Beneath the Necron Masks: Game Mechanics, Historical Arguments, and Pyramids from Space

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Abstract

Games are a key medium for modern science fiction and can contain a wide range of cues to evoke particular implied settings or analogies. Examinations of historical material in games of all kinds are, consequently, a growing academic pursuit. These analyses frequently focus largely on aesthetic representations, however, which are only one part of the ludic experience. Equally important are the models of game rules and AI that define arguments about how the world works. Focusing on the Necrons of the *Dawn of War* games but considering other titles in passing, this essay explores whether Egyptian-inspired science fiction in games can be considered mechanically rather than purely aesthetically Egyptian. This focuses mainly on whether particular special rules, unit types and attributes, and other similar structural mechanics of the game help in reflecting popular tropes about ancient Egyptian culture and society, especially ideas like an emphasis on slave underclasses, pharaonic autocracy and supremacy, fascination with death and preservation, and the association between ancient Egypt and technological advancement.

Keywords

science fiction; gaming; *Dawn of War*; extraterrestrials; artificial intelligence; mechanics; enslavement; autocracy; death; technology.

Egyptian borrowings in science fiction exist in computer games as much as anywhere in sci-fi: games are a key mode through which modern science fiction is experienced and employ a wide range of cues to evoke particular implied settings or analogies. Examinations of historical material in games of all kinds are, consequently, an increasingly common academic pursuit.[1] However, these analyses frequently focus largely on aesthetic and narrative representations, which are only one part of the ludic experience. Equally important in how we approach representations or evocations of imagined pasts should be the models of game rules and AI that define arguments about how the world works—to take a common game situation such as warfare, what a soldier looks like is an aesthetic question,

1 See the field-level commentary in Macías, Review of *Classical Antiquity in Video Games*, 526. Useful general works on history in games include Kapell and Elliott, *Playing with the Past*, and Champion, *Critical Gaming*.

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but the effect of war on that soldier and the world around them is largely a question of mechanics.

In this paper, I explore how Egyptian-inspired science fiction in games can be considered mechanically rather than just aesthetically Egyptian, focusing on the Necrons of the *Dawn of War* games. The core of the analysis examines how particular special rules, unit types and attributes, and other similar structural mechanics of the game, reflect popularly held ideas and tropes about ancient Egyptian culture and society. Games may incorporate ideas like an emphasis on slave underclasses, pharaonic autocracy and supremacy, fascination with death and preservation, and the association between ancient Egypt and technological advancement, all of which feature heavily in popular understandings of ancient Egypt. Mechanical representation and evocation of these concepts is of interest to historians as it both draws upon and reinforces evocations and understandings of historic Egyptian cultures. In this paper I show that *Dawn of War: Dark Crusade* (2006) indeed utilises evocations of ancient Egypt throughout the mechanical, as well as aesthetic, presentation of the Necrons, and I present some of the tensions and possibilities this understanding of the game may offer.

Cultures, Arguments, and Mechanics

A first point of departure is to briefly consider what we mean by cultural representation and evocation. These ideas are subtly different. For the purposes of this paper we can define cultural representation as having a tie back to some sort of reality, which may be an "actual" mythology rather than a modern or historic culture and may involve some mixing of cultures with representation of only certain elements, but importantly has some form of yard-stick of knowledge against which it can be measured. An evocation, however, is about utilising expectations of a culture (or perhaps more accurately a pseudo-culture); in the context of games, and in contrast to representations, this is less about an anchoring of media elements to an at least partially historically accurate past, but rather to produce somewhat familiar narrative or ludic effects for consumers of media.[2]

Culture in reality is vastly more complex than it tends to be treated as in games. Given the span of chronology and cultural influences that "ancient Egypt" covers, usually treated in educational overviews as spanning from circa 3000

2 I have discussed this use of evocation as a term further in creative-focused discussions of setting design: see Baillie, "The Evocation of Place".

BCE to the end of the Ptolemaic period in 30 BCE, there were clearly significant cultural breaks and changes within the period.[3] This is a challenge in cultural representation, and often means that cultural representations for popular media merge different anachronistic aspects. Few media consumers, however, are likely to see these issues as jarring. Rather, a mental umbrella or wrapper can be put around a set of cultural traits, iconography, and the user's feelings related to them: this pseudo-culture, rather than a detailed understanding of the "real" past, is then evoked to access those associations. Sets of things that may in truth be anachronistic to one another, or even introduced by far later understandings of a historical period, can be included in such a pseudo-culture just as much as anything "really" associated with whatever imagined past or pasts to which people connect them. It is such a pseudo-Egypt to which Egyptomania and similar cultural trends tend to refer, though as we shall see the concept need not be limited to full or direct representations of a historical society.[4] Such pseudo-cultures may map more or less well onto any form of lived cultural experience, and indeed may in some cases directly contradict academic historians' understandings of how a culture worked.

When it comes to evocation of a historical culture, however, such problems may well not be relevant to a creator's intentions: the aim of evoking a pseudo-culture is usually to access people's existing associations and expectations of it. A pseudo-culture is a central node in a network of associated idea elements, which differ in their specifics from person to person but are replicated and retain enough similarities to be used as a kind of generic shorthand. This serves two purposes in the conversation between the author and recipient of a creative work: first, if a range of pseudo-culture elements are already networked in how we think about them, we are already primed to better suspend disbelief when a similar looking or functioning culture appears in front of us. Second, we access other elements of the network from the ones we already know. If we see a dark castle on a brooding hilltop and lightning streaks across the sky, we may be primed by the expectations of Transylvanian or eastern European pseudo-cultures in the classic horror genre to reach for garlic, holy water and silver bullets without anyone needing to directly explain the details. This convenience of explanation is particularly important in mass-market games, in which letting the players utilise their existing pseudo-cultural ideas allows them faster access to a secondary world. We have an infinitesimal amount of the time to spend understanding a secondary world compared to the lifetime we have to understand the primary one,

3 See, for example, the following course outline: Shaw, "Ancient Egypt: An Introduction".
4 Moser, "Reconstructing Ancient Worlds", 1279–1281.

and as such not requiring players to engage with background detail unless it is vital for narrative or ludic reasons is generally desirable. We should note, too, that neither evocation nor representation need be intentional processes: we cannot assume that every designer records, remembers, or consciously acknowledges the inspirations for every element of a media product, and they are just as likely to decide that elements fit together on the basis of their own pseudo-cultural expectations as consumers are to respond to such expectations.

Evocations and representations of culture in game media can come in a number of forms, among them aesthetic, narrative, ludic, and simulation aspects of games. Aesthetic considerations, evoking the player's perception of a culture through sensory inputs such as the game's visual appearance and soundscape, are among the most clearly accessible, being literally representative of aspects of a culture or cultures. Aesthetics are often seen as of particular importance to Egyptomania, and its reception in games poses no exception to this.[5] Other aspects can, however, be just as important. Narratives in games have a lot of possibilities not available in other genres as a result of their interactivity: narrative structures, forms, episodes and events can also call to mind preconceptions of particular cultures or pseudo-cultures, as how we anticipate actors to behave is heavily tied in to cultural perception and expectation. For example, a storyline about a warrior bound heavily by honour who enacts ritual suicide at the end of the narrative due to familial shame will shout "Japan" due to popular images of samurai. It is sometimes less immediately obvious how the ludic elements of games—that is, the rules and play structures—can produce a cultural evocation. This is largely achieved by the extent to which the rules of a game with which a player interacts form a simulation system.

Many, if not most, games are a form of simulation: they provide a reduced and abstracted representation of something we can imagine having a non-abstract reality. This is true even from chess or ancient racing-type games such as the Royal Game of Ur: a race, or a battle, can be produced as a set of abstract rules that, in a game context, present a set of limited changeable elements (a "problem space") with which players interact.[6] The rules of such a simulation form a *model* of how the simulation works. A game rule, such as "the chess knight should move in an L shape" is, then, an *argument* about how the model should simulate that particular aspect, in this case how a knight travels. By making such an argument, the game-as-model transmits information about the thing it is representing. Chess

5 Moser, "Reconstructing Ancient Worlds", 1277, 1302.
6 McCall, "Historical Simulations"; Finkel, "On the Rules for the Royal Game of Ur".

transmits the information that foot-soldiers are slow and weak, that a key element in war is to protect the leader, or that chariots move fast in a straight line. These rules are subject to adaptation, for the game is not necessarily attempting to consciously provide a good model of the thing it simulates, if the idea of a "good" model is even possible or relevant: the fact that bishops zoom along diagonals at the speed of chariots, unlike older Persian chess variants that had plodding, slow, and rather weak elephant pieces in the same position, shows play pressure to produce a game that weakens its role as model to improve its central role as a play experience. The fact that the more powerful new piece is referred to as the bishop, however, tells us a lot about the European societies that made that particular adaptation.[7] As with all forms of evocation and representation, we cannot assume intentionality when games model arguments about the cultures and systems they evoke: indeed, intentional or not, they cannot help but do so.

In computer games and, in particular, strategy or role-playing games, the argumentation in the rules is vastly more complex than in chess. These arguments can nonetheless be quite visible: in the popular real time strategy series *Age of Empires*, trade units usually obtain more resources the further they have to travel, which is a way of simplifying certain arguments around long distance trade and the economic value of scarcity. Even when a game is not actively trying to simulate a "real" world scenario, as historical games propose to do, the game can make arguments about real cultures. The power of evocation is a double-edged sword: the cultural elements evoked even in a very fantastical culture will often be shared with, and therefore have the potential to evoke, a real culture or other pseudo-cultures to a greater or lesser extent. This can create very real issues where elements of those evocations are shared with problematic and stereotyped evocations of real cultures: we will see some of this later regarding the evocation of ancient Egypt and the ways that orientalist and pseudo-archaeological ideas affect those evocations.

A computer game developer produces these arguments with a number of different elements in a game world. Important among these for the sorts of games considered here are the following: *resources*, elements of the game world that the player can obtain in order to then utilise them; *units*, individual actors or objects within a game world; and *landscape*, fixed elements of the game world that may be interacted with or modify other interactions. Resources can be discrete items or continuous variables: expending and growing one's store of resources is an important part of many simulation-focused games because they dictate a

7 Wilkinson, "Chessmen and Chess", 273–275.

player's capacity to perform other actions. Units, meanwhile, are controllable or interactable: these need not be sapient actors, for example a building may well be a unit in that it might be treated (modelled) as a single cohesive entity that can take actions such as providing research or producing units. Alternatively, a building might be a landscape element, providing pre-set interactions or changing the possible behaviours of units or simply providing additional aesthetic value. Two final elements that are less important for the analysis in this paper, but should not go unmentioned, are the presence of *research*, essentially a framework of conceptual objects on which resources can be expended to temporarily or permanently increase some other part of the player's capacity, and *items*, a category of elements which may be interacted with by units without having any interactivity or external existence in the game-world themselves. Different games will draw these lines differently—indeed, in *Dawn of War*, the game at the heart of this paper, what is referred to as "wargear" are really *research* elements in this schema, in that they upgrade a particular unit's capacity as a single, permanent action that costs resources, but cannot then be exchanged or varied. Once a commander has a piece of wargear they cannot then choose to no longer possess it, or exchange it for another piece, so the wargear is not strictly speaking an item separate from the unit that possesses it. In a role-playing game the same objects would probably be represented as items.

Interactions between these elements occur via them having *stats*, or statistics, numerical or categorisation fields that dictate their capacity to do certain things (fig. 1). These then interact via algorithmic processes that can be set in motion by the player or the game itself. The types of action in this type of game can be broadly divided into economic (production) and military (combat and expansion) fields: the logic of real-time strategy is generally to produce in order to expand military forces and so be able to further produce. This may be presented in different ways aesthetically: for example, most factions in *Dawn of War* have one of their main resources as requisition, representing their capacity to request resources from off-world superiors. Requisition improves as the player gains control of strategic points across the map, such that despite the aesthetic not being of direct on-world production, the effect of expanding to produce is still very much visible.

With this introduction to the different possible views on game representations of culture, we can now turn to the fictional culture in question: the Necrons of *Warhammer: 40,000*.

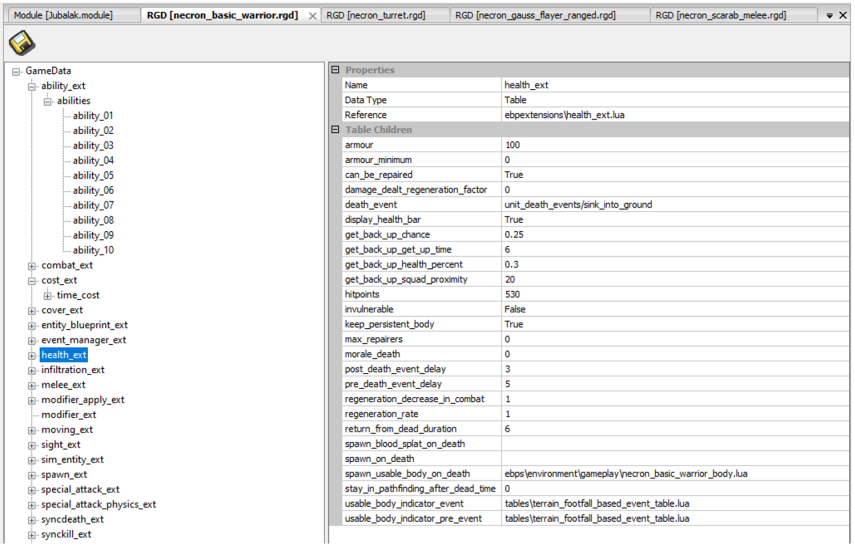

Fig. 1: Health-related stats for a Necron Warrior, as viewed in a modification tool

The Necrons: An Introduction

The Necrons, or Necrontyr, have been a core feature of Games Workshop's *Warhammer: 40,000* (also commonly referred to as *40K*) setting since the 1990s. *Warhammer 40K* is a catch-all science-fiction setting of the space fantasy rather than hard sci-fi type: that is to say, it incorporates futuristic technological aesthetics but does not explore and is not constrained by considerations of scientific possibility, utilising technology as an explanation for effects that are essentially magical.[8] The setting was developed mainly for the eponymous tabletop wargame.[9] Its aesthetic, often described as "grimdark", is summed up by the frequently used tagline "IN THE GRIM DARKNESS OF THE FAR FUTURE, THERE IS ONLY WAR". The darkness of the *40K* setting was at its conception intended satirically, though it exists in tension with narrative tendencies to create hero characters from among the human factions: the human Imperium are heavily influenced by fascist imagery and ideologies, from the heavy use of skull visuals to the brutal suppression of dissent and the presence of ruthless chapters of genetically enhanced super-soldiers. As a general game setting it also incorporates elements

8 For definition discussions of "hard" science fiction in contrast, see Westfahl, "'The Closely Reasoned Technological Story'"; Samuelson, "Modes of Extrapolation".
9 *Warhammer 40,000*.

with a wide variety of science-fiction and horror backgrounds: the Chaos factions include Lovecraftian horror aesthetics, T'au battlesuits are inspired by mecha anime, and the Tyranids draw clear inspiration from the *Alien* film franchise, among other examples.[10]

The Necrons' backstory within the setting is that they were once a mortal humanoid species. As the result of a rivalry with another ancient spacefaring species, the Old Ones, coupled with some mix of trickery and bargaining with a powerful group of ancient beings called the C'tan, they abandoned their mortal forms in favour of becoming robots. This gave them the strength and capacity they needed to win the war with the Old Ones, but at the price of becoming soulless and stripped of emotion. In earlier editions, the C'tan were portrayed as the Necrons' commanders and ultimate gods, and the true intelligences behind the Necrons' fate. In the game's fifth edition (released 2011) and later, this was rewritten such that once the Necrons' leadership realised the C'tan's destruction of their souls, they finished the war and then successfully rebelled against the C'tan influence, before ordering the war-ravaged Necrons into subterranean stasis chambers to wait out the intervening millennia.[11] In either case, sixty million years later, in the present day of the setting, they are re-awakening and hope to reclaim their lost empire.[12]

The Necrons were introduced to the game in stages: the "Chaos Androids" of the 1990 boxed game *Space Crusade* may have been their aesthetic precursor, but the first Necrons under that name were released in *White Dwarf* 217 in 1998, with the first full rulebook for them released in 2002.[13] Their Egyptian associations are clearly shown from their first 1998 appearance, with the warrior model incorporating a "wesekh"-style broad collar and the other model released at the same time being the Tomb Scarab.[14] Aesthetically, then, the Necrons have always owed some clear debts to ancient Egypt, and form a parallel to the Tomb Kings faction in Games Workshop's *Warhammer Fantasy* setting in that they mix Egyptian aesthetics with a core theme of undeath. Their symbols are referred to explicitly as ankhs, and the Necron Monoliths are very clearly based on pyramids; other references include Necrons' robot creations being referred to as "canoptek", a

10 McAuley also notes the diversity of influences on the setting, and discusses the reception of Rome and, in passing, Egypt in the Imperium and Chaos factions in the game. See McAuley, "The Divine Emperor"; for the mecha origins of the T'au, see Vela, "Warhammer 40K: Birth of the T'au".
11 Ward, *Codex: Necrons*, 6–7.
12 Chambers et al., *Codex: Necrons*, 2.
13 "Necrons Through the Ages", *Warhammer Community*.
14 Priestley, "Necron Raiders".

portmanteau including "canopic", the term for ancient Egyptian jars for the preservation of viscera, and "tech".[15] Their stasis chambers are explicitly referred to as tombs, to which they "phase out" and return for repairs if they are damaged: the chambers thus corporeally preserve the Necrons, a function that modern gamers may associate with Egyptian preservation of the dead through mummification.

The Necrons also draw heavily upon a number of other sources, as well as common pseudo-scientific ideas around Egypt. The theme of a desperate drive to recreate lost glory, coupled with anxieties about staving off death, is combined with Egyptian imagery in works stretching back at least as far as H. Rider Haggard's popular adventure novel *She* (1886-7).[16] Meanwhile, the image of giant tomb colonies in which emotionless cyborgs wait in stasis to battle the living is more than a little reminiscent of *Doctor Who*'s Cybermen.[17] Pseudo-archaeology is very much part of the mix as well: the Necron gods, the C'tan, being literally stellar beings who gave them their advanced technology, mimic common pseudo-archaeological ideas about the pyramids being brought into place by powers from outer space.[18] The 2011 rewrite of the Necron lore, interestingly, puts the Necrons more in charge of their own fate and reduces the idea of stellar deities as the sole driving force. The use of the space-deities trope in their presentation diminished the agency of the Necrons much as the original trope did for their ancient Egyptian inspirations; the trope has the effect of infantilising a real culture, but also limiting creative possibilities when writing a fictional one. Whether or not the Necrons' original writers were aware of the issues with the pseudo-archaeological tropes used, both in the implicit racism of singling out the best known ancient African culture as incapable of its own technological progress and in the narrative restrictions thereby imposed on their creations, these issues may well have influenced the 2011 rewrite. In either case, the Necrons, like most of the setting in which they exist, can and do draw on a wide array of source material—but pseudo-Egyptian tropes are a dominant part of that mixture.

In the remainder of this paper I mainly focus on the Necrons as they are presented in the game *Dawn of War: Dark Crusade*, developed by Relic Entertainment and published in 2006. The *Dawn of War* games are a real-time strategy series set in the *Warhammer 40,000* universe, with a turn-based campaign mode and

15 Ward, *Codex: Necrons*, 44–46.
16 Malley, "'Time Hath No Power Against Identity'".
17 Cybermen, especially in their first episode—*Tomb of the Cybermen* (1967)—have been seen as drawing upon modern Egyptomania. See Challis, "SF Egypt-Time Travel".
18 Another concept that can be charted back to nineteenth-century popular fiction. See Dobson, *Victorian Alchemy,* 233–235.

individual "skirmishes" in which the player must build a base and destroy their opponents. *Dark Crusade* was the second expansion to the *Dawn of War* games, and the first to feature playable Necrons (they feature as non-playable enemies in the campaign to *Winter Assault*, the first expansion). Given the 2006 publication date, *Dark Crusade* retains the aforementioned pre-2011 lore position that the C'tan are using, more than used by, the Necrons.

Unlike the tabletop game of *Warhammer 40,000*, in which players tend to start with pre-defined armies balanced to a fair match via a points system, in *Dawn of War* players construct buildings and exploit resources around the map in order to produce more military units and eventually defeat their opponents. This element of having an "economy" in the game makes *Dawn of War* more interesting than its tabletop equivalent for our purposes, because it models more of the underlying societal logic for each of its factions than a simple battle situation would do. *Dawn of War* therefore provides a particularly apt point to observe the use of mechanics to evoke the cultural elements that underpin the Necrons and their presentation.

Beneath the Necron Masks

Under the aesthetic face of the Necrons, then, we might expect to see mechanical elements reflecting the sort of society that the designers envisaged the Necrons as having. To compare this to a pop-culture model of Egypt, we must first set out our expectations of what that model includes. As we are looking here at mechanics, what we should be looking for is how the ancient Egypt pseudo-culture is expected to function, as much as the material elements and visual associations it contains.

Popular expectations of ancient Egyptian society often start with ideas of extreme hierarchy and authority. Pharaohs and the idea of their immense power are some of the first and foremost elements many people learn about ancient Egypt, but there is also a strong association between ancient Egypt and servile labour or slavery. The image of slaves building pyramids is strong, and reinforced both by wider ideas of oriental despotism that are frequently applied to Egypt and by Abrahamic religions promoting the story of Moses and Jewish captivity in Egypt.[19] The pyramids themselves suggest the importance of monument building:

19 Wynn, "Shape Shifting Lizard People", 280–281; Malamud, "Pyramids in Las Vegas", 41–43.

we get the idea that Egyptian society was capable and very willing to expend resources on the production of huge monuments to the point where we tend to imagine such projects as a core purpose of such a society, the end-point towards which production surpluses were focused.

The purpose, mythology, and impact of the pyramids and Egyptian funerary culture generally are also core to popular ideas of Egyptian society. We expect from Egypt a sense of preservation, of the ancient and the dead being powerfully visible elements of the culture. Our own discomforts about death and the past are easily mapped onto seeing cultures that deal with death so much more visibly than our own: to modern, western eyes, practices of bodily preservation for burial can feel unnatural, an attempt to halt or change the flow of time. The idea that mummification was a way to "cheat death" is still widely held, despite the understanding among Egyptologists being that the process was mainly important for ensuring the transformation of the deceased into a perfect being.[20] We associate death-related consumption and ideas of cheating death negatively, linking them both with pride and believing oneself "above" a natural order. This further connects to ideas of greed and jealousy around guarding both bodies and grave goods, with the idea of traps in Egyptian tombs becoming very important in pop-culture depictions of such settings and indeed in fantasy and science-fiction gaming more broadly. Risks of being lost, cursed, or injured in Egyptian tombs clearly present in nineteenth-century horror and adventure literature as far back as the 1860s still persist.[21] Modern adventure gaming incorporated these ideas from an early stage: the influential 1975 *Dungeons & Dragons* module *Tomb of Horrors*, famous for its traps, features jackal-headed men, mummification, and sarcophagi, thereby making a large impact alongside films such as *Raiders of the Lost Ark* (1981) in creating a connection now widely used in the visual and rules language of modern games.[22]

Despite the discomfort that might accompany the theme of cheating time, there is a converse naturalness that can be used in evocations of Egypt: imagine a desert land with the sun climbing east and setting west of a life-giving river cutting green through the middle, and you have given people Egypt without using the term so much as once. Whilst pseudo-archaeology and conspiracy theories

20 Ikram, "Mummification". Meskell relates the association to modern fetishisation of mummies: Meskell, "Consuming Bodies", 66. For a recent example of a publication evoking this idea, see Menzies, "Impermanence and the Human Dilemma", 8.

21 See, for a nineteenth-century example, Louisa May Alcott's "Lost in a Pyramid; or, the Mummy's Curse" (1869).

22 See Gygax, *Tomb of Horrors*.

portray Egyptian culture as inherently alien at times, the ancient nature of Egypt combines with both the solar associations in its mythology and the specific natural landscape that formed its culture to create a more timeless and natural-feeling set of evocation possibilities.

None of the above paragraphs should be taken as an argument about Egypt or Egyptology proper: the question here is, as discussed above, one of evocation rather than representation. These are ideas embedded in the pseudo-culture of ancient Egypt as it exists in the modern west. It should also be stressed that these are generalised expectations, and that very little confirmation exists beyond the continuing production of media on these themes; it is possible that if one were to be able to do effective public polling on the issue either among the general public or among the (smaller and very much self-selecting) pool of people who play real-time strategy games or are interested in science fiction, one might find some associations or evocation points that differ from those given here. Looking at outlets and points at which people are likely to encounter basic information about ancient Egypt supports the argument that the above ideas are commonly held, however. For example, major popular-historical outlets tend to start with a similar set of points to those aforementioned—namely, preservation of the body, tombs, and a desert landscape—when introducing children to ancient Egypt.[23] The above will, then, suffice as a brief summary of expectations that we can test against what is found in the game.

Applying this to assess *Dawn of War*'s Necrons, we can start at the centre with the Necron Monolith unit. This is the Necrons' pyramid-shaped HQ building, the central structure each faction has, which produces starting troops and is the initial building players are given at the start of a new skirmish game. The Monolith works differently to the HQs of most other factions: for one thing, almost all Necron troops are produced there, and additional buildings mostly serve to unlock additional functionality on the Monolith. As the game progresses for the Necrons, upgrading the Monolith is the primary end-goal of the Necrons' economy-side play in order to unlock the most powerful units for the later part of the game. One of these is, indeed, the Monolith itself: when fully upgraded (fig. 2) it becomes mobile and has significant destructive capabilities.

Two points from the earlier discussion of evocations of Egypt are particularly prominent here. The first is the monument-building element. Whilst the HQ is important to all factions, only the Necrons rely on it in such a heavy, upgrade-

23 Examples include "An Introduction to Ancient Egypt", *BBC Bitesize*, and "10 Facts About Ancient Egypt!", *National Geographic Kids*.

Fig. 2: The fully upgraded Necron Monolith

phased way as part of their strategy. Second, and equally importantly, because the Necron Monolith is also the central societal building, it doubles up as a way of showing societal centralisation in how the Necrons act. This mechanical encoding of ancient Egyptian pseudo-culture is placed both literally and figuratively at the centre of how the game models the Necrons' society in the form of the visibly pyramidal Monolith.

We move from our pyramid to our pseudo-pharaoh, the Necron Lord. Every faction in *Dawn of War* has a commander unit, a central "hero" figure who can be upgraded while playing through the game's campaign mode. The Necrons, however, have the most powerful of the set. Whilst other faction commanders may excel at, for example, ranged or melee fighting, in terms of overall combat and ability power combined, the Necron Lord is the strongest of the commanders.[24] Additionally, late in the game, the Necron Lord can gain the ability to transform into an avatar of the C'tan Nightbringer, one of the powerful aforementioned

24 Player-written guides tend to emphasise this point. See, for example, "Necron Lord", *Dawn of War Players' Guide*; "Necron Lord", *Dawn of War Wiki*.

star-gods. The Necron Lord is invulnerable in this form and deals immense damage, especially to the powerful "relic" units of other factions such as the chaos Bloodthirster daemon, the T'au Greater Knarloc or the Orks' Squiggoth.

The idea of Egypt as autocracy is mirrored in the Necron Lord as the perfected autocrat, not only socially but physically more powerful than any of his subordinates or the rulers of other culture groups. The temporary transformation into an exceptionally powerful unit—differing from the tabletop game where the C'tan appears as an entirely separate figure—underlines the connection between the C'tan as deity and the Necron Lord as both priest and ruler.[25] We see similar mechanics in some games that portray the Egyptians more directly, for example in Microsoft's *Age of Mythology* (2002), in which one of the final-tier Egyptian god powers, that of Osiris, transforms the pharaoh unit into a bird-headed demigod with lightning powers.

This sacral element, where the Necron Lord is at times ruler and at times elevated to deity, differs sharply from modern western and secular understandings of leadership, in which religious and secular leadership are usually differentiated. Sacral leadership, especially situations in which rulers are shown in the roles of deities, may be seen as a hallmark of popular understandings of Egyptian faith, with some debate in the academic literature on the extent to which the pharaoh was understood as a god.[26] People taking on attributes of deities often have negative connotations in western popular culture, as a consequence both of Abrahamic understandings of false claims to godhood as religiously prohibited, and of classical Mediterranean traditions where seeking to place oneself alongside the gods is a form of hubris and liable to be punished.[27] Modern fantasies regularly utilise this trope, with villains such as Corypheus of *Dragon Age: Inquisition* (2014), Gagarensis of *Age of Mythology* (2002), or Sarevok of *Baldur's Gate* (1998), all proposing to use various sorts of ritual practices to attain godhood. The Necrons' use of such a practice, which is realised for the player by the *mechanical* presentation of it as transformative, therefore plays on wider understandings, ones that connect both to ancient Egyptian religious associations and to negative western cultural stereotypes around processes of deification.

As to the Necron Lord's subordinates, the Necrons are largely a force of heavy, slow-paced infantry; the idea of machines and undead alike as slow, powerful, and implacable connects well to this focus, though it is interesting that in

25 Religious leadership and priesthood are often shown as a core pharaonic function in modern education resources. See "Pharaohs", *National Geographic Resource Library*.
26 Morris, "The Pharaoh and Pharaonic Office", 207–213.
27 Litwa, *Becoming Divine*, specifically chapters 2 and 8.

their earliest tabletop conception the Necrons are explicitly referred to as raiders engaging in hit-and-run tactics.[28] This might indicate a tension, represented at both the aesthetic and rules level, between images of desert warfare as being fast-paced and unpredictable, and the images of undeath and heavy machinery creating horror through their unyielding natures. In the event, the latter conception clearly won out for the core design of the Necron force, though the Necrons of *Dawn of War* do have some concealed and fast skimmer units that can be used for raiding as the "chariots" of their army—the skimmers are expensive late-game units and include the secondary command-type unit, the Lord Destroyer, again enforcing the idea of hierarchy being related to both physical power and speed and possibly giving a nod to the concept of elites seen fighting in a more mounted or chariot style. This is a common part of how ancient Egyptian armies are portrayed in modern historical games, such as *Pharaoh* (1999), *Age of Mythology* (2002), and even, despite the game's setting being explicitly in the Ptolemaic period, in *Rome: Total War* (2004).

The idea of slavery is strong in popular understandings of Egypt, as mentioned above. More or less total control of units is inherent to the real-time strategy genre. *Dawn of War* has a morale system, in which a morale stat erodes during combat and can be broken faster with certain weaponry: this nominally simulates a unit's "own" view of the battle, but whilst units with breaks in morale take heavy penalties to their attack and defence capabilities they never run or start acting independently. As a result of this total level of control, there are few ways within the game genre to delineate the difference between "slave" and "free" actors in ways that appear on the mechanical and code levels of the game. The concepts of slavery among the Necrons, especially their differentiation from other factions in this regard, are therefore necessarily more provided by aesthetics than mechanics. In part this is done by the machine-like nature of Necrons, playing on associations between machines' capacity for repetitive tasks and a lack of agency in that labour. It is also particularly notable that units which have construction capabilities, in particular the Builder Scarabs (fig. 3) but also the Tomb Spyder, are often modelled after invertebrates: those that perform the most stereotypically slave-like functions in the modelled Necron society are literally dehumanised.

The society in which these workers "live"—that is, the Necrons' economy game—also functions very differently to that of other factions. The Necrons have no access to, and do not use, the requisition resource in *Dawn of War*, which represents factions' land control and capacity to requisition resources from their

28 Priestley, "Necron Raiders".

Fig. 3: Insectoid-formed Builder Scarabs capturing a relic point on the map

superiors. Instead, they solely rely on the energy resource, which is produced by power generators that the player can build. This means that the core of their economy is treated as simpler, and more directly reliant upon their own construction, than the economies of other factions, with a decreased requirement for the player to expand aggressively across the map early in the game as a result. This gives us suggestions, in contrast to the alien-gods and space element of the Necrons' Egyptian nature, of a portrayal of the Necrons as almost autochthonous: as essentially native to their environment in a way that is not true of the other factions. This less specialised, more localised economy is associated with being in some way ancient; despite the Necrons' intensely effective array of technologies, the basis of their society is simple, local production of the core resource they need. When thinking of ancient civilisations as pseudo-cultures, people think of the Greeks and Carthaginians as sailors and explorers, or the Romans and Persians as empire-builders; the Egyptians conversely stand out as a well-known ancient society defined almost by their lack of mobility and by power deriving from

their immediate environment and locality.[29] This, in turn, returns to orientalist tropes and early Marxist models of an "Asiatic mode" of production in which an absolute oriental despot tightly controls economic surplus from an undifferentiated peasantry.[30] The eerie green glow of the Necrons' power generators may be aesthetically a world away from the fertile cycles of the Nile, but in presenting the idea of a simple and static ancient economy they do have some fundamental links.[31]

In place of requisition, the Necrons have a different bonus made available by their capture of strategic points across the map, which are the main ways that other factions gain the requisition resource. Instead of gaining a resource from these locations, Necron research and unit construction speed up when they take strategic points, and the more of the landscape the Necrons dominate the faster they become. Changing the flow of time thus becomes crucial to the Necron game strategy in a way that is not true to the same extent of any other culture in *Dawn of War*. This potential to change the flow of time, especially for a culture that specifically takes ideas around ancient Egypt and death as the core of its aesthetic, emphasises the extent to which playing with death is important for the Necrons. Their units' ability to reconstruct themselves after death via certain abilities offers a similar mechanical presentation—these mechanics alter rules of the game that are the same for all other factions, placing the Necrons in a more othered position. Like the presentation of Egyptian mummification as a way to cheat death and time mentioned earlier, the Necrons' time-flow changes and resurrections can feel somewhat unnatural: this is an effect produced primarily by changing core parts of the model of how factions and units work to better reflect the Necrons' narrative and aesthetic qualities.

In addition to their unique strategic point capture rules, the Necrons can interact with the landscape in another way reminiscent of ideas about Egypt—they can make it more hostile. Most factions in *Dawn of War* have some access to turrets, but the Gauss Turret available to the Necrons is the strongest all-round turret, able to counter both infantry and vehicles without having to specialise towards one or the other as it gets upgraded. Their Obelisks, which protect strate-

29 Juan Carlos Moreno García notes and challenges this traditional view of a "bureaucratic ultra-centralized agrarian economy"; see Moreno García, "Recent Developments".

30 Warburton, *State and Economy in Ancient Egypt*, 39–44. Warburton himself has, however, characterised ancient Egypt as "basically a closed economy"; see Warburton, "State and Economy in Ancient Egypt", 183.

31 The impact of late nineteenth-century associations between Egypt and fads for radioactivity may provide a further aesthetic logic to the Necrons' use of the colour. See Dobson, *Victorian Alchemy*, 158–170.

Fig. 4: A Necron Obelisk attacking enemy squads

gic points on the map, also have exclusively defensive upgrades whereas other factions' equivalents provide upgrades with bonuses to requisition production (fig. 4). This means that the Necrons have an edge when it comes to making both their base areas and the map more generally hostile to enemy incursions. This mechanical advantage can be linked to two aforementioned preconceptions about the Egyptians. First, the idea that the land that they come from is inherently hostile is invoked, with the Egyptian desert's hostility being a core part of modern understandings of the region. As we have seen, the way in which the Necrons are presented suggests their autochthonous nature, making them more clearly a part of that landscape and hostility. Second, the concept of tombs being loaded with traps and providing man-made obstacles is perpetuated here. Entering a Necron base plays into these tropes by creating an experience where the player is obliged to engage with static, high-damage points and remove them, disengaging the turret-as-trap, to avoid their forces taking heavy losses. Environmental hostility both in the natural and built landscapes thereby reinforces multiple ideas that feature in our ancient Egyptian pseudo-culture.

There are some exceptions and areas left out of popular preconceptions of ancient Egypt in how the Necrons are portrayed—no presentation of a pseudo-cul-

ture utilises every possible trope, and indeed none need to. The Necrons do draw on other ideas beyond Egypt, especially ideas and anxieties around robots and the unnatural possibilities of technology. This, for example, means that a lot of the more nature-driven aspects of how Egypt is often portrayed are weak or absent for the Necrons. Their lives are not cyclical in the way that life, dependent on the Nile, or religion, with a heavy role for the sun, may be expected to be. Solar or river cycles are seen as natural in a way that the Necrons simply are not: the Necrons undermine the natural surety of death, and this creates a core part of the horror they are intended to evoke. Egyptian ideas of the afterlife likewise cannot be fully explored among creatures whose defining trait is that they have never truly died, even if they cannot ultimately be said to be alive.

The Necrons are also not portrayed as a strongly communicative culture, despite our strong associations with ancient Egypt as a culture with a highly distinctive hieroglyphic writing system. Whilst writing was a minority pursuit throughout the ancient world, modern audiences tend to connect to elite elements of historical cultures due to their wider representation: children are often encouraged to engage with ancient Egypt via learning hieroglyphs, such that modern audiences are likely to feel stronger connections to ancient literate elites, and thus see the society as a communicative one.[32] In games and especially single-player games, information transfer is an area that tends to receive little complexity of mechanical portrayal, because imperfect or delayed information can be extremely frustrating from a player experience perspective. Narratively, the Necrons are shown relying on a "converted" human to communicate with other factions, unable to do so themselves: this suggests ideas of ancient culture as an indecipherable past, and thus supports emphasising a lack of relatability and in turn humanity in the Necrons' portrayal. We hence have an evocation of ancient Egypt as an inherently mysterious culture—exposing an interesting tension within our pseudo-cultural understanding of Egypt as both literate and communicative on the one hand and yet unknowable and occluded on the other.[33] The symbolism used in Necron depictions has clear pseudo-Egyptian pedigrees, but the world of scribes, wall art, and papyri is placed very far from the Necrons' depiction, likely in order to maintain the emphasis on their inhumanity.

Whilst the presentation of all the aforementioned aspects of the Necrons—aesthetic, ludic, narrative, mechanical—makes a significant contribution to how

32 For an example of this presentation of hieroglyphs to children, see "What were ancient Egyptian hieroglyphs?", *BBC Bitesize*.
33 Krueger, "The Stargate Simulacrum", 53–54.

the player sees the faction, the game in particular tells us a lot about what sort of culture the Necrons are through its mechanics and the encoding of arguments within them. They are a faction with a powerful leader with an exceptional transformation ability, one that relies on monument construction at the core of their gameplay strategy; they are a faction that gains power from the landscape around them, a landscape they can make hostile to others; they are a faction whose abilities and performance revolve around their ability to "cheat" time and alter its apparent passage. Even without any of the aesthetic trappings, these aspects of the Necrons' mechanical presentation still encode and transmit familiar popular ideas about ancient Egypt and make the argument for the Necrons as a pseudo-Egyptian society.

Conclusions

The Necrons of *Warhammer 40,000: Dawn of War* show how a science-fictional Egyptian culture can have ideas of ancient Egypt drawn out not only through the aesthetic and narrative of their presence, but also through game mechanics. These mechanical elements, outlined above, emphasise and tap into the pseudo-cultural understandings players bring with them around ancient Egypt and the feelings they associate with them. Slow-moving, resurrecting units evoke mummies from horror films, the toil to power up the Necron Monolith brings to mind images of pyramid-building labour, and the power and transformational nature of the Necron Lord puts the player in mind of other images of pharaonic splendour popular in perceptions of ancient Egypt. The game does not have to bring all these elements in explicitly as a result. For example, the Necron Lord gets little characterisation in *Dawn of War*, but through his huge in-game presence and abilities we can more easily imagine a figure of lost ritual and status, of commanding pride he might seek to re-obtain, an Ozymandias-like figure beneath his mechanical mask.

As well as simply supporting the presentation of Necrons as ancient Egyptian, game mechanics thus also present an implicit argument about what sort of society the Necrons are. Whilst historians are used to historical argumentation being presented primarily in prose, the concept of, for example, great man history can be presented via a unit's numerical "stat-line" and how that interacts with a set of combat algorithms very effectively indeed. Ideas about *how* societies work, and not just what societies looked like or the material cultural aspects of them, need to be encoded into games in order to allow the player to interact with those aspects of the society. These elements lend themselves particularly to mechanical

and code representations. The pseudo-culture may then become circular; if the player thinks of the Necrons as an Egyptian society, the Necron mechanics then feed back into their expectations of Egyptian society and various aspects of the Necrons are thereby built into the player's network of connections with ancient Egypt.

When it comes to the presentation of pseudo-historical cultures in games, scholars should think about such code and mechanical elements—and how they can be changed. Being able to think with this tool-set could, from a game studies perspective, be used to further explore the relationships between mechanical model and aesthetic, and whether explicitly de-combining them works from a play perspective or whether the aesthetic necessitates the mechanical model. From a historian's or archaeologist's perspective, understanding mechanics and code as argument allows for the possibility of challenging those arguments more effectively, building narratives and mechanics that reflect different viewpoints and perhaps invoke better or more up-to-date understandings of the past societies we study. Even, and perhaps especially, in science-fictional and fantastic settings, where the appeal is not to realism but directly to a player or reader's pseudo-cultural concepts and feelings, building complexity and new perspectives into the pseudo-cultures that creators use can be important for creatively challenging how gamers see and imagine the ancient past.

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