialysis, ECG, post mortem, angiography, biopsy

SOLUTION

CT scan (Computed Tomography scan): A medical imaging procedure that uses multiple X-ray images taken from different angles and processed by a computer to create detailed cross-sectional (and three-dimensional) images of bones, organs, and soft tissues inside the body. In the chapter, 1,700 such cross-sectional images were used to study Tut's mummy.

MRI (Magnetic Resonance Imaging): A medical imaging technique that uses strong magnetic fields and radio waves (not X-rays) to generate detailed images of organs and tissues, particularly useful for soft tissue like the brain, spinal cord, and muscles.

Tomography: A general imaging technique that produces a two-dimensional image of a specific 'slice' through a three-dimensional object. Computed tomography (CT) is a widely used form of tomography. The word comes from the Greek 'tomos' (slice) and 'graphia' (writing/recording).

Autopsy: A post-mortem surgical examination of a dead body, carried out by a doctor, to determine the cause of death or to study the extent of a disease. It involves the physical dissection and inspection of internal organs.

Dialysis: A medical procedure that replicates the function of the kidneys when they have failed. It filters waste products, excess salts, and fluid from the blood, typically using a machine (haemodialysis) or the patient's own abdominal lining (peritoneal dialysis).

ECG (Electrocardiogram): A test that records the electrical activity of the heart over a period of time using electrodes placed on the skin. It is used to detect heart conditions such as irregular rhythms, heart attacks, and blocked arteries.

Post mortem: A Latin term meaning 'after death.' It refers to the examination of a body after death to determine the cause — essentially the same as an autopsy, though 'post mortem' is also used more broadly (e.g., 'post-mortem examination' or figuratively for any review of a past event).

Angiography: A medical imaging technique used to visualise the inside of blood vessels and

organs, particularly arteries and veins, to detect blockages or abnormalities. A contrast dye is injected into the bloodstream and X-rays or other imaging tools are used to track its movement.

Biopsy: A medical procedure in which a small sample of tissue is taken from the body (from an organ, skin, or tumour) and examined under a microscope to diagnose disease, particularly cancer.

Answer: CT scan = cross-sectional X-ray imaging; MRI = magnetic resonance imaging of soft tissue; tomography = slice-based imaging; autopsy/post mortem = examination of a body after death; dialysis = kidney-function replacement; ECG = heart electrical activity recording; angiography = blood vessel imaging; biopsy = tissue sample examination for diagnosis.