

Hesiod and Geomythology

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Abstract¹

The ancient Greeks had a myth about five successional kinds (ages) of mankind: gold, silver, bronze, heroic and iron. While most classicists accept the last three kinds have some basis in historical truth (interpreting them as the archaeological sequence of bronze and iron metalworking), the silver or gold kinds are instead treated as metaphorical or symbolic. In this article it is instead argued for a geomythological interpretation; the first two metals as a folk memory of the Neolithic, when deposits of these native metals were discovered.

Introduction

The ancient Greek poet Hesiod (c. 700 BCE) in his *Work & Days* wrote about five successional types (*genos*²) of man. The first kind made of gold, lived like gods in a blissful abode, ruled by Kronos; physically they were ageless, had an abundance of crops and livestock, were free from labour, lacked in evilness, and were always happy (*W&D.* 90-91, 113-120). After Prometheus deceived Zeus, mankind was punished, ending the golden age. As a punishment, mankind now knew toil, evil and grief and declined from a state of innocence (*W&D.* 91-92); fields no longer freely gave produce (having to be sowed, ploughed and reaped) while mankind was no longer immune to diseases. The second kind made of silver was therefore inferior to the gold and were not like their predecessors in body nor mind (*W&D.* 128). In the silver age, mankind became impious and no longer peaceful; they refused to honour gods (by sacrifices³) angering Zeus (*W&D.* 136-138) and quarrelled amongst themselves causing outrage and conflict (*W&D.* 135).

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² The word *genos* is often translated as age but means kind or type. Despite each kind of man living in a discrete historical period, ages "cannot be said to be the essence of Hesiod's conception" (Currie, 2012: 38-40), however for convenience ages will be used to describe the successional gold, silver, bronze, heroic and iron kinds of man.

³ Mankind burnt animal bones on alters to the gods as a consequence of Prometheus' deception (Hes. *Th.* 557).

Golden and Silver Ages

It is sometimes claimed at the beginning of the silver age Zeus replaced Kronos as ruler, but this is surely a mistake.⁴ While Kronos is said to have ruled the gold kind of man (*W&D*. 112) it is Zeus who is said to have ended this age (*W&D*. 122-123) when Prometheus deceived the gods at Mecone and stole fire (*Hes. Th.* 535-540, 550-552, 566; *W&D*. 53-58) for which Zeus punished him and mankind (*Hes. Th.* 520-521, 570-573; *W&D*. 50-51). Prior to Prometheus' deception, mankind and gods had dined together, but at Mecone there was already a settlement (*krinesthai*) about food so that "gods and men were now being separated definitely from one another" (Most, 2006: 46). Hesiod doesn't explain why this happened, however Callimachus' *Aetia* (frg. 119 Gelzer-Whitman) notes the settlement occurred after the Titanomachy.⁵ In other words Zeus dethroned the Titan Kronos during the golden age before the settlement at Mecone.

Bronze, Heroic and Iron Ages

The third kind of man further deteriorated in their qualities and were inferior to silver. Hesiod describes bronze as terrible and violent, who worshipped the god of warfare (Ares) and only cared for violence (*W&D*. 145-149). The bronze kind used weaponry made from bronze metal before iron (*W&D*. 150) and they are described as made from ash-trees (*W&D*. 144).⁶ However, the fourth kind interrupts this sequence of decline; the heroic age sees more righteous behaviour and superior qualities, despite battles (such as the Trojan War) wiping them out (*W&D*. 161-164); nevertheless, some went on to be granted entrance to a paradisiacal afterlife on the islands of the blessed with Kronos (*W&D*. 168-170). The insertion of the heroic kind is likely the result

⁴ Kirk (1970: 228) correctly observes: "[mankind] met at Mecone for the last time to arrange how the food should be apportioned in future" but wrongly equates this event as the start of the silver age when mankind had not yet been punished by Zeus (ending the golden age) for the trickery of Prometheus at Mecone and the stealing of fire.

⁵ Callimachus says the settlement at Mecone came after "war against the Gigantes". Note Hellenistic-era Greeks often confused the Gigantomachy with the Titanomachy in both their literature and artwork (Gantz, 1993: 447). To make chronological sense "war against the Titans" must be the correct reading since the war of the Gigantes (giants) occurred much later during the age of heroes, e.g. Heracles killed giant Alcyoneus (*Ps-Apollod.* 1. 6. 1).

⁶ The bronze kind of man are made "out of ash-trees" (*ek melian*) probably because this wood was used for making spear shafts and this age of man was extremely warlike; Homer also describes "bronze-barbed ash" (*Il.* 22. 225).

of necessity, i.e. legendary heroes play an important role in Greek myths and were thought by Greeks contemporary to Hesiod to have lived during an age preceding their own (Fitton, 1996: 16; Clay, 2003: 81).⁷ Hesiod himself believed that he lived during the iron kind (*W&D*. 160).



Figure 1. Nicolaes de Bruyn (1604, after A. Bloemaert) *The Golden Age*.

The iron age of man is described as the worst (*W&D*. 174) and it resumes the degeneration of man after bronze. Hesiod describes the iron kind as having no rest from labour, dishonourable, cruel and destructive (*W&D*. 185-189). It was so terrible an age not worth living (*W&D*. 174).

Archaeology of the Ages

Most classicists interpret the early metal kinds (gold and silver) as metaphoric, while bronze and iron more literal, the latter reflecting a folk memory of bronze metal having preceded iron:

To some extent these ages coincide with historical reality in that there really were a Bronze Age and an Iron Age in the sense of periods during which the principal metal in use was bronze or iron, but of course there never was a golden or silver age in the same sense. The principal significance of the metals is therefore not literal but metaphoric, and the metaphor is one of relative value and desirability: just as gold is better than silver, and silver than bronze, so also the Golden Race/Age was better than the Silver. (Hansen, 2005: 237)

⁷ “Hesiod had to add the age of heroes because he and his audience knew that there had been such an age before their own, one which provided the setting for many familiar tales” (Fitton, 1996: 16); aside from oral traditions, the earliest Greek historians (6th to 5th centuries BCE) knew of oral genealogies that traced back at least a century.

The entire sequence of gold – silver – bronze – iron is though archaeologically accurate, and all of the metals can be interpreted literally. Gold and silver (alongside copper) were first to be discovered because they're native metals and could simply be hammered into jewellery: “gold, beads, pendants and ear-rings have been recovered from Sitagroi, Sesklo, Dikili Tas, Dimitra, Alepotrypa, and other Final Neolithic sites within the Aegean” (Kassianidou & Knapp, 2005: 217). The absence of a copper kind in Hesiod's succession of metals isn't too much a problem since ancient Greeks had only one word for copper and bronze, *chalkos*. With the discovery of bronze by smelting copper with tin, the Bronze Age in Greece lasted c. 3200 – c. 1100 BCE. Hesiod (c. 700 BCE) lived during the Greek Iron Age that had begun at the beginning of the 10th century BCE when iron was commonly used for weapons; an archaeological interpretation is supported by the fact Hesiod knew there was no iron throughout the bronze age (*W&D*. 151).

It might be asked what metal corresponds to the heroic kind. This is easy to answer since: “in the heroic age, weapons were universally of bronze⁸ (Paus. 3. 3. 8) e.g. the sword of Achilles is bronze (Hom. *Il.* 16. 136) while so is Odysseus' spear (Hom. *Od.* 10. 162). Iron was used by heroes, but Homer never once mentions its use for defensive armour, or for sword or spears” (Lang, 1906: 179) instead for ornaments and tools. The heroic age is arguably a folk memory of the transition between the historic Bronze and Iron Ages in Greece, including the end of the Mycenaean and sub-Mycenaean eras (12th-11th centuries BCE); burials at Mycenae in Greece dating to this period contain significant amounts of bronze weaponry, but not iron weapons: “in the late Mycenaean graves iron is found only in the form of finger rings” (Lang, 1906: 178).

It should be reminded that an archaeological interpretation of Hesiod's bronze and iron kinds (as folk memories of this metal sequence) is uncontroversial and “reflects a memory that bronze was indeed manufactured earlier than iron” (Graziosi and Haubold, 2010: 77). Hesiod's dating of the heroic age to the Trojan War (*W&D*. 164) suggests he had knowledge of Troy and ancient

⁸ There are only two exceptions: an iron arrow and an iron club (Hom. *Il.* 4. 123, 7. 141). The latter is extremely unusual and caused the death of king Areithous, who used it as a weapon; around in the Iliad and usually bronze.

Greeks (e.g. Eratosthenes, Ephorus) dated Troy to the 12th century BCE. It is widely accepted that Greeks had oral traditions that derived this far back in time and Greek mythology has a Mycenaean origin (Nilsson, 1932).⁹ A few classicists are prepared to accept the possibility that some Greek myths have an earlier origin, as far back as the Neolithic, when there was a proto-Greek language (Kirk, 1970: 240-241). This strengthens the archaeological interpretation for Hesiod's gold and silver kinds being folk memories of the Neolithic when there was no bronze.

Reliability of Oral Tradition

The question how many generations Greeks could pass on a message by word of mouth with a kernel of historical truth intact in the form of a folk memory (a group recollection of the past) has never been settled by scholars. As oral traditions (from Latin *trāditiō* "hand over", a catch-all term for verbal messages, e.g. proverbs, chants, gossip, stories and poetry) are retold, details in them change during oral transmission; this happens for many different reasons such as lapse in memory (sheer forgetfulness), or intentional alterations, omissions and additions to enhance interest of listeners; the older an oral tradition, the more likely it has accrued changes over time.

Folklorists widely recognise proverbs (wise sayings) and religious incantations (chants) aren't as vulnerable to distortion as gossip, stories and poetry, however proverbs or incantations rarely contain folk memories and consist of very few words. Gossip, prose stories and poetry often do contain folk memories, but according to Finley (1954, 1965) the ancient Greeks had trouble remembering beyond three or four generations, so whatever passed on orally became distorted beyond recognition after a single century; in *The World of Odysseus* (1954: 40) Finley argues:

...a Mycenaean kernel in the *Iliad* and *Odyssey* cannot be doubted, but it was small and what little there was of it was distorted beyond sense or recognition.

⁹ As noted by West (1997: 438): "Since the appearance in 1932 of Nilsson's famous book *The Mycenaean Origin of Greek Mythology* it has been generally accepted that a substantial kernel of Greek myth goes back to the Bronze Age, at least in broad outline". Nilsson's book was republished forty years later with an introduction written by the renowned classicist Emily Vermeule, who concludes Nilsson's premise remains true (Nilsson, 1972: vii-xiii).

An oral-formulaic composition of Homer's epic poems is arguably proven by repeated words and phrases (formulae), inherited from prior generations of poets that assisted live performance in front of an audience (Graziosi and Haubold, 2010: 13). In addition to the formulae, characters and the plot were passed down by word of mouth, but Finley¹⁰ thought this oral transmission could only reliably preserve historical truth as far back as the 9th century BCE. Murray (2001) shows this view is untenable, for example the Greek historian Herodotus (c. 440 BCE) relied on historical cores in some oral sources (gossip, stories) that were at least 200 years old (e.g. the foundation of Cyrene in the 7th century BCE). The folklorist Jan Vansina came to realise oral traditions can preserve folk memories or group reminiscences of certain historical events over more generations; note that Hesiod (*W&D*. 695) thought a generation was about 30 years. Vansina (1973: 209) notes oral traditions are trustworthy embedding folk memories typically for 200-300 years in small tribal societies but can survive for a few centuries longer in larger states or kingdoms, hence "the emergent *poleis* of early Greece qualify as states in the Vansina sense and their traditions might therefore extend even further" (Murray, 2001: 19). He provides an example of Kuba Kingdom tribesman he met in the mid-20th century, who had a tradition of "coats of mail worn by the Portuguese on the Congolese coast before 1525". If oral traditions this far back in time (over 400 years) can reflect historical memory, this supports a late Bronze Age (or sub-Mycenaean) setting for Homer's *Iliad and Odyssey*; it further explains Hesiod's own knowledge of the heroic age and Troy, but could Hesiod know of an earlier time period?

Vansina (1985: 21) discovered creation myths preserve "heavily fossilised" information longer than ordinary oral stories and Hesiod's *Work & Days* is in some sense an origin myth involving the creation of man. On the other hand, folklorists tend to attach an upper-limit of 500 to 800

¹⁰ Contrary to Finley's rather radical sceptical view, most sceptics of the idea *Iliad* and *Odyssey* reflect Mycenaean Greece, nonetheless concede there are minor Mycenaean features in the poems (Dickinson, 1986). It is possible the setting of the poems is an amalgam of both Mycenaean and later Greek Dark Age (10th to 9th centuries BCE).

years (rarely 1000 years) to folk memories of historical events, things or persons in these type of oral traditions (Nunn and Reid, 2015: 11; Echo-Hawk, 2000: 273). Beyond that time a core folk memory within a myth is thought to become lost or too heavily altered, beyond recognition:

The consensus appears to be that memories of particular events/persons can generally survive no more than 500–800 years, largely because the original information (core) has by then become completely obscured by the layers of narrative embellishment needed to sustain transgenerational interest in a particular story. (Nunn and Reid, 2015: 11)

Geomythology

Interestingly it is theorised by folklorists that memories of geological phenomena can persist in oral traditions for much longer periods of time than ordinary historical memories; so-called “geomythology”¹¹ involves deep-time folk memories of geological events and phenomena far back into prehistory, 7000 or more years ago (Mayor, 2005: 349). Nunn and Reid (2015: 12) and Nunn (2016) convincingly argue eyewitness testimonies of geological phenomena could survive as undistorted group recollections of the past in oral traditions, but only if knowledge became essential to survival (facilitating memorisation) such as the nature of harsh terrain (e.g. hot deserts) and catastrophes (e.g. coastal inundations and earthquakes). Information could also have been accurately retold, if assisted by rituals that inculcated important ideas and beliefs to tribes or societies, assuring they were remembered, and passed down, over many generations.

Gold and Neolithic Mortuary Practices

How might gold have aided memory of its discovery in oral tradition? Gold and to a lesser extent silver are known to have had a role in prehistoric mortuary practices and burial rituals; their discovery in the Neolithic coincided with the emergence of social hierarchies and gold

¹¹ Coined by the geologist Dorothy B. Vitaliano in 1967 and popularised in her book *Legends of the Earth: Their Geologic Origins* (1973). Vitaliano defined geomythology’s purpose as “to explain certain specific myths and legends in terms of actual geologic events that may have been witnessed by various groups of people” (1973: 1). She briefly touches upon metals in her book, noting “the discovery of gold or silver is in itself a glamorous event”.

assemblages were often buried with elites. Hesiod doesn't mention gold (or silver) as having been used in any casual sense by humans in their respective mythical ages (Currie, 2012: 45), in contrast to bronze and iron.¹² Instead, he says “the gods made a race of men out of gold (silver)” (*W&D*. 109, 127) which equates the metals with humans; the significance is arguably related to mortuary practices and burial rituals. The archaeologist Colin Renfrew discussing a necropolis in south-east Europe mentions Neolithic burials of elites had their skeletons adorned with gold (a plausible interpretation of Hesiod's “men out of gold”), further that objects made or coated in gold were also buried with elites to display and remember their high social status:

Renfrew proposed that the development of metallurgy was related to its social function as an indicator of status, as demonstrated in mortuary ornamentation. Early metal while being weak and of little practical use, was suited to displays of wealth, both by its rarity and its intrinsic aesthetic properties... It [gold] was used to adorn the body in privileged positions such as the face and genitals, and a number of 34 objects were found coated in gold in an attempt to make them look as if they were entirely made of it. (Stratton, 2016: 33-34)

John L. Myres

The archaeologist John L. Myres (1908) was the first to suggest Hesiod's scheme of metals is completely archaeological and for that reason he was “alone among scholars” (Griffiths, 1956).

Hesiod presents us already with a standard scheme of archaeology in which [the] Ages of Gold, Silver, and Bronze succeed each other, classified by their respective artefacts, and succeeded, first by an Age of Heroes – an anomaly, partly of Homeric authority, partly genuine tradition... (Myres, 1908: 127)

¹² “Their weapons were of bronze, of bronze their houses, and with bronze they worked; black iron did not exist then” (*W&D*, 150-151). Griffiths (1956) notes: “The last sentence makes his [Hesiod's] idea clear... ‘bronze race’ lived until the discovery of a new metal, that is iron” and usage of the metal iron is clearly implied (*W&D*. 151); the description of bronze age man constructing their homes from bronze might stem from Mycenaean memories when: “bronze was used in Mycenaean times for mural decoration, if not for actual building” (Sinclair, 1932: 20).

J. Gwyn Griffiths

The classicist J. Gwyn Griffiths (1956) published a paper supporting Myres in which he argued “history lies behind the sequence of metals” in Hesiod’s *Work & Days*, not just for bronze and iron but silver and gold. Griffith’s paper predated geomythology and the analysis of deep-time folk memories of geological phenomena in myths and so relied on what he considered historical reminiscences of the pre-Bronze Age, e.g. Hesiod’s (*W&D*. 116-120) description of the golden age being rich in flocks and spontaneously producing food as “folk memories of still earlier phases when man was a food-gatherer and a nomadic herdsman”. This seems improbable given historical cores in myths don’t survive a thousand years, however, in light of geomythology, Griffiths is obviously more justified in his argument the gold and silver kinds of man are folk memories of when these metals were first discovered during the Neolithic, hence he notes that the sequence of “gold, silver, bronze and iron, is one which the archaeological record attests”.

Conclusion

Griffiths rightly complained at the time he published his article most classicists haven’t given much, if any, consideration to the idea the first two metals (gold and silver) could have a literal basis, opposed to metaphorical; unfortunately, the situation today has not much changed. Currie (2012: 45-46) briefly mentions Griffiths’ archaeological interpretation for the entire sequence of metals yet rejects it for the popular metaphorical idea the gold/silver kinds are mere symbols, but that the later kinds have a genuine “historical dimension” (Greek Bronze and Iron Ages). Curiously, no reasons are actually presented by Currie (2012: 46) as to why the first two ages shouldn’t also be interpreted literal in terms of archaeology (or geology) nor is there reason to doubt a literal interpretation, the most straightforward reading of *Work & Days*, for all metals.

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