Astral knowledge and the authority of the general in Greco-Roman military manuals: analogies to the role of the maskil in the DSS

Yonder Moynihan Gillihan

κρατεῖ δ’ ἐπὶ πάντων μὲν τῶν ἀνθρωπεῖων ἔργων ὁ καιρός, μάλιστα δὲ τῶν πολεμικῶν (Polybius, Hist. 9.14.12)

Introduction

Greco-Roman military manuals have for some time proven useful for interpreting the Dead Sea Scrolls. In 1962 Yigael Yadin suggested that the genre of 1QM, the Serekh ha-Milšamah, was the "military manual," a handbook written for commanders. Several examples of military manuals composed in the Hellenistic and Roman eras survive; Yadin suggested a Roman provenance for the manual upon which 1QM was modeled.¹ In his recent edition of the Hebrew text of 1QM, and related articles, Jean Duhaime supported Yadin's classification and argued that Asclepiodotus' TEXNH TAKTIKH, a highly theoretical, mathematical treatment of military formations from around the first century BCE,² provided the best generic analogy.³ Martin Hengel proposed, alternatively, that "a Maccabean military instruction manual from the second century using Greek and Roman models underlay the War Scroll."⁴

Thus far the Greco-Roman military manuals have proven most useful for analyzing the most obviously military text from Qumran, the War Rule. This essay will explore the possibility that the pagan military manuals and related military literature may shed light on other texts and aspects of the yahad as well. My thesis is built upon the obvious observation that the leader of the yahad -- the maskil-- and pagan generals emboldened their followers during periods of intense

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conflict by persuading them that they fought with divine approval and aid. In some texts the
maskil has an apparently military role: he prepares the men of the community for conflict with
their enemies, disciplines and orders their activity, leads them in rituals, and decides when the
time is right for engagement with the enemy. I will argue that the role of the maskil as leader and
instructor of the yahad is analogous to the role of the pagan general. Both leaders grounded their
authority within systems of natural law or creation theology.\(^5\) In these systems, both the
instructors and the instructed presupposed that 1) the divine will or rationality that ordered the
cosmos also established an order of justice by which human societies must be arranged; 2) the
divinity sanctions war efforts only in the cause of justice, and without divine sanction, war efforts
are doomed. 3) In a situation of conflict, an instructor acquires authority by demonstrating that his
leadership has divine sanction. Such demonstration takes similar forms in the DSS and the pagan
military manuals: first, in public observations of astral phenomena, with the general or maskil
interpreting the movements of the heavenly bodies for the assembled followers. His interpretation
proves that he has intimate knowledge of the divine order, and warrants his leadership against
opponents during a time of dangerous conflict. Second, the strategos and the maskil aimed to gain
decisive advantage over their enemies by engaging in battle only at the appointed time (e.g., 1QS
10.19-20), arriving neither too early nor too late. The general and the maskil both calculated time
in preparation for battle by the movements of the heavenly bodies. There are important
differences between the units of time and the methods of measurement-- the general calculated
hours and minutes, while the maskil reckoned prophetic periods of jubilees and years--
nevertheless there are sufficient similarities to warrant comparison.

Yadin, Hengel, and Duhaime have argued that one sectarian text of the yahad was
influenced by military manuals. I would like to explore the possibility that the instructional

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5 “Natural law” is a term typically used for the Stoic and Platonic philosophy underlying much of the
ancient military literature and “creation theology” tends to be applied to a group of ideas in Jewish wisdom
theology. In this essay I will show that the “creation theology” of the yahad assumed certain principles that
were virtually identical to the “natural law” systems found in the pagan texts. For discussion of the
similarities between the systems of thought, see Hengel, “Qumran and Hellenism,” 51-55.
practices of the yahad, especially those by which the maskil established his authority to lead, may also have been influenced by military culture. Obviously, public interpretation of celestial phenomena for the purpose of gaining authority was not practiced only in military settings: non-military priests, astrologers, and philosophers also gave such demonstrations for such purposes. However, military aspects of the yahad, such as its profound interest in an eschatological war (1QM; cp. 1QS° 1.20-21); its idealized arrangement of its members into segments of 1000's, 100's, 50's, and 10's, the same military/legal configuration found in the Torah, historical books, and Maccabean literature;\(^6\) its emphasis on a strictly regulated, hierarchical common life, in one segment of which men apparently lived together in geographical separation from the rest of the community, taking meals together and sharing property; and its strategic refusal to engage in conflict with its enemies "before the appointed time" suggest that aspects of the self-definition of the yahad were militaristic, or influenced by military culture. Whether the yahad's militaristic self-definition went beyond the symbolic is an issue beyond the scope of this investigation. I wish only to explore the possibility that analogies between the role of astral knowledge in establishing instructional authority in the DSS and military texts will shed further light on the texts and practices of the yahad.

Onasander's military manual, the Strategikos, provides a particularly useful window onto Greco-Roman ideas and practices concerning warfare. The Strategikos attempts to be comprehensive, is concise, and lays no claim to originality. Onasander acknowledges his debt to other writers on tactics, and especially to the testimonies and accounts of Rome's own generals; his philosophical and technical approach to the science of war consistently corroborates the testimonies of other military writers, both Greek and Roman, which makes it possible to construct a synthesis about the role of astral knowledge in ancient military practice without fearing too

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\(^6\) See Exod 18:21, 25; Num 31:14, 48-54; Deut 1:15; 1 Sam 22:7; 29:2; 2 Sam 18:1-4; 1 Chr 13:1; 26:26; 27:1; 28:1; 29:6; 2 Chr 1:2; 25:5; 1 Macc 3:55.
much that we are misidentifying the idiosyncrasies of a single author with commonly held beliefs and practices of Greco-Roman generals.

**Part 1: Astral knowledge and the authority of the general in Onasander's *Strategikos* and related texts**

We know from the Suda that Onasander was a Platonic philosopher who wrote a commentary on the *Republic* and a handbook of military strategy, our *Strategikos*. Only the latter survives, but its popularity in late antiquity and during the Renaissance resulted in the preservation of the text in three easily relatable manuscript traditions, and a proliferation of translations, paraphrases, and excerpts in numerous languages. Its popularity seems attributable to its accessibility--it treats a wide range of military topics in lively, concise prose--and its emphasis on the general's role as one of moral leadership. The text can be dated with confidence to the middle of the first century CE by its dedication to the senator Quintus Veranius, who was elected consul in 49 CE and died in 59 while serving as general in Britain. Onasander wrote the *Strategikos* to serve as a "school for good generals, and a tribute to former commanders during this (time of) holy peace" (στρατηγῶν τε ἀγαθῶν ἀσκησις . . . παλαιῶν τε ἑγεμόνων κατὰ τὴν σεβοστὴν ἐἱρήμην ἀνάθημα). 

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7 Johannes Lydus (490-c.560 CE) names Onasander among the Greek military theorists in *De magistratibus* 1.47, and the Byzantine emperor Leo III (711-741) explicitly names Onasander's *Strategikos* in his own work on military strategy, the *Tactica*. Oldfather characterizes Leo's *Tactica*, in fact, as "in part a watered paraphrase of Onasander himself, together with extensive extracts from the *Strategica* ascribed to Mauricius, and from other sources" (349).

8 The Florentinus LV ms. (15th cent.) and two skilfully copied descendants, A and B, best preserve the text of Onasander. The second family, represented by the Parisinus 2442 (11th-12th cent.) and Vaticanus Graecus 1104 mss., is "markedly inferior," but sometimes preserves more accurate readings when F is corrupt; this group and its descendants enjoyed wider circulation than F. It is likely the source underlying several translations from the 15th-16th centuries (Latin, Spanish, German, French, Italian, English). The last group, represented by the Ambrosianus 139 ms. (14th-15th cent.), is so corrupt that it is more often regarded as a paraphrase than a recension (Oldfather, 364). The best text with critical apparatus to date was published in 1928 by W. A. Oldfather in Aeneas Tactitus, Asclepiodotus, Onasander, ed. and trans. by the Illinois Greek Club (LCL; Cambridge: Harvard University Press; London: Heinemann, 1928).


10 The translation is mine; Tichener and Pease miss the fact that the book is written in honor of former generals, for the purpose of instructing new generals in the virtues of their predecessors. Their translation, "an object of delight for retired commanders," suggests that Onasander intended his treatise to be read for pleasure by the older generation of generals; this obscures the cultic language of the Greek, and fails to communicate Onasander's pleasing rhetorical style: in one sentence he summarizes three key points which
He admits that he compiled and edited previously existing sources, but emphasizes that his text presents the most authentic and valuable military wisdom culled from the recorded testimonies and tactics of the greatest generals, especially those who expanded Rome's dominion to the edges of the world. In some cases Onasander's sources are clear, especially when his text shows clear verbal similarities with earlier treatises that remain extant, e.g., Xenophon's *Cyropaedia*, but his sources remain for the most part unattributed and unknown. Onasander's interest in the subject of warfare was philosophical as well as practical; as he compiled his material he shaped it with consistent emphasis on the general's responsibilities to maintain the order and morale of his army.

Among ancient military treatises, the *Strategikos* is unique for its focus on the *strategos*, and especially for its preoccupation with the general's moral responsibilities. Onasander explicitly links the general's mastery of moral virtues to success in battle: victory depends upon the general's ability to instruct and motivate moral men in defense of just causes. Onasander instructs the generals to cultivate justice in their own souls; having done this, the generals must not only teach their troops how to be just, but also convince them that their military exploits only ever serve to promote justice. An army persuaded that it fights for justice is a fearless army, emboldened not only out of a sense of moral duty, but also out of a sense that the just cause must surely succeed, since the gods themselves assist those who fight on behalf of justice. While Onasander does not explicitly say this, it is easy to suppose that he shared the view expressed by

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11 Oldfather rightly points out a lack of explicit engagement with Roman sources or attribution of specific strategies or insights to specific Roman generals in Onasander's work. Such lack is attributable to the literary genre: the *Strategikos* is an *aide memoire* of moral instruction and military strategy, a protreptic work, and not encomiastic or historical. Onasander honors past Roman generals not by naming them, but by instructing new generals in the virtues that he presumes past commanders exemplified.

12 The most recognizable influences on Onasander are Xenophon's *Anabasis* and *Cyropaedia*; other authors from whom Onasander may have drawn include Homer, Herodotus, Thucydides, and Polybius (Oldfather, 351). Literary influence seems obvious in Onas., 10.4, modeled after Xen., *Cyr.* 23.17-18; Onas., 10.12, after Xen., *Cyr.* 3.3.25; cp. Thuc., 3.23.3-4. Cp. also Onas. 1.13 to *II.* 9.443; Onas. 4.1 to Thuc., 2.74, Xen., *Cyr.* 1.5.13-14; Onas. 23.1 to Herodotus, 3.72.
Plato, Cicero, and others in their writings on military subjects: those who die defending justice earn honor among their surviving countrymen and glory among the souls in the afterlife.\textsuperscript{13}

**Morality, morale, cosmic order, and instruction in the Strategikos**

The *Strategikos* is instructional in at least two ways: first, Onasander identifies the text itself as a school for good generals; second, and most importantly for our study, the text aims to make its reader an effective instructor and commander of troops. Like other military writers, Onasander treats the general's technical instruction of troops as he trains them for combat, arrays them for battle, plots sieges, and so forth, but he also places special emphasis on the general's responsibility as a moral leader. Onasander justifies this emphasis in practical terms: moral discipline ensures that troops will be alert and vigilant, dutiful and loyal; they will not rob or exploit allies, and will fight fearlessly against enemies.

Morality, morale, and military success are logically related within a system of natural law, which brings us to the subject of cosmic order. Briefly stated, the system begins with the premise that the cosmos is ordered by a supreme divine, rational will, which is entirely good and just.\textsuperscript{14} Moral virtue results from the proper ordering of cognition and action in conformity to the divine will by which the cosmos is ordered. The idea that a supreme divine rationality orders the material cosmos gives rise to a number of hierarchical principles of authority: the rational intellect must govern the physical body; a household must be ordered by its moral and rational master, the patriarch; a state must be ordered by its moral and rational master, the ruler. Likewise an army must be ordered by its rational and moral faculty, which resides in the general. The properly ordered army proceeds into battle with great confidence and high morale, knowing that

\textsuperscript{13} On the rewards of justice see Plato, *Rep.* 612a-21d; also Cicero, *Rep.* 6.9-29, esp. 29.

its actions invariably promote justice and therefore guarantee divine favor and possibly even reward and aid.\textsuperscript{15}

Onasander's text is too practically oriented to include theoretical treatment of natural law, but his philosophical interests may be inferred from his other work (the lost commentary on Plato's \textit{Republic}), his preoccupation with the relationship between morality and military success, and the ubiquity of natural law theories in writings on military theory and statecraft produced by Onasander's contemporaries and influences, not least Plato himself.\textsuperscript{16} More importantly, Onasander's discussion of instructing troops includes techniques and commentary that suggest that both the general and the troops accepted some system of natural law as the framework within which to evaluate morality and actions.

Onasander's general does not provide instruction as a philosopher might, in order to lead all soldiers to become independent moral thinkers; rather, Onasander instructs the general to demonstrate to the troops that he is a trustworthy moral and rational master, and that by following his instruction they will act in accordance with the divine will. His instruction must, therefore, be supported by convincing demonstrations of his moral authority. Onasander opens with the argument that the general must exemplify specific virtues: he must be temperate, self-restrained, vigilant, frugal, hardened to labor, alert, free from avarice, neither a reckless, unripe youth nor a feeble old man, a skilled orator, a father with strong loyalty to the land of his children, and a man known by his good reputation.\textsuperscript{17} Men of good reputation will quickly earn the trust of soldiers, who will submit to his command willingly. A powerful orator can inspire the disheartened into

\textsuperscript{15} Cicero explicitly describes the role of political and military theory within a system of natural law in his \textit{Republic}. Speaking in the voice of renowned general P. Cornelius Scipio Africanus, Cicero argues that the foundation of good statesmanship is reason. A proper understanding of the cosmos, not least derived from the study of astronomy, must lead men to conclude that "our military commands and consulships belong to the class of necessary rather than desirable things, that they should be undertaken from a sense of duty, not coveted for the sake of glory or rewards" (\textit{Rep.} 1.27). In other words, one who understands cosmic order recognizes military and civil leadership as duties that the divine will imposes upon men. To serve and to lead properly is to get in step with the order of the cosmos; to fail to fulfill one's proper role is to violate the laws of nature.

\textsuperscript{16} Mentionable here are Onasander's predecessors Polybius and Cicero, and contemporaries Seneca and, perhaps Pliny the Elder, although the latter was not by any stretch of the imagination a philosopher.

\textsuperscript{17} Onas. 1.1-18.
action and cure despondency after defeat; he reminds soldiers of the cause to be defended and the honor to be gained by braving danger. His exercise of authority will be proper, consistent, courteous, precise and calm, and he will never be so severe as to be hated nor so lenient as to be despised.\(^\text{18}\) The virtue of his character, known through his reputation, observation of his deeds, and experience under his command should inspire soldiers to obey the general with utmost confidence.\(^\text{19}\) Onasander argues that moral virtue, above all else, should establish the general's authority over his soldiers and warrant their obedience. The soldiers' confidence secures their loyalty and inspires bravery; in short, the general's moral character is directly related to the level of morale among the ranks.

Natural law requires that moral virtue produce just actions. After establishing the general's morality as the primary warrant for his authority, Onasander describes, in succession, two ways in which the general must demonstrate publicly that his leadership into battle is just. Both ways presuppose the logic of natural law outlined above. In the first, the general demonstrates rhetorically that his decision to go into battle is just and therefore conforms to the divine will; in the second, the general demonstrates through public ritual that his plans have divine approval. The ritual demonstration of divine approval may take one of several forms; all require the general publicly to interpret the divine communication contained in the innards of a sacrificial victim, the flight of birds, or astral phenomena. Ancient military theorists understood all of these to be related, as we shall see.

**Forensic demonstration of conformity to divine will in setting out to war**

Before setting out to war, Onasander requires a general to marshall his diplomatic and rhetorical skills in order to demonstrate publicly that justice requires his action:

it should be evident to all that one fights on the side of justice. For then the gods also, kindly disposed, become comrades in arms to the soldiers, and men are more eager to take their stand against the foe. For with the knowledge that they are not fighting an

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\(^{18}\) Onas. 2.1-2.

\(^{19}\) Onas. 2.5.
aggressive but a defensive war, with consciences free from evil designs, they contribute a
courage that is complete.\textsuperscript{20}

Clearly the general's authority to lead troops is contingent upon the morality of his action. If he
sets off to war without first making clear, through speeches and diplomatic embassies, what he
wishes to obtain and what he will not give up, and unless he gives his enemy ample opportunity
to answer his demands without battle, then his army can have no confidence in his leadership. He
may be acting out of spite, or in order to enrich himself; he has shown no one that he acts out of
the necessity required by divine justice.\textsuperscript{21}

\textbf{Ritual demonstration of divine sanction of a campaign}

Onasander presupposes that justice and divine will are identical. If a general can prove
that he sets forth in response to justice, then all should agree that the gods will aid his efforts. The
general is required, even after producing forensic evidence that his campaign is just, to produce
cultic evidence that his plans to go to war correspond to necessity the divine will. Onasander
describes the general's production of cultic evidence in general terms: the general must "call upon
the divinity to witness" (ἐπιμαρτύρας ὑπὸ τὸ θείον);\textsuperscript{22} divine testimony concerning military or
political action was obtained by means of oracles, augury (interpreting the flight patterns of
birds), extispicy (examining the entrails of sacrificial victims), or an astrological sign.\textsuperscript{23} The
deity's approval proves that the general has proceeded prudently and in the cause of justice, that
he has not treated the dangers facing his soldiers lightly, nor does he seek only to bring ruin to the

\textsuperscript{20} Onas. 4.1-2. Trans. Tichener and Pease, LCL.
\textsuperscript{21} Onas. 4.3.
\textsuperscript{22} Onas. 4.3. See the excellent discussion of public divination in Roman warfare and political life in J.
could refer, alternatively, to the rite of \textit{evocatio} by which the general adjured the appropriate gods to aid his
efforts and pledged to build a temple to a deity if the campaign ended successfully. This seems unlikely,
however, given that Onasander makes the ritual the cultic counterpart to forensic evidence. The rite is not
intended to procure the gods' cooperation, but to prove to observers that the gods have already sanctioned
the campaign. For a discussion of the rite of \textit{evocatio} see Beard et al., 132-35.
enemy, and that he has set out without offense (\(\text{ἀνεμοσήτως \ ἔπεισιν}\)). If the general failed to produce cultic evidence for divine approval of his plans, the campaign could be delayed. Worse than delay, failure to produce evidence of divine approval enervated soldiers' morale, weakened the general's authority to command, and increased the danger that the campaign would fail.

After the general demonstrated the justice and divine sanction of his command and campaign, he had to purify the army and its military gear by the prescribed rites. This final public act ensured that the army, along with the general, fully conformed to the divine order, and that no aspect of the campaign was at odds with the divine will. Having devoted the first portion of his treatise to the general's moral responsibilities, first to excel in personal virtues, and then to demonstrate that he acts in conformity with justice and with divine approval, Onasander turns to more technical matters of campaigning, such as maintaining order on a march, maintaining a camp, conducting drills while in the field, acquiring food, treatment of captured spies, the night watch, scouting expeditions, and other practical matters (7.1-10.9). Throughout this section, Onasander emphasizes the general's responsibility to maintain the army not only as a ready fighting corps, but also as a moral and disciplined body of men.

After treating non-combat leadership, Onasander turns his attention to the general's leadership in battle. As in his preparation for a campaign, a general must demonstrate to his troops before battle that he marshalls and deploys them in conformity to the divine will; once again the purpose of the demonstration is to secure his authority and ensure that the troops obey

24 Onas. 4.3.
25 Livy, 45.12.12.
26 Liebeschuetz, 12. Full authority to command was considered a divinely sanctioned power, and, as we know from other Roman writers, soldiers required that generals prove that the gods supported their leadership. See, e.g., Livy 41.10.7.
27 Onas. 5.
28 Soldiers must pillage and destroy with discretion and purpose: the territory of allies or peaceful subjects is exempt; sometimes it may be advantageous to destroy enemy territory utterly, in order to bring about a quick surrender, but during periods of long occupation, only that which the army does not need should be destroyed (6.10-13). The general must keep the army from idleness and relaxation,"for idleness makes the body soft and weak, while relaxation makes the soul cowardly and worthless; since pleasures, capturing the passions . . . corrupt even the most courageous man" (9.1-3, trans. Tichener and Pease; cp. 10.1.1-4). The general must punish soldiers who plunder without having acquired his permission (10.2.8).
him with complete confidence. Above all other means of divination, the general must employ extispicy.  

Onasander suggests that the general have in his company official sacrificers and diviners (обще ὁσιμές) skilled in interpreting omens; however, he also recommends that the general learn to read the omens intelligently himself. This skill is, he advises, easily learned in a brief time, and by it the general may provide good counsel to himself. This likely means not only that the general may find out for himself what the gods have to say, but that he can acquire a favorable interpretation of the sacrifice more efficiently if he knows the methods of interpretation; further, the troops have greater confidence in the general who can read the gods' communications skilfully.

Extispicy is, Onasander acknowledges, but one way among several of interpreting the divine will before battle, but it is by far the most efficient: in the absence of a favorable omen the general can immediately sacrifice another victim and take a reading, repeating as necessary until the signs are positive. Extispicy has another advantage: its communications may reveal the same thing as the "motions of the heavenly bodies, their risings and settings, and their positions." Onasander's aside reveals conviction that the more secure knowledge about the will of the gods comes from observation and calculation of the positions of the astral bodies. Onasander associates extispicy with astral knowledge in order to support his claim that sacrificial divination is able to decipher divine communications; extispicy is recommendable only insofar as it is able to impart such knowledge with approximately the same accuracy as astral knowledge. Onasander is not unique, of course, in relating interpretation of astral phenomena to extispicy-- Babylonian diviners had long deciphered entrails in order to interpret eclipses. While astral signs were the superior object of divination, entrails had the advantage of being readily procurable, regardless of time of day, weather, and other uncontrollable circumstances. Further, the drama of sacrifice was

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29 Onas. 10.10.25-26.  
30 Onas. 10.10.27.  
31 Onas. 10.10.28: κοι ἵπποι δοκεῖ τὰς κατ' ὕπαρχον ἀστέρων κινήσεις καὶ ἀναστολάς καὶ δύσεις καὶ διαμέτρων ἀγαμής καὶ ἄρα ἤθελκη διὰ σπάγχων ἄλλοιομορφής θεωρίας προσημαίνειν.  
more easily produced before an assembly when needed than dramatic astral signs. The relative value of astral knowledge over expertise in extispicy, finally, may be inferred from Onasander's remark that the latter is easy to learn in a short time. We know, on the other hand, that skill in interpreting the movements of the heavenly bodies required a great deal of study to master, and may have been valued more highly than extispicy precisely for this reason.

At this point we should note that Onasander's high valuation of astral knowledge does not seem to have been matched by his learning in the subject. At one point he uses the verb for measuring solid forms (στερεομετρέω) to describe a method for estimating the number of soldiers in the enemy's army by the size of a circular camp, a method that clearly requires application of plane geometry.33 Such terminological confusion may reveal ignorance of the basic tools by which astral knowledge was produced.34 Perhaps Onasander's ignorance of methods of calculating movements of the heavenly bodies contributed to his enthusiasm for extispicy, and inspired his hope that the same knowledge that was available through celestial studies was also available in the handier and more easily comprehended innards of slaughtered beasts. It seems also to be the best explanation for why he omits discussion of the most famous application of astral knowledge by a general: to restore morale to frightened soldiers after an unexpected astral event, especially an eclipse.

Other Roman writers on military topics praise generals who have mastered enough astronomy to be able to interpret eclipses. In Cicero's Republic, Scipio Aemilianus, the revered general of republican Rome who destroyed Carthage and Numantia, argues that the study of astronomy is essential to statecraft and generalship. Scipio claims that the physical scientists

33 Onas. 10.8.16. The verb στερεομετρέω means "to measure solids"; the method Onasander should have named is simply γεωμετρία, or ἐπιπέδου πραγματεία γεωμετρία. See Plato, Rep. 526c-527c for a discussion of the application of plane geometry to military tactics. Plato prescribes the solid geometry as preparation for astronomy, the study of solid bodies in motion and an essential tool for acquiring knowledge of those things that exist eternally.

34 This may be added to other evidence suggesting that the Strategikos was written at the beginning of Onasander's career, and not when he was an advanced student of Platonism; presumably by the time Onasander was able to write a commentary on the Republic, he had advanced in the mathematical and astronomical skills that Plato valued so highly. See Oldfather's comments, 344-45.
Archimedes and Anaxagoras contributed more to the preservation of the Greek states by providing accurate interpretations of cosmic phenomena—specifically solar and lunar eclipses—than the politicians who concerned themselves solely with stable government. Before advances in astronomy, armies had interpreted eclipses as omens of impending disaster, which destroyed soldiers' courage in battle. When generals explained and even predicted eclipses, their armies were liberated from the panic that used to follow the omens, and they followed the general into battle with complete confidence. The generals' explanation of the eclipse not only disabused the soldiers of their superstition, but more importantly confirmed that the generals had powerfully accurate knowledge of the order of the cosmos. Their astral knowledge secured their authority to command the army; the gods' favor was proved not only by the general's understanding of the divine cosmic order, but also by the fact that while the general led the Roman army to face the portent without fear, the opposing army responded to the eclipse with panic. What better evidence could there be that the general led in perfect conformity to the divine order? What better demonstration that the gods favored one army's efforts and opposed the other's?

Cicero famously idealized Scipio's learning, but the general's interest and expertise in astral knowledge seems to have been historical. Polybius, who claims to have been among Scipio's closest associates at Rome, wrote a tractate on military tactics (now lost), in addition to his history of Rome's military and political ascendancy. In his treatment of generalship in the Histories, he vigorously argues that generals must study astronomy, as well as geometry and other mathematical disciplines. Polybius disparages the Athenian general Nicias, who was captured along with his entire army by the Syracusans after he witnessed a lunar eclipse and,

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36 Scipio gives the examples of Galus, who explained a lunar eclipse to Roman soldiers in Macedonia, and Pericles, whose interpretation of a solar eclipse freed the Athenians from fear of defeat at the hands of the Spartans.
37 See also the anecdotes about Gallus and Agathocles in Frontinus, Strategemata 1.12.8-9.
40 Only the first portion of the tractate remains. See Polybius, 9.12.1-20.10.
ignorant and superstitious, mistook it as a sign from the gods to abandon a sound strategy.\textsuperscript{41}

Polybius concludes,

If only he had inquired from men experienced in such matters! Not only would he not have abandoned plans because of such unique circumstances, but also he could have consulted his co-workers regarding the ignorance of their enemies. For the greatest aid to the success of skilled men is the inexperience of their neighbors.\textsuperscript{42}

Pliny the Elder and Plutarch similarly reproach Nicias' ignorance of astronomy.\textsuperscript{43}

Pliny reserved praises for such commanders as Sulpicius Gaius Gallus, who excelled in military leadership and astral knowledge. Cicero identifies Gallus as a close friend of Scipio Amelianus' adoptive father, the augur and general Lucius Aemilius Paullus.\textsuperscript{44} According to Pliny, Gallus was the first Roman to publish explanations of both lunar and solar eclipses. Pliny credits him with aiding Paullus' victory over King Perseus at Pydna in 168 BCE through a public demonstration of astral knowledge. Paullus brought Gallus, then a tribune, before the assembled army to foretell an eclipse (\textit{ad praedicendam eclipsim}) on the eve of the decisive battle.\textsuperscript{45} Gallus' announcement to the assembly freed the soldiers of fear, boosted morale and contributed significantly to their victory.

The predictive aspect of this account is probably wrong, given that full success in predicting eclipses did not come until the middle of the second century CE, with Claudius Ptolemy's great leaps in astronomical mathematics.\textsuperscript{46} In the \textit{Republic}, Cicero's Scipio Aemilianus

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\textsuperscript{41} Polybius, 9.19.1-4.
\textsuperscript{42} Polybius, 9.19.3-4: καίτοι γε παρά τῶν ἐμπείρων ἱστορίας μόνον περὶ τῶν δυνατῶν ἴνα χώρον παραλιπέιν διὰ τὰ τοιαὶ τὰ ποτὲ ίδιος καιροῖς, ἀλλὰ καὶ συνεργοῖς χρῆσοβαί διὰ τὴν τῶν ὑπεντίθου ἁγνοιαν· ἢ γάρ των πέλας ἀπειρία μέγιστον ἐφόδιον γίνεται τοῖς ἐμπείροις πρός κατόρθωσιν. Text is from the LCL; the translation is mine.
\textsuperscript{43} Pliny, \textit{NH} 2.9.54; Plutarch, \textit{Nicias} 23.
\textsuperscript{44} \textit{De senect.} 14.49-50.
\textsuperscript{45} \textit{NH} 2.9.53.
\textsuperscript{46} For discussion, including correction of Pliny's claim that Hipparchus (mid-3rd cent. BCE) predicted eclipses for 600 years, see John M. Steele, \textit{Observations and Predictions of Eclipse Times By EarlyAstronomers} (New Studies in the History and Philosophy of Science and Technology 4; Dordrecht: Kluwer, 2000) 91-93. By the 5th cent. BCE, highly educated Greeks like Thucydides (2.28) knew that solar eclipses could only occur during a new moon, and lunar eclipses during a full moon. Such knowledge enabled thinkers to reason that eclipses occurred as a result of some regular natural phenomenon that was not yet sufficiently understood, and not as a result of divine anger. Nevertheless lunar eclipses were not predicted with success until Hipparchus, and solar eclipses until Claudius Ptolemy. Pliny's account is
gives a more probable version: one clear night, a bright full moon suddenly darkened. The soldiers grew fearful, and immediately on the next day Paullus brought Gallus before the assembled army to explain the natural mechanism by which the eclipse occurred; he stressed that it was not a negative omen. Gallus' interpretation of the eclipse contained not only a naturalistic explanation, but also a religious interpretation, that the eclipse did not signal divine disapproval and the army should proceed with their plans. Gallus' interpretation of the prodigium before the public assembly exemplifies the religious application of naturalistic reasoning that could be tolerated in a system of natural law: given that the natural order manifested divine will, if one could demonstrate knowledge of natural order, one had authority to instruct and lead others in obeying the divine will. Such application of the interpretation of portents to civic and military affairs, given before a public assembly, is precisely what the Roman augures (including Paullus himself) had authority to do.

Pliny concludes his discussion of the usefulness of astral knowledge in a military context with a paean to its practitioners' victories over traditional forms of piety that held humans in bondage to superstition:

O mighty heroes, of loftier than mortal estate, who have discovered the law of those great divinities and released the miserable mind of man from fear, mortality dreading as it did in eclipses of the stars crimes or death of some sort . . . : all hail to your genius, ye that interpret the heavens and grasp the facts of nature, discoverers of a theory whereby ye have fettered gods and men! For who would not recognise that mortals are born with a fixed destiny of their own?

incorrectly summarized in James Evans' generally excellent introduction to ancient astronomy, *The History and Practice of Ancient Astronomy* (New York: Oxford University Press, 1998) 455 n.9: Evans states that Gallus explained, not predicted, the eclipse, and claims that the eclipse was solar, when the type is unspecified by Pliny. However, this book is easily recommendable: Evans not only presents the principles and history of ancient astronomy (especially that of the Greeks and Romans) in an accessible and elegant style, but also provides patterns and instructions for constructing and using ancient instruments, such as the astrolabe and gnomon.

47 Cicero, like Pliny, exaggerates Gallus' expertise: in *De senect.* 9.49 he recalls how much joy Gallus took in "telling us, long in advance, of eclipses of the sun and moon" (*Quam delectabat eum defectiones solis et lunae multo ante nobis praedicere*). It is possible, of course, that Gallus attempted to predict solar eclipses, but it is highly unlikely that his predictions were accurate.


49 See Cicero, *Leg.* 2.31; *Phil.* 2.79-84.

50 *NF* 2.9.54-55; "viri ingentes, supraque mortalium naturam, tantorum numinum lege deprehensa et misera hominum mente metu soluta, in defectibus siderum scelera aut mortem aliquam pavente . . . : macti ingenio
Astronomers not only conquered the superstitious notions that the gods act capriciously, and intervene in human and natural affairs to terrify, but also aided proper understanding of the relationship between the human and the divine. Both realms, he supposed, are ordered by the same *necessitas*.

Pliny's thinking has never been characterized as philosophical or even particularly methodical; nevertheless he interpreted cosmic phenomena along quite the same lines as his more philosophical predecessors, contemporaries, and successors, such as the Stoics Cicero and Seneca, the polymath architect and military engineer Vitruvius (1st cent. BCE), and the revolutionary astronomer Claudius Ptolemy (mid-2nd cent. CE). All of these thinkers identified cosmic order as a manifestation of the perfectly rational, consistent divine will; all of them, in one way or another, claimed that those who comprehended cosmic order correctly had unique ability to conform themselves to the divine will, and to guide others, by scholastic instruction, statecraft, generalship, or other means, into equal conformity with the divinely established order. Astrology and other forms of divination, far from being "wretched subjects" relegated to the margins, were thought to be able to advance human knowledge along with their more "scientific" counterparts, and be improved through careful study and practice.⁵¹

**Tactical astronomy: covert maneuvers, the zodiac, and timekeeping instruments**

Thus far we have considered the effects of *cultic* applications of astral knowledge on the authority of the general. We now turn to the application of astral knowledge to the timing of maneuvers and execution of stratagems at night. Sophisticated knowledge of the courses of the constellations throughout the night enabled the general to plan night marches and coordinate secret attacks with precision. Expertise in timekeeping ensured that strategic actions would occur

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este, caeli interpretes rerumque naturae capaces, argumenti repertores quo deos hominesque vinixistis! quis enim . . . non sua necessitate mortales genitos agnoscat?" The text and translation are Rackham's, and reflect his emendation.

exactly at the appointed time, neither too early nor too late, lest the army alert or engage the enemy at the wrong time and meet disaster. Military literature regularly attributes disaster to a general's inaccurate tracking of the movements of the constellations of the zodiac and reckoning of the seasonal hours; on the other hand, generals who mastered astronomical timekeeping skills are regularly praised. While victory in battle on its own might suggest that the victors fought with divine approval, the general's use of astral knowledge to defeat enemies provided empirical verification that the victory resulted from conformity to divine order.

Onasander writes,

In night attacks and surprises of towns through treason, the general must know the heavenly courses of the stars by night, otherwise his plans will often be of no avail. For instance, some traitor has appointed the third or the fourth, or whatever hour of the night he considers most favourable, for opening the gates or slaying some of the opposing faction in the town or attacking the hostile garrison within the town; then one of two things has happened; the general has reached the camp of the enemy too early and has been detected before the traitors are ready and has been thwarted in his attempt, or else he has arrived too late and has thus been the cause of the traitors' being detected and put to death and of his own failure to accomplish any of his plans.\(^{52}\)

Onasander does not give specific details about the methods by which the general should track time and coordinate precise stratagems; he exhorts the general, more generally, to know the terrain, the marching speed of the army, and the hours of the night as indicated by the movements of the stars. However, Onasander stresses the need for the general to interpret the movements of the stars with precision:

he must, from his observation of the stars, estimate exactly (ἀκριβῶς) what part of the night has passed and what part remains, in order that he may arrive neither too early nor too late; then he must get there at precisely the appointed time (πρὸς αὐτὴν ἡκεῖν τὴν ὥραν τοῦ καίρου), so that news of his attack may not reach the enemy until he is actually inside the fortifications.\(^{53}\)

Polybius provides more detailed information about what generals must learn in order to estimate time at night with precision. He must, first, have "a theoretical knowledge . . . especially of

\(^{52}\) Onas. 39.1-2, trans. Tichener and Pease.

\(^{53}\) Onas. 39.1.3, trans. Tichener and Pease, with my emphasis.
astronomy and geometry," that enables him to deal precisely with "the variations of day and night." \(^{54}\) This is necessary,

since . . . days and nights differ not only from each other, but also from themselves it is evidently necessary to be acquainted with the increase and decrease of both. For how can one rightly calculate the distance traversed in a day's march or in a night's march without knowing the different lengths of day and night? Indeed, it is impossible for anything to come off at the proper time without such knowledge; it is sure to be either too late or too soon. And in such matters alone it is a worse fault to be in advance than behind hand. For he who arrives later than the hour decided upon is disappointed merely in his hope-- since he becomes aware of the fact while still at a distance and can get away in security-- but he who arrives too soon, approaching the enemy and being discovered by him, not only fails in his attempt, but runs the risk of total destruction. \(^{55}\)

Therefore the general must know the dates of the summer and winter solstices, the equinoxes, and the rates of increase and decrease in seasonal hours between these calendrical points. The general must know the subdivisions of the day and night, and sound the reveile and march at the appropriate times; he must be able to tell the daytime hour by the sun's shadow, course, or position and height; at night he must be able to calculate the hour by observing the positions of the constellations in the zodiac, or by the position and movement of the moon when clouds obscure the stars. \(^{56}\) Failure to acquire basic astronomical knowledge, or failure to apply such knowledge properly, can result in an army's destruction; Polybius provides several historical examples. \(^{57}\)

Ancient sources provide some evidence that the tactical application of astral knowledge could be aided by portable timekeeping devices. Such devices are mentioned as early as the fourth century BCE, in the military handbook of Aeneas the Tactician, who prescribes the use of water clocks. \(^{58}\) In the second century CE Claudius Ptolemy recommended the astrolabe over water clocks and sundials for the precise

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\(^{58}\) These operated on the same principle as the sand hour glass. Aeneas recommended their use to time night watches. Seasonal differences between the length of hours required that the water chambers be filled partially with wax as the nights grew shorter, and gradually emptied as the nights lengthened. See Aeneas Tactitus 22.24-25; also fr. 48.
measurement of hours, since the latter frequently produce errors. As Neugebauer and others have argued, it is likely that the astrolabe was available to astronomers as early as the second century BCE, since Hipparchus seems to have known the geometrical method upon which the astrolabe is based. By the first century BCE, at least, engineers like Vitruvius were familiar with the mathematics and mechanics of the astrolabe. I have not found explicit evidence in the texts from our period (2nd cent. BCE-1st cent. CE) that generals used the astrolabe and other astronomical instruments to time military maneuvers at night. We may infer, however, that some generals used such instruments from two facts: first, as is clear in Aeneas' Tactica, generals used clocks to time the night hours. Further, generals understood that the lengths of the night hours waxed and waned with the seasons, and needed reliable means for tracking them. While its operation required some training, the plane astrolabe was not difficult to use for its primary purpose, telling time at night. As timekeeping technology improved, generals who kept up with the technology can be expected to have used more sophisticated and reliable instruments, especially for those operations that required precise timing. Second, important knowledge of astronomical instruments comes from writers with interest and experience in military tactics and engineering, such as Cicero and Vitruvius.

Polybius concludes that "It is time, indeed, which rules all human action and especially the rules of war." Failure to reckon time correctly-- i.e., in accordance with the movements of the stars and the hours fixed within the seasons-- may cause a stratagem to fail, or an entire army to be destroyed.

Summary of part 1

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59 Water clocks err due to irregularities in the flow of water; sun dials, due to irregularities in placement of the gnomon, or errors in alignment of the dial. See Ptolemy, Tetrabiblos 3.2.
61 In the introduction to De architectura, Vitruvius claims that understanding clocks is impossible without basic understanding of astronomy (1.10). Vitruvius devoted the last portion of his book to military engineering, immediately after his discussion of clocks. Cicero expresses his interest in astronomy and astronomical instruments, such as the armillary sphere, in the context of a discussion of statecraft and military science (Rep. 1.13-32).
The study of Onasander's *Strategikos* and related texts enables us to identify a general pattern by which astral knowledge was applied within military instructional contexts. First, the ancient writers worked within a framework of natural law: they assumed that the divine was good and just, and that a supreme divine rational will ordered the material cosmos. That order included rules defining how individuals acquire moral virtue and so "get in step" with the divine order; it also defined how human societies should be governed and protected. It was commonly assumed that social groups should be ordered by an individual who had conformed his own soul to the cosmic order, since he would then be able to direct others to conform to divine order. In the military context the *strategos*, provided instruction not only by imparting knowledge, but by defining and enforcing behavior that produced justice and protected the just society, in accordance with the divine will.

A general's authority was assumed to correspond to his knowledge of the divine order. The most important evidence of this knowledge was his moral character, which others could observe in his actions and learn from his reputation. Next in importance were public rhetorical and political proofs of the justness of his leadership; these were required to be accompanied by cultic proofs that the divinity sanctioned his plans as just; interpretation of astral signs was a common proof, and it was assumed that extispicy provided another manner by which astral communications could be understood. The general's ability to interpret astral signs enabled him to lead the entire army in step with the divine order, and to keep his strategy intact and the soldiers' morale high even in the event of an eclipse or other frightening signs. Further, he could use the movements of the heavenly lights to track time precisely during nighttime maneuvers, and to obtain the advantages of stealth and surprise. Astral knowledge not only gave the general the ability to convince troops to stay and fight, despite astral phenomena, but also to move the army in precise conformity to astral order-- an order understood to represent the divine will with unique precision.

63 For a series of generals' explanations of omens, see Frontinus, *Strategmata* 12.1-12.
We will turn to the DSS to see how the maskil of the yahad used astral knowledge in an instructional context, especially as a warrant for his instructional authority. I will show that the pattern in the texts dealing with the yahad is analogous to the pattern in Onasander's Strategikos and related texts.

Part 2: Astral knowledge and the authority of the maskil in the DSS

The office of the maskil, or "Instructor," appears to have been the highest position of authority within the community of the DSS. As the name implies, the maskil was primarily responsible for imparting knowledge (lk#, t (d, xq) etc.), to those under his authority. The Community Rule, preserved most completely in 1QS, was addressed to the maskil; it describes various activities of the yahad over which he presided, and shows clearly that the maskil was responsible for overseeing the liturgy of the yahad (or at least the segment of the yahad to which 1QS pertains), for defining the purpose and implications of inclusion within and exclusion from the community, for fundamental theological instruction, and for maintaining discipline and order among those under his command by enforcing the regulations of the yahad. A major portion of the last three columns of 1QS is devoted to the duties and moral qualities of the maskil, and provides a relatively unified view of the relationships between the leader's knowledge, moral character, and authority to instruct. Interestingly, this section also discusses the maskil's duties in the conflict between the yahad and its enemies; like the military texts, 1QS emphasizes that in combat, timing is everything.

Duties of the maskil (1QS 9:12-21)

66 1QS 2:25-3:12.
68 4QJosh fr. 5 1:1; 4Q4 fr. 1 1.1, corresponding to 1QS 5.1. For discussion see Vermes and Alexander, 96; also S. Metso, *The Textual Development of the Community Rule* (STDJ 21; Leiden: Brill, 1997) 120-24, 135-40.
The *maskil* must live and lead in accordance with every statute of the community; he is entrusted with the entirety of the community's knowledge, especially that pertaining to the eschatological period (9:12-14). The knowledge of the community, as is well known, centered around a sectarian understanding of divinely established cosmic, social and cultic order. The *yahad* was intensely concerned with correspondence between the cultic calendar and cosmic order: they, agreeing with and drawing upon *1 Enoch* and *Jubilees*, argued that the appointed times of festivals and sacrifices established by God through the hand of Moses corresponded perfectly to the length and divisions of the year as determined by the course of the sun over 364 days. The enemies of the *yahad*, who controlled the temple cult, reckoned the year and its divisions according to lunar cycles, over 354 days.\(^69\) The *yahad* accused those calendrical deviants of gross violations of God's moral and legal order, of defiling the holy land and people with manifold sins and impurities, and corrupting the kingly and priestly institutions of Israel. Like their pagan counterparts, the *yahad* assumed that those who understood the divine order of the cosmos would uniquely exemplify moral virtue and be qualified to order society. Those who did not correctly understand cosmic order were bound to err; if they were in positions of social authority, they would lead others astray as well.

As the possessor of full knowledge of cosmic order and the statutes of God, the *maskil* possessed authority to order, instruct and lead the community of the elect. One of his primary duties was to "separate and weigh the Sons of Righteousness according to their spirits"; he appoints them to their ranked posts within the *yahad*, selecting some as "chosen ones of the Endtime," over whom he has special authority (1QS 9:14-15).\(^70\) The *maskil* examines and judges

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\(^70\) hwc r#)k wnwr yp l( qyzxh l t(h yryxbbw Mwxw r ypl qwdch ynb lwq#lw lydbhl
the spirits of his men in the context of discussion and debate about points of sectarian law and doctrine.\textsuperscript{71} Within this context, the maskil imparts knowledge that enables the men of the yahad to walk perfectly (9:18-19). It is significant that the maskil's instruction is not said to be timeless and comprehensive, but specifically deals with the "time to prepare the way to the wilderness," when the yahad separates from the "men of deceit" and prepares the way of the Lord (9:19-21; cp. 8:12-16). The maskil instructs his community in "all that is found to do in this time,"\textsuperscript{72} i.e., how to behave in the face of God's imminent judgment and purification of Israel.

\textbf{Warrants for the maskil's authority}

\textbf{1. the moral character of the maskil (1QS 9:21-26)}

The centrality of eschatological conflict in the ideology of the yahad is clear; it is also clear that the maskil had a central role in preparing the community for this conflict. His authority to lead, like that of the pagan strategos, is anchored in his exemplification of the virtues valued by the yahad, and his knowledge of the divinely established order. 1QS 9:21-10:5 describes the maskil's exemplification of virtues: he will manifest eternal hatred against the men of the pit "by a spirit of concealment" (9:21-22). The maskil thus keeps the knowledge of the yahad from its enemies, and reveals it only to those within the sect.\textsuperscript{73} As he separates from the men of deceit, he abandons to them "property and toil of the hands," just as an oppressed slave willingly abandons labor which benefits his oppressor.\textsuperscript{74} Thus thoroughly separated from the enemy, he will live "zealous for the law and prepared for the day of vengeance" (Mqn Mwyl yt(w qwxl )nqm) (9:23-25).\textsuperscript{75} As Jacob Licht argued in 1957, and as seems obvious from verbal similarities to the War Rule,\textsuperscript{76} "to be zealous . . . and prepared for the day of vengeance" means to be ready and

\textsuperscript{71} The Community Rule emphasizes that such debate may only take place within the community; no member may engage in dispute or contention with the "men of the pit" (tx#h y#n), lest the enemies of the community come into possession of their special knowledge.

\textsuperscript{72} t)wzh t(b tw#(l )cmnh lwk (1QS 9.20).

\textsuperscript{73} See above, 9:16-17.


\textsuperscript{75} Compare 10:19-21.

\textsuperscript{76} 1QM 7:5 describes the Sons of Light as an army of "volunteers for war, perfect ones of spirit and flesh, and ready for the Day of Vengeance" (Mqn Mwyl Mydwt(w r#bw xwr ymymtw hmxlm tbdn y#n)
willing to fight in the war of the Sons of Light against the Sons of Darkness. The maskil will always follow God's will; he delights in all that befalls him, since he knows that God has willed it; even suffering will be received with praise (9:23-26). This section shows that the authority of the maskil, like that of the pagan strategos, depended upon his exemplification of the virtues that the community esteemed highly-- self-control, separation from and hatred of the enemy, endurance in affliction, willingness to sacrifice possessions for the cause of righteousness, and absolute trust in God.

2. Rhetorical demonstration that conflict is necessary and just, and victory is inevitable (1QS 2:25-3:12; 3:13-4:26; the hymn of the maskil, 1QS 10-11)

One of the most important activities of the maskil in the Community Rule is instruction; frequently his instruction explains the conflict between the yahad and its enemies. Two major themes appear in the three passages given above: first, within the cosmic order established by God, the maskil and those under his leadership in the yahad are on the side of righteousness (3:6-12), while their enemies, i.e., all who either fail completely to enter into the yahad, or enter but continue to transgress, or abandon the community, oppose God's righteousness (2:25-3:6). In the "treatise on the two spirits" which immediately follows, the eschatological implications of these alliances are spelled out. First, the opposition between the Sons of Light and the Sons of Deceit is an earthly manifestation of the supernatural opposition between the Spirit of Truth and the Spirit of Deceit. God presides over the supernatural and earthly opposition between Truth and Deceit, and predetermined its outcome: at the appointed time of his visitation (wtwqd d(wm) (3:18; 4:18-19), God will eradicate deceit, purify, vindicate and reward the righteous, and visit afflictions, terror and shame upon their enemies (4:6-14, 18-26). The destruction of the wicked is wyhy). The reference to the Sons of Light as "prepared for the day of vengeance" is obviously related to 1QS 9:23-25; so also is their status as hmxlm tbdn y#n) seems entirely related to the status of members of the yahad in 1QS as 1) yqw tbd (1 Mybdnh lwk (1:7; cp. also 1:17; 5:1, 10).


78 See the possibilities explored by Leaney, The Rule of Qumran, 137, with bibliography.
just due to their wicked deeds (4:9-11), their innate alliance with the Spirit of Deceit (3:20-21; 4:9, 15), and above all the fact that God ordained the lot of the wicked and their judgment "in his mysterious understanding and glorious wisdom" (3:15-19; 4:18). Further, the earthly opposition of the Sons of Light to the Sons of Deceit is part of God's plan: their separation from the wicked, zeal for God's judgments, and concealment of divinely revealed knowledge from their enemies result from the influence of the Spirit of Truth upon the yahad. Their struggle against earthly enemies, under the leadership of the maskil, is a necessary component of the divinely established order.

In the hymn at the conclusion of 1QS, the maskil avers his mastery of knowledge of God's design (11:5-9); he pledges to praise God at all times in a spirit of humility and endurance (10:8-17; cp. 11:15-22), and to exemplify the virtues most prized by the community (10:17-18; 21-25). He vows to conceal knowledge from the wicked, show merciful love to those who are lowly, and strengthen the hands of the fearful (note that the pagan strategos also skilfully encouraged fearful soldiers); he will teach those of the community who err in a spirit of discernment, and will instruct those who remain yielding in instruction (10:24-11:1); he will show himself only humble and contrite in the presence of the wicked, knowing that his judgment and vindication belong to God (11:1-2). The maskil vows to keep his anger kindled against the

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79 E.g., Onas. 14.2.3-4; 23.1-3; 36.2.3-6.
80 The phrase xqlb Mynkwr in 11:1 is difficult to decipher. Charlesworth, following earlier scholars, proposes reading Mynqwr, "those that grumble" (Rule of the Community, 47; similarly Leaney, The Rule of Qumran, 235). This emendation seems unnecessary philologically, and unlikely given the ideology of the community: if we follow Charlesworth's emendation, we would have the maskil teaching understanding to outsiders, when elsewhere in the Community Rule, including in the Hymn of the Maskil (10:19, 24) the maskil and all other members of the yahad vow to conceal knowledge from outsiders. The verb Nkr, "to be tender, soft; to bend, yield; to sink, be faint," is well attested in Rabbinic literature, and can take an object with the preposition b, e.g., lwqb Nykrm, "faint in voice" (Gen. Rab. s. 65, cited in Jastrow, s.v.). In 1QS 11:1 the phrase xqlb Mynkwr seems easily able to mean "yielding in (matters of) instruction," i.e., amenable to the correction of the maskil. If taken in this way, the phrase stands in parallel with the preceding phrase in the same line, hnyb xwr y(wt, "those who err in a spirit of discernment." It seems that 10:25-11:2 describe the maskil's responses to insiders and outsiders: regarding the former, he shows merciful love to the lowly, strengthens the hands of the fearful, teaches those who err in a spirit of discernment, and instructs those who remain yielding in instruction. To the latter he will only show himself humble and broken, refusing to interact with them in any other way until the Day of Vengeance.
wicked, feeling no satisfaction until God's judgment has been accomplished; nevertheless he will refrain from strife with a man of the pit (t:x# #n) byr until the Day of Vengeance (10:19-21).

The instruction of the maskil and his overall role as described in the hymn seem intended to be effective in the conditions immediately prior to engagement with the enemy. The maskil not only aims to explain the yahad's theology and anthropology, but also to inspire members to devote themselves to the struggle against the powers of deceit, to submit to his divinely sanctioned leadership, and to anticipate glory and reward on the day of God's vengeance upon the wicked. I would suggest that this instruction is analogous to the forensic and diplomatic proofs that Onasander requires the general to present in preparation for a campaign: it boosts morale by proving that the conflict toward which combatants are headed is necessary, conforms to divine standards of justice, and has divine approval; it aims to convince that victory is inevitable.81

3. Cultic proof of divine sanction: the astral knowledge of the maskil in theory and practice (1QH 20 [also 4Q427 fr. 2 + 3 2.5] and Daily Prayers [4Q503])

The hymn in 1QH col. 20 falls naturally into two parts. The first is a preamble that introduces the maskil as one who worships in accordance with the divine cosmic order. The first lines suggest that the maskil led liturgy at specific moments in the day marked by the position of the sun and other heavenly bodies. The first prayers occur "when the light comes to [its] domini[on] through the course of the day, according to its regulation, in accordance with the laws of the great luminary. . ."82 This suggests that a morning liturgy was timed to coincide with the sun's appearance in a certain position on the horizon.83 Other prayers took place at evening, "at

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81 One more analogy in the DSS to the general's forensic and diplomatic demonstration of the justness of his campaign: 4QMMT. This "halakhic letter" seems to have been used for the instruction of insiders (see S. Fraade, "To Whom It May Concern: 4QMMT and Its Addressee[S], RevQ 76 [2000] 507-26), but is addressed to an outsider, the king of Israel. The letter urges him to adopt the halakic rulings of the yahad so that it may go well with him and his people at the end of days. This document may have served as a "diplomatic" proof that the coming conflict between the Sons of Light and the Sons of Darkness was necessary and inevitable: the yahad had attempted to obtain resolution peacably, but their efforts had been rejected.

82 1QH 20.5-6: lwdg rw)m twqwxl wnwktl Mwy twpwqtb[ wtl]#mml rw) )wbm M( Cqm

83 It is worth noting that Josephus describes a similar practice among the Essenes in BJ 2.128: Πρὸς γε μὴν τὸ θείον εὐσεβεῖς ἵδιος· πρὶν γὰρ ἀνασχεῖν τὸν ἡλιον οὐδὲν φθέγγοντα τῶν βεβήλων,
the departure of light, when the dominion of the darkness begins;\(^{84}\) and then as night advanced and daybreak approached, "at the appointed moment of the night . . . at the moment when it withdraws to its quarter before the light;\(^{85}\) and again at daybreak, "at the departure of night and the coming of day."\(^{86}\) This cycle of prayers\(^{87}\) is described almost identically at the beginning of the Hymn of the Maskil, 1QS 9:26-10:5, which also marks ritual observances of the epagomenal days, i.e., solstices and equinoxes.\(^{88}\)

The fragmentary scroll Daily Prayers (4Q503) very likely preserves the words of the liturgy that the maskil led during the first month of the first and fourth years in a six-year cycle.\(^{89}\) The evening and morning prayers in 4Q503 are to be recited at specific times marked by the positions and interrelated movements of the sun and moon. Each prayer is accompanied by two time references. Evening prayers are introduced by the day of the month on which they are to be recited; morning prayers are introduced without reference to the day of the month, since the day had been named already in the evening prayer introduction.\(^{90}\)

On the \(X\) of the month in the evening they shall bless; they shall recite, saying:

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\text{πατρίους δὲ τινὸς ἐς αὐτὸν ἐυχὰς, ὡσπέρ ἱκτεύοντες ἀνατείλαι ("Their piety toward the Deity takes a peculiar form. Before the sun is up they utter no word on mundane matters, but offer certain ancestral prayers toward it, as though entreating it to rise"). My translation and interpretation follow John Strugnell, "Flavius Josephus and the Essenes: Antiquities XVIII.18-22," JBL 77 (1958) 106-15; see also Todd Beall, Josephus’ Description of the Essenes Illustrated by the Dead Sea Scrolls (Cambridge: Cambridge University Press, 1988) 52.}
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\[1QH 20:5-6: K#wx tl#mm ry#rb rw) )cwmw br( twnpb]
\[1QH 20:6-7: rw) [] ynpm wtnw)m l† wps)h Cqbw rqwb twnp Pl wtpwqtb hlyl d(wml]
\[1QH 20:7: Mmwy )wbmw hlyl )xwml]

\(^{84}\) 1QH 20:5-6: K#wx tl#mm ry#rb rw) )cwmw br( twnpb
\(^{85}\) 1QH 20:6-7: rw) [] ynpm wtnw)m l† wps)h Cqbw rqwb twnp Pl wtpwqtb hlyl d(wml
\(^{86}\) 1QH 20:7: Mmwy )wbmw hlyl )xwml

\(^{87}\) Alternatively, this cycle could simply refer to one morning and one evening prayer, using poetic repetition and parallelism to emphasize the cyclical character of the prayers. For an interpretation of the cycles of the prayers of the \(yahad\) in 1QS 10, see Alexander and Vermes, 114-20, esp. the chart on p. 120.

\(^{88}\) See esp. 1QS 10:3-5. S. Talmon has recently argued that 11QPs\(^{a}\) 27:9-10 refers to special psalms for the epagomenal days which King David composed; he interprets \(M(y)\) (\(wbp\)) as a reference to days "interposed" into the calendar at the cardinal points of the sun's cycle. For preliminary discussion see his remarks in DJD 21, 3-4, and his article, "The Covenanters' Annuarium According to King David's Compositions in the Psalms Scroll from Cave 11," in G. Brin and B. Nitzan, Fifty Years of Dead Sea Scrolls Research (Jerusalem: Yad Yizhaq Ben Zvi, fe) (in Hebrew).


\(^{90}\) It is clear that the days in 4Q503 began with evening. For discussion see J. Baumgarten, "4Q503 (Daily Prayers) and the Lunar Calendar," RevQ 12 (1986) 399-407.
And when the sun rises to shine upon the earth they shall bless; they shall recite, saying:91

Worshippers then recited prayers, which included references to the times at which they prayed, as marked by specific astral phenomena. In the evening prayers they numbered the lots of light or darkness that corresponded to the phase of the moon; in the morning they named the "gate" (.readValue) on the horizon out of which the sun arose; its number corresponded to the day of the month.92 As Daniel Falk has shown, the liturgy was simple and repetitive, which makes a very basic outline of evening and morning prayers possible despite the terribly fragmentary state of the scroll:93

**Evening**
Blessed be the God of Israel, who (a deed or attribute is recounted)
And this night (the liturgist describes a blessing)
Lots of light/darkness
Blessed be your name, God (attribute or deed)
Peace be on you, Israel . . .

**Morning**
Blessed be the God of Israel, who . . .
In the gate of light
Blessed be your name, God . . .
Peace be on you, Israel . . .

91 Translation is from D. Falk, *Daily, Sabbath, and Festival Prayers*, 34, 41-42.

92 As is well known, the Astronomical Book of 1 Enoch also uses the term "gate" to denote the position on the horizon at which the sun rises. There are important differences between the "gates" of 1 Enoch and the Daily Prayers: in 4Q503 the term ".readValue" refers to a single day; there are as many "gates" in a month as there are days. In 4QEnastr, on the other hand, a "gate" is a section of the eastern and western horizons out of which the sun rises and into which it sets over the course of a month; there are six gates in the Astronomical Book of 1 Enoch (82:4-6; for translation see Michael Knibb, *The Ethiopic Book of Enoch* [Oxford: Clarendon, 1978] 2.188). The Daily Prayers scroll indicates that the liturgists not only observed the movement of the sun as part of their worship, but also the movement of the moon and stars. The "standards of the night" ( RCMPRL ) are mentioned in 8:11, 19; the text also marks the "beginning of the dominion of darkness" ( N#mx Rİd#b ) (fr. 33-34 1:19) as a time commemorated in the liturgy, which includes praise to God for establishing something, presumably the courses of the stars, "in all the appointed times of night" ( RCMPRL ) (fr. 33-34 1:20-21).

93 See D. Falk, *Daily, Sabbath and Festival Prayers*, 41-42 for the schematic reconstruction of the liturgy given below.

94 An example of an evening prayer for the 15th day of the month (4Q503 fr. 1-3 ll. 6-10): "On the fifteenth of the month in the evening they shall bless and they answer [and say], Blessed be the God of Israel who closes up . . . before Him in every allotment of its glory. And tonight [ . . . ] [ . . . ] forever to thank Him [for] our redemption in the beginning [ing] [ . . . ] revolution of vessels of light. [And] the daily four[teen] [ . . . ] the light of daytime. Peace be upon you, Israel." Translation is from J. Davila, *Liturgical Works*, 216.

95 An example of a morning prayer for the fourteenth day of the month (4Q503 fr. 1-3 ll. 1-6): "And when the sun rises [ . . . ] the firmament of the heavens, they shall bless and they answer [and say], Blessed be the God of Israel . . . . [ . . . ] and this day He re[n]ewed [ . . . ] in four[teen . . . ] for us a realm [ . . . ] -teen divides of . . . heat of the sun . . . when He passed over [ . . . by the stren[th] of [His] mighty hand [ . . . Peace be upon you,] <Israel>." Translation is from J. Davila, *Liturgical Works*, 216.
Besides the position of the sun and the lots of light or darkness in the moon, the worshippers named other astral events as they prayed, such as the "rotations of the heavenly bodies" on the fifteenth day, and seasonal holy days and festivals.\textsuperscript{96} There are also frequent references to the worshippers' communion with holy angels.\textsuperscript{97} Falk plausibly suggests that the community viewed the rotation of the heavenly luminaries at dawn as the time when the heavenly beings came into the presence of God to worship.\textsuperscript{98} The \textit{yahad} not only witnessed cosmic order as the maskil led them through their corporate liturgy at the times measured by regularly changing astral phenomena, but also communed with angelic beings in the presence of God. More powerful evidence that the maskil's leadership conformed to the divine order could scarcely be imagined; it is difficult to imagine a more effective routine for establishing the authority of the maskil to provide valid instruction, which would contribute to high morale in a prolonged situation of conflict, or in an extended period of waiting before anticipated conflict.

As the first part of the hymn in 1QH 20 argues, such daily prayers, in addition to ritual observations of "all the births of time, the foundations of their period, and the course of seasons in their order" in accordance with their "signs" (\textit{Mtwtw} b),\textsuperscript{99} the positions and movements of the astral luminaries, led the community to witness "the order established through God's mouth."\textsuperscript{100} The maskil's cultic leadership included interpretation of astral movements, cycles, and signs; it provided cultic demonstration that he led the \textit{yahad} in accordance with divine will and cosmic

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\textsuperscript{96} See the chart of topics in the Daily Prayers in D. Falk, \textit{Daily, Sabbath, and Festival Prayers}, 44-45; see note 90 above for a translation of the prayer.
\textsuperscript{97} See fragments 4, 7-9, 10, 11(??), 40-41(?), 37+8, 65.
\textsuperscript{98} Falk, \textit{Daily, Sabbath and Festival Prayers}, 49. This idea appears elsewhere in the DSS; see esp. the Hymn to the Creator (11Q5 26:9-15), ll. 11-12: "Separating light from deep darkness, he established the dawn by the knowledge of his heart. When all his angels had witnessed it they sang aloud; for he showed them what they had not known." Translation is from J. Sanders, "Hymn to the Creator (11Q5 26.9-15)" in J. Charlesworth, ed., \textit{The Dead Sea Scrolls: Hebrew, Aramaic and Greek Texts With English Translations} vol. 4a, \textit{Pseudepigraphic and Non-Masoretic Prayers} (Tübingen: Mohr Siebeck; Louisville: Westminster/John Knox, 1997) 198-99.
\textsuperscript{99} 1QH 20:7-9.
\textsuperscript{100} 1QH 20:9: 1) ypm hnm)n Nwkt
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order. This confirmation undergirded the *maskil*’s authority to instruct, discipline, and marshall the community into a manner befitting the elect of God at the end of the ages.

In the second section of the hymn, the *maskil* surveys the eschatological destinies of his followers and enemies, and the social order of the *yahad*. The *maskil* gives thanks that he has acquired knowledge by revelation from God (20:11a-13). In 20:14-19 he describes the eschatological recompense of the righteous-- an abundance of kindness-- and the wicked--annihilation. God has enabled the elect to understand God's mysteries; thus they will respond properly to his reproaches, pursue the goodness that comes from his kindness (20:20-21), and survive the judgment. The *maskil* concludes with thanksgiving that the *yahad*’s activity and hierarchy conform to God's will:

and to the extent of their knowledge you bring them near and in accordance with their domain (Mt*l*#mm) they will serve you, corresponding to [their] division[s . . .] (Mhyglpm) (20:22b-23).

This language clearly implies that the social hierarchy and divisions of the *yahad* corresponded to the order of the cosmos. The term *tl*#mm is used throughout the *maskil* texts and other DSS to refer to domains established by God, over which various entities are appointed to rule.101 The "divisions" of the members of the *yahad* seems to correspond similarly to the cosmic *twglpm* of God's glory, named in the Daily Prayers.102 The Songs of the Sabbath Sacrifice use the term to describe the divisions of the angels who extol God's glory (4Q405 fr. 23 1:7). The idea that the *twglpm* of the *yahad* are established by God in accordance with the order of creation receives further support from 1QS 4:17, in which the same term identifies the two divisions of humanity,

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101 See, e.g., 1QS 2:19; 3:20-21 (dominions of Belial, the Prince of Lights, and the Angel of Darkness, all of which were created by God); 10:1 (dominion of light, i.e., the portion of the day over which the sun "rules"); 1QM 1:6 (dominion of the Kittim is destined to end), 15 (angels of God's dominion); 17:5; 18:11 (God has established a day on which the commander of the dominion of wickedness will be brought low; cp. 14:10); 4Q503 frgs. 37-38 5 (“from the lot of his dominion” (wl#mm lrwgm) is all that remains; it seems to refer to something granted from an aspect of God's rule).

102 See 4Q503 frgs. 1-6 2:7, wdwbk glpm lwkb wynpl; cp. frg. 15 1:11,] wl wglpm lwk [. The term *hglpm* occurs only once in the Hebrew Bible, in 2 Chr 35:12, where it refers to the ancestral divisions of the people of Israel.
the Sons of Light and the Sons of Deceit, set apart by God from the beginning until the last days; 1QM 10:12-13 uses the term to identify the divisions of the earth established at creation.

The hymn attributes to God all agency in establishing the hierarchy and order of the yahad: God "draws near" members of the yahad in accordance with their knowledge (Mlk#k), and assigns specific "dominion" to members on the basis of the "division" to which each member belongs. The claims are thoroughly deterministic, and make linguistic connections between the institutional order of the yahad and the divinely established order, from the ordered divisions of God's own nature to the divisions of the angels, warring divisions of the righteous yahad and their wicked enemies, and the divisions of the earth. world. In the next lines the maskil promises that as long as his followers submit to his instruction and order, they will not transgress the word of God (20:23b-24a). The implication is clear: the maskil's ranking, instructing, and commanding the community amounts to nothing less than the establishment of God's will and order among the Sons of Light. The rest of the hymn, from 20:24b on, makes this point explicit: God elected the maskil as his agent; the only authority that the maskil has is that which he receives from God when God moves him to speak.

103 In their commentary on another instructional text, the Words of the Maskil to All Sons of Dawn (4Q298), Stephen Pfann and Menachem Kister identify other terms that similarly connect natural order to the order of the yahad, e.g., Nwkt, "measure," refers to time in nature (1QS 10:6-7), eschatological time (1QpHab 7:12-14), the legal "measure" which defines human obligation and order through the Torah (1QS 5:7), and the hierarchy of the yahad (1QS 6:4). Thus the sect understood physical order, historical patterns, halakha, and the social hierarchy and order of the yahad equally as the law of God. The range of usages of terms like Nwkt, twglpm, and tl#mm indicate "that the sect perceived no distinction between law ordained by God for humanity in the Torah and His laws or commands in nature and in history," and indeed, in the special obligations placed upon the community at the end the ages, as they prepared for the eschatological conflict and judgment (Pfann and Kister, 24). In 4Q298 the term Nwkt appears to refer to cosmic order (frgs. 3-4 1:6); the term lbg, "boundary" is also used several times to identify the divine arrangement of divisions within creation (frgs. 3-4 2:1, 3; frg. 5 2:9-10). The discussion of cosmic order in 4Q298 clearly aims to ground the instruction of the maskil within the divinely established order: just as the cosmic bodies did not deviate from the positions which God established (frgs. 3-4 2:1-3), so should those with desire for truth should adhere to the instruction of the maskil (frgs. 1-2 1-3). It is apparent from the frgs. 3-4 that the maskil's instruction pertains primarily to the status and obligations of those who desire righteousness at the end of days (twmlw ( Cg, frgs. 3-4 2:9-10). This corresponds perfectly to the obligation of the maskil to instruct the yahad in all that is found to be done during the eschatological period, as described in 1QS 9:17-20. For text and commentary on 4Q298 see S. Pfann and M. Kister, "Words of the Maskil to All Sons of Dawn," Qumran Cave 4.XV: Sapiential Texts, Part I, ed. T. Elgvin et al. (DJD XX; Oxford: Clarendon Press, 1997) 1-30.
Proof that the *maskil*'s authority was valid came in the form of cultic observances of astral phenomena: as with the *strategos* in the pagan military context, the *maskil*'s ability to interpret, predict, and explain such phenomena publicly demonstrated that he knew the divine will; this secured his authority to instruct and order the *yahad* with the full confidence and contributions of its members. To the well instructed, vindication, victory, reward and glory appeared to be inevitable.

**Secrecy and timing in preparation for the day of vengeance**

Already I have mentioned that one of the *maskil*'s obligations was to keep himself and his followers from engaging in conflict, strife, or debate with their enemies until the day of vengeance (1QS 10:19-21; cp. 9:16-17, 21-22; 11:1-2). The stated motive for secrecy is that the true counsel of the Torah must be concealed from the "men of deceit" (9:17). It is easy to interpret this motive as desire to keep the teaching of the sect free from the influence of outsiders: if members of the community engaged in conversation with the men of deceit, it would be possible for the deceivers to change members' minds about points of doctrine, or to introduce new ideas into the teaching. However, stress on the need to avoid strife until *the day of vengeance* (10:19) suggests that the secrecy could have had a "tactical" purpose: the doctrine of the *yahad* was protected from the enemy because it contained eschatological "battle plans" for the day of vengeance, especially in the War Rule, but also in 1QS 3:13-4:26 and other texts devoted to the fates of the righteous and wicked at the End of Days. The War Rule is more explicit than other texts about the *yahad*’s participation in administering God's judgment upon their enemies, but the idea seems clearly present in statements such as "I will not engage in the strife of a man of the pit until the Day of Vengeance" (1QS 10:19). The pagan military literature stresses the necessity of secrecy in the period leading up to engagement with the enemy.104 One motive

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104 Onasander writes that the general "must tell no one beforehand against what place or for what purpose he is leading his army, unless he considers it necessary to warn some of the higher officers in advance... Thoughtless and futile is he who communicates his plan to the rank and file before it is necessary; for worthless scoundrels desert to the foe especially at critical times, when, by revealing and disclosing secrets,
frequently given is that victory in battle is much more likely if an army conceals its plans until the moment it confronts the enemy; I would suggest that the motif of secrecy in the *maskil* texts might be influenced by military ideas.

In the pagan military texts, the advantage of surprise not only came by successfully concealing plans from the enemy, but also by perfectly timing one's attacks so that battle would commence precisely when one's army is most prepared, and the enemy's army would be most vulnerable. As discussed above, Onasander and others stressed that entering into battle too early or too late could bring disaster upon the army. The need to delay engagement with the enemy until the appointed time in the *maskil* texts may be influenced by such military ideas; it also fits perfectly within deterministic eschatology of the DSS, which held that judgment/strife/vengeance upon the enemy must commence at the time determined by God; premature attempts to eradicate the enemy could only fail.

Pagan generals were exhorted to know how to track time by the movements of the heavenly bodies, in order to time maneuvers with precision and engage the enemy at the most advantageous time. The *yahad* seems also to have tracked the time until the conflict with their enemies; their methods were quite different and, more strikingly, the units of time that they measured until the battle were years and jubilees, not seasonal hours. On the basis of the Damascus Rule, scholars commonly surmise that the sect anticipated that the End of Days would come at the end of a 490-year period, as prophesied in Daniel.  

While it does not appear that the *maskil* applied astral knowledge to calculations of the hours of darkness during nighttime.

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they believe they will receive honour and reward from the enemy" (10.9.22-24; translation from Tichenner and Pease, LCL).

105 John Collins summarizes the probable prophetic timekeeping scheme that underlay the *yahad* ’s reckoning: "In CD 20:14 we are told that 'from the day of the gathering in of the unique teacher until the destruction of all the men of war who turned back with the man of lies there shall be about forty years.' This calculation is evidently related to the figures found in column 1 of the same document. The time from the Babylonian exile to the emergence of the sect is 390 years. Then the first members wander in blindness for 20 years until the arrival of the Teacher of Righteousness. If we allow the stereotypical figure of 40 years for the Teacher's career, this brings us to 450 years. Forty years after his death would bring us to 490 years, the time stipulated in the book of Daniel" (J. J. Collins, “The Expectation of the End in the Dead Sea Scrolls” in *Eschatology, Messianism, and the Dead Sea Scrolls*, edited by C. Evans and P. Flint [Grand Rapids: Eerdmans, 1997] 83).
maneuvers, an analogy nevertheless exists: in anticipation of the End of Days, the *yahad* measured time until engagement with the enemy by a calendar based upon specific astral cycles, i.e., the course of the sun throughout the 364-day year. As liturgical and astronomical texts from Qumran indicate, the *yahad* tracked the passage of years and seasons carefully, and included the empirical observation of the movement of time marked by astral phenomena, from the daily rising and setting of the astral bodies to the positions of the sun at the equinoxes and solstices, as part of its liturgical activity.  

I would suggest that the ideology underlying their time-tracking methods and liturgical practices incorporated radically idealized principles of ancient military science; the role of astral knowledge in establishing the authority of the *maskil* suggests that the *yahad* may have been thoroughly influenced by the military culture of the Hellenistic-Roman era.

**Timekeeping technology at Qumran: a note on the *disk de pierre***

In my discussion of timekeeping technology in the pagan military context above I suggested that generals may have used the plane astrolabe to track the movements of the constellations at night, and mark seasonal hours with precision. We now have good evidence that the *yahad* also made use of an astronomical measuring instrument. The *yahad* marked time until the Day of Vengeance in units of years, not hours; for their purposes the cardinal points of the year (equinoxes and solstices) needed to be observed carefully. Uwe Glessmer and Matthias Albani recently published a number of analyses of the puzzling *disk de pierre* from khirbet Qumran which Roland de Vaux first catalogued in 1954.  

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the possibility that the disk could be used both as a rudimentary sundial, the primary purpose of which was to mark the cardinal points of the year by the shadow cast by the sun at noon,\textsuperscript{108} and as a type of astrolabe, which could aid measuring the motions of the moon and constellations in the zodiac at night; the primary nighttime purpose also would have been to determine the time of the year in relation to the epagomenal days.\textsuperscript{109} Clearly the instrument would have been useful for determining or confirming the four days of the "turnings of the seasons" (Myz\, twp\, wqt) on which the maskil led the yahad in liturgical observation (1QS 10:3-5).

Glessmer and Albani mentioned, further, the possibility that the instrument could have been used to calculate seasonal hours by observation and measurement of the movements of the constellations at night.\textsuperscript{110} If this were true, then we have evidence that the yahad heeded the kind of exhortation that Polybius aimed at strategoi: to know the dates of the solstices and equinoxes, and also the rates of increase and decrease in the seasonal hours. A general who could not tell time at any point in the year by the movements and positions of the sun, moon and constellations ran the risk of mistiming his engagement with the enemy, and destruction.\textsuperscript{111}

**Conclusion**

The analogies between the use of astral knowledge in establishing the instructional authority of the maskil and the pagan strategos are, I hope I have persuaded, striking. What are we to make of them? I would suggest that the ideology that underpinned the authority of the maskil was not only influenced by contemporary cultic practices and institutions, as has long been recognized, but by military practices and institutions as well. It has also been recognized that the yahad identified itself with military language drawn from the Hebrew Bible, and imagined itself restaging the Exodus and retaking the sacred land. I would suggest that the yahad may have been

\textsuperscript{111} Polybius, *Hist.* 9.14.7-12, discussed above.
equally influenced by military culture in its contemporary environment. We need not claim that the maskil had been a general, or was regarded as a general within the yahad, but may recognize that the community's concept of the relationship between instructional authority, divine will, and astral knowledge in a conflict setting seems to be a radically idealized appropriation of technology and techniques developed, taught, and applied within ancient military contexts.

Neither need we suppose that the yahad was influenced by pagan military culture directly: after all, Jewish generals very likely employed technologies and techniques similar to those of their pagan counterparts.

Finally, I would like to point out that the yahad was a private association of voluntary members whose activities were closed to outsiders and whose influence did not extend much beyond the group of people who joined, and those deliberately touched by the association's attempts to achieve its specific and limited goals. As sociological and anthropological studies of voluntary associations in living societies have shown, the activities and organizational and ideological features of associations commonly are influenced by the activities and features of long-standing, widespread, public institutions, such as the military, state bureaucracy, public cults, etc. In the instructional practice of the maskil, I believe that we have identified one instance in which military institutions exerted influence on the association of the yahad; future

112 Perhaps the most important contribution of theoretical models of “associations” is the insight that associations tend to arise in response to specific social and historical circumstances, and that they tend to mimic, complement, or coextend with the public institutions and other widespread, persistent forms of social organization (e.g., kinship structures) of the host society. I have found the following discussions of this phenomenon most useful: R. Anderson and G. Anderson, “The Replicate Social Structure” Southwestern Journal of Anthropology 18 (1962) 365-71; J. Kerri, “Studying Voluntary Associations as Adaptive Mechanisms: A Review of Anthropological Perspectives,” Current Anthropologist 17 (1976) 23-47 (includes responses from the scholars whose work is surveyed); K. Little, West African Urbanization: A Study of Voluntary Associations in Social Change (Cambridge: Cambridge University Press, 1965), esp. pp. 1-23, 152-66; V. Turner, The Ritual Process: Structure and Anti-Structure (Ithaca: Cornell University Press, 1969) 190-94; and M. Weber, Economy and Society, ed. G. Roth and C. Wittich (2 vols.; Berkeley: The University of California Press, 1978) 1.40-56, in which Weber distinguishes between “voluntary associations” (Vereine) and “compulsory associations” or “institutions” (Anstalten), and 1.339-98, in which Weber analyzes the economic relationships between organized groups (pp. 339-55), the centrality of household and kin groups to social relationships (pp. 356-69), the impact of military, economic and political economic developments on social organization (pp. 370-84), and the role of ethnic identity in social organization (pp. 385-98).
research will, I anticipate, yield evidence of the historical interactions and processes within which such influence occurred.