

## **Ancient History: The Importance of Logistics in Greek & Roman Armies**

“Identifying and Comparing Military Logistics used by  
Alexander the Great and Publius Scipio Africanus”

**Course: Military History elective for grades 11-12, Park Tudor School, Indianapolis, IN**  
**Instructor: Kathryn Lerch**

### **Introduction**

During the introductory phase of the military history course, students will become familiar with a wide range of military terminology. In addition to understanding the difference between strategy and tactics, for example, students will also learn about logistics—“the science of planning and carrying out the movement and maintenance of forces....”

The purpose of this specific lesson is to help students develop a fundamental understanding of the significance and role that logistics played in military planning. Specifically, students will study portions of the military campaigns of Alexander the Great and Scipio Africanus in order to identify logistical activities and compare how each leader used their logistical skills to carry forward their campaign. Students will use a variety of secondary and primary sources to develop their knowledge of this subject. Formative and summative components will be included in the lesson in order to assess the students’ understanding of the subject. Their knowledge of logistics will be spiraled and reapplied in their later studies of commanders such as Napoleon, Ulysses S. Grant, Eisenhower and MacArthur.

There are no national or state standards for a Military History elective, but the standards for World History partially apply:

### **Standard 3 — Classical Civilizations of Greece and Rome: 2000 B.C.E. to 500 C.E.**

Students will examine the antecedents, origins, development, and achievements of the classical civilizations of Greece and Rome from 2000 B.C.E. to 500 C.E.

WH.3.4 Analyze the major events of the wars between Persians and the Greeks, reasons why the Persians failed to conquer the Greeks, and consequences of the wars for Greek civilization.

WH.3.8 Describe Roman Republican government and society, and trace the changes that culminated in the end of the Republic and the beginning of the Roman Empire. (History; Civics and Government; Individuals, Society, and Culture)

### **Standard 11 Historical Research**

Students will conduct historical research that includes forming research questions, developing a thesis, investigating a variety of primary and secondary sources, and presenting their findings with documentation.

WH.11.1 Locate and analyze primary and secondary sources presenting differing perspectives on events and issues of the past. Example: Primary and secondary sources should include a balance of electronic and print sources, such as autobiographies, diaries, maps, photographs, letters, newspapers, and government documents.

WH.11.2 Locate and use sources found at local and state libraries, archival collections, museums, historic sites, and electronic sites

**Performance Expectations:**

- Students will compile reading notes in preparation for class discussions based on both assigned reading, supplemental selections and online resources
- As a preliminary formative (non-graded) exercise, students will chart each commander's use of logistics, including as many specifics as possible. The specifics may include, but are not limited to: food and water availability, means of transportation, weapons, clothing, troops, etc.
- Students will compare and contrast their findings and cite their evidence.
- Students will submit a secondary formative exercise which may be either a draft of a two-page documented essay or an eight-slide PowerPoint presentation. [Other forms of assessments may include a game or multi-dimensional map.]
- Students will self-assess initial performance and suggest ways to improve
- Students will revise and complete a summative (final draft) assessment for a grade based on a grading rubric
- Students will be expected to relate what they learned about ancient logistics to later commanders
- Students should be able to develop essential questions about the application of logistics and suggest possible solutions

**Main Resources for Students:** selected excerpts in the form of handouts from:

- 1) Engel, Donald W. *Alexander the Great and Logistics of the Macedonian Army*.
- 2) Goldsworthy, Adrian. *In the Name of Rome: The Men Who Won the Roman Empire*.

**Supplementary book and online resources:**

- 1) book reviews (via JSTOR): P. Erdkamp, *Hunger and the Sword: Warfare and Food Supply in Roman Republican Wars*
- 2) lecture notes for F. E. Adcock published as *The Greek and Macedonian Art of War*
- 3) B. H. Liddell Hart, "Roman Wars: Hannibal, Scipio & Caesar"
- 4) "Alexander the Great" <http://www.livius.org/aj-al/alexander/alexander00.html>
- 5) "Alexander the Great on the Web" <http://www.isidore-of-seville.com/alexander/>
- 6) "Scipio" [http://historynet.com/historical\\_conflicts/7902657.html](http://historynet.com/historical_conflicts/7902657.html)

**Objectives: Essential Questions**

1. How did Alexander the Great's use of logistics with his Macedonian Army contribute to his success in his military conquest from Asia Minor to India?
2. How did Alexander's miscalculation in India end his campaign in the east?
3. What logistical skills did Scipio Africanus utilize against Hannibal in Spain?
4. In how far does terrain and weather make an impact on logistics?

**Time Frame:** Three to five days (see Tentative Schedule of Assignments sheet) depending on whether one or two commanders are studied. For a limited schedule, focus on Alexander the Great and select one specific battle. If time is more flexible, explore more fully Scipio Africanus'

activities in Spain and compare and contrast his use of logistics with those of Alexander. Allow time for additional revision of essays or PowerPoint, or for another type of presentation.

### **Instructional Steps**

Step 1 Give students an overview of assignment, including intended objectives, summary of assignments, along with a grading rubric

Step 2 Provide students with a variety of resources and guide them in finding additional resources

Step 3 Provide students with organizing charts to map out their findings

Step 4 Provide students with guidelines for completing rough and final essays or PowerPoint presentations (formative and summative assessments). [For another form of assessment, consider challenging students to develop a game which combines a map of the regions through which Alexander traveled and by drawing cards, players may gain or lose points based on the availability of provisions or supplies, etc. For students who have already studied Western Civilization history or European history, another more challenging project may be to design a map to illustrate Alexander's march through Persia to India indicating when supplies were adequate and when they were not. The inspiration for this map may be Charles Minard's 1861 map of Napoleon's campaign in Russia.]

Step 5 Provide students with a grading rubric so they may self-evaluate their report. Converse with students about how they plan to improve their final product

Step 6 Collect final drafts, grade according to the rubric, and follow-up with discussion of graded assessments

Step 7 When reports are complete, have expanded class discussion centered on the essential questions. Students may also share their findings through PowerPoint presentations, maps, etc.

Step 8 Discuss with students how their knowledge of logistics might be applied to later assignments

### **Teaching Preparations**

- 1) Read through all resource materials, and then review by completing own chart of logistical examples for each commander
- 2) Review charts and generate discussion questions framed around the essential questions
- 3) Locate maps for Alexander and Scipio in order to visualize locale and military operations

- 4) Locate additional websites, as well as primary source materials for those students requiring higher level materials
- 5) Determine additional military commanders to study in regards to logistics
- 6) Develop a formative type of quiz (non-graded) or self-assessment tool for students to use in evaluating their understanding of the subject

#### Assessment Tools:

Two types of assessments will be utilized: a couple formative (non-graded) assessments (comprising written and/or oral format) which will encourage the student to self-assess and work for improvement and a summative (graded) assessment (also comprising written and/or oral format) which will evaluate what the student has learned.

Since students will be given an opportunity to self-assess and improve on their work, mastery of the material will be more effective.

#### Sample Grading Rubric

| Category                                      | Unsatisfactory (0)                               | Satisfactory (2)   | Superior (4)   | Comments / Score |
|---|--|--|--|------------------|
| <b>Accuracy of historical content</b>         | Inaccurate content which does not support thesis | Some inaccurate content, although research is evident                                      | Content was correct and extremely well researched using sophisticated resources  |                  |
| <b>Explanation of historical significance</b> | Not explained                                    | Some connections made which indicate historical significance                               | Extremely thorough in making connections of historical significance  |                  |
| <b>Completeness of information</b>            | Numerous examples missing                        | Good use of specific examples  | All potential angles have been explored and analyzed   |                  |
| <b>Clarity of argument</b>                    | Comparison and contrasting arguments lacking     | Generally well-organized, but some arguments a bit unclear or not completely substantiated | Extremely well organized; supports central thesis; arguments well documented   |                  |
| <b>Citing of sources</b>                      | No sources cited                                 | Most sources cited, including some written (but no primary) resources and/or web sources   | Utilized appropriate sources; range of resources include written (primary and secondary) and web and are correctly cited |                  |
| <b>Grammar/ Spelling</b>                      | No evidence of grammar or spelling check         | Minor grammar/spelling errors  | Free of all grammar/spelling errors  |                  |
| <b>Overall design</b>                         | Lack of  | Completed task,  | Followed all requisite   |                  |

|   |  |   |   |  |
|---|--|---|---|--|
| <b>and appeal (PowerPoint slides, map, game or essay)</b> | organization and disconnected project; ignored required formatting | but more polish would have enhanced project | formatting requirements; used good design which enhanced presentation of project; showed polish and attention to detail |  |
|---|--|---|---|--|

\* \* \* \* \*

### Student Materials

#### Ancient History: The Importance of Logistics in Greek & Roman Armies

“Identifying and Comparing Military Logistics used by Alexander the Great and Publius Scipio Africanus”

#### Introductory Premise

“Studying the conduct of warfare and the role of the commander may not be fashionable, but that does not mean it is unimportant or unprofitable.” (Adrian Goldsworthy, 17)

“All history, including military history, is ultimately about people—their attitudes, emotions, actions and interactions with each other—and this is best achieved by establishing what actually happened before proceeding to explain why it did so. . . . The most imaginative tactics were of little value if a commander was unable to get his army—consisting of thousands or maybe tens of thousands of individual soldiers—into the right places at the right time to implement them. The practical business of controlling, manoeuvring and supplying an army occupied far more of a commander’s time than the devising of clever strategy or tactics. More than any other single individual, the actions of the general influenced the course of a campaign or battle. For good or ill, what the commander did, or did not do, mattered.” (Goldsworthy, 17-18)

#### Student Lesson(s) and Assignments

##### Guiding Essential Questions:

- 1. How did Alexander the Great’s use of logistics with his Macedonian Army contribute to his success in military conquest from Asia Minor to India?**
- 2. How did Alexander’s miscalculation in India end his campaign in the east?**
- 3. What logistical skills did Scipio Africanus utilize against Hannibal in Spain? What tactics did he use to take New Carthage?**

4. In how far did terrain and weather control or drive their logistics?
5. Do logistics still dominate war efforts? What specific examples come to mind?

By answering these questions, you will develop a fundamental understanding of the role and significance that logistics play in military planning. We will study specific parts of the military campaigns of Alexander the Great and Scipio Africanus. We will compare and contrast how each leader used his logistical skills to carry forward a campaign. This will be accomplished both in class discussions and in the variety of assessments. You are encouraged to use a variety of secondary and primary sources to develop your knowledge of this subject.

Formative and summative components will be included for in order for you to assess your understanding of this subject. What you learn about Alexander and Scipio will be applied to our later studies of commanders such as Napoleon, Ulysses S. Grant, Eisenhower and MacArthur.

### Reading & Writing Assignments:

(For Day 1)

Read the handout from Donald W. Engels, *Alexander the Great & the Logistics of the Macedonian Army*, Intro pp. 3-5, Ch 1: 11-25; Ch 2: 44-52 & conclusion.

Skim read passages for references to logistics and supplies; highlight and make notes in margins. Be prepared to also discuss your findings in class.

(For Day 2)

Formative exercise: The chart (located at end of this lesson plan) may be utilized to organize your thoughts. Make notes on your chart itemizing Alexander's use of logistics in a) Persia, b) Babylon, c) Afghanistan, and d) India

(For Day 3)

Read the handout from Adrian Goldsworthy, *In the Name of Rome: The Men Who Won the Roman Empire*, Ch 2: "A Roman Hannibal: Scipio". Formative exercise: Highlight and make notes in margins. Outline or chart Scipio's logistical requirements for taking the Salt Flats near New Carthage. See also Livy's account of Scipio in Spain (near the end of this document). If Livy is not specific enough, what might Scipio have included in his logistical planning in order to take New Carthage?

**Supplemental materials:** Once you have skim-read the handouts (time permitting), you are encouraged to investigate these websites, to read supplemental JSTOR reviews and/or additional handouts:

- 1) P. Erdkamp, *Hunger and the Sword: Warfare and Food Supply in Roman Republican Wars* JSTOR – Stable URL: <http://links.jstor.org/sici?sici=0075-4358%282000%2990%3C222%3AHATSWA%3E2.0.CO%3B2-1>
- 2) Lecture notes by F. E. Adcock, *The Greek and Macedonian Art of War* (handout)
- 3) B. H. Liddell Hart, "Roman Wars: Hannibal, Scipio & Caesar" (handout)
- 4) "Alexander the Great" <http://www.livius.org/aj-al/alexander/alexander00.html>
- 5) "Alexander the Great on the Web" <http://www.isidore-of-seville.com/alexander/>
- 6) "Scipio" [http://historynet.com/historical\\_conflicts/7902657.html](http://historynet.com/historical_conflicts/7902657.html)
- 7) Jack Lovejoy, "The Tides of New Carthage: Notes and Discussion"

*Classical Philology*, Vol. 67, No. 2. (Apr., 1972), pp. 110-111. JSTOR Stable URL:

[http://links.jstor.org/sici?sici=0009837X%28197204%2967%3A2%3C110%3ATTONC%3E2.0.CO\\_%3B2-E](http://links.jstor.org/sici?sici=0009837X%28197204%2967%3A2%3C110%3ATTONC%3E2.0.CO_%3B2-E)

8) James Lacey, "Rome's Craftiest General: Scipio Africanus"

[http://www.historynet.com/historical\\_conflicts/7902657.html](http://www.historynet.com/historical_conflicts/7902657.html)

9) "Rise of Scipio and Fall of New Carthage" <http://www.unrv.com/empire/fall-of-carthage.php>

10) D. Kent Fonner, originally published in *Military History Magazine*, "Scipio Africanus"

[http://\\_history-world.org/scipio\\_africanus.htm](http://_history-world.org/scipio_africanus.htm)

Note: if you locate any other helpful websites, please share them with your class.

**Class Discussion Preparation:** Prepare notes based your thoughts about the five essential questions. What additional questions come to mind for our discussion?

### Day 1 Formative (non-graded) Assessment:

Chart out a logistical summary of Alexander's army in a) Persia, b) Babylon, c) Afghanistan, and d) India

Due: Bring your chart to class as a discussion guide. This is due the day after reading assignment. During class additional notes and comments may be added to your chart. **[See attached sample of student work]**

### Day 2 Formative (non-graded) Assessment:

Outline Scipio's logistical steps at the Salt Flats near New Carthage

Due: Have available in class as a discussion guide. This is due the day after reading assignment. Notes and comments may be added to your chart.

### Day 3 – Class Discussion

### Day 4 – Research/writing in computer lab

### Day 5 Formative (non-graded) Assessment:

a) Complete (out of class) assignment: either a two-page essay (format as follows: double space, 12 point Times New Roman, 1" margins, with properly formatted endnotes, including a bibliography) **or** an eight-slide PowerPoint presentation. [Option also for game or map] **[See attached samples of student essays]**

b) Share findings in class discussion; make corrections, additions to project

c) Self-evaluate project according to rubric. What changes or improvements need to be made?

### Final Summative Assessment (graded):

Final revised project is worth 50 points. Student will complete all revisions and improvements based on self-assessment and class discussions. This is due a week after completion of the preliminary draft.

### Sample Logistical Analysis Chart for Alexander the Great

| Category | Obstacles                                | Men                               | Transportation   | Food   | Water                                      |
|----------|--|-----------------------------------|--|--|--|
| Location | Impact of terrain, weather, or the Enemy | What types of formations, numbers | Included the following types of transportation and numbers | Quantities of _____ were adequate, inadequate or | Water was adequate, inadequate or abundant |

|  | <b>How overcome?</b> |  |  | <b>abundant</b> |  |
|--|----------------------|--|--|-----------------|--|
| a) Persia  |                      |  |  |                 |  |
| b) Babylon   |                      |  |  |                 |  |
| c) Afghanistan   |                      |  |  |                 |  |
| d) India   |                      |  |  |                 |  |
| Additional comments:<br>How did Alexander compensate for shortages? How adaptable was Alexander in light of logistical problems? |                      |  |  |                 |  |

**Sample Chart for Scipio Africanus at New Carthage**

| <b>Category</b>  | <b>Obstacles</b>  | <b>Men</b>                               | <b>Transportation</b>   | <b>Food</b>  | <b>Water</b>                                      |
|--|---|--|---|--|---|
| <b>Location</b>  | <b>Impact of terrain, weather, or the Enemy</b><br><b>How overcome?</b> | <b>What types of formations, numbers</b> | <b>Included the following types of transportation and numbers</b> | <b>Quantities of _____ were adequate, inadequate or abundant</b> | <b>Water was adequate, inadequate or abundant</b> |
| New Carthage (according to secondary sources)  |   |  |   |  |   |
| Livy mentions:   |   |  |   |  |   |
| Additional comments:<br>How did Scipio compensate for shortages? How adaptable was Scipio in light of logistical problems? |   |  |   |  |   |



|  |  |  |  |  |  |
|--|--|--|--|--|--|
| How does Scipio compare to Alexander in each of the categories (obstacles, men, transportation, food & water)? |  |  |  |  |  |
|--|--|--|--|--|--|

### Additional Teacher Resources:

#### 1) Livy's Account of Scipio in Spain (from Fonner [http://history-world.org/scipio\\_africanus.htm](http://history-world.org/scipio_africanus.htm))

##### Excerpts from Book 27

[27.17] P. Scipio had spent the whole winter in winning over the various Spanish tribes, either by bribes or by restoring those of their countrymen who had been taken as hostages or prisoners. At the commencement of summer Edesco, a famous Spanish chieftain, came to visit him. His wife and children were in the hands of the Romans, but that was not the only reason why he came. He was influenced by the change which Fortune apparently was bringing about over the whole of Spain in favour of Rome as against Carthage. The same motive actuated Indibilis and Mandonius, who were beyond question the most powerful chiefs in Spain. They abandoned Hasdrubal, with the whole of their contingent, and withdrew to the hills above his camp and keeping along the ridge of mountains made their way safely to the Roman headquarters. When Hasdrubal saw that the enemy were receiving such accessions of strength whilst his own forces were shrinking in equal proportion, he realised that unless he made some bold move, the wastage would continue, so he made up his mind to seize the first opportunity of fighting. Scipio was still more anxious for a battle; his confidence had grown with success, and he was unwilling to wait till the hostile armies had formed a junction, preferring to engage each separately rather than all united. In case, however, he might have to fight with their combined armies, he had augmented his strength by a somewhat ingenious method. As the whole of the Spanish coast was now clear of the enemy's ships, he had no further use for his own fleet, and after beaching the vessels at Tarraco he brought up the crews to reinforce his land army. Of arms and armament he had more than enough, what with those taken in the capture of New Carthage, and those which the large body of artisans had fabricated for him subsequently. Laelius, in whose absence he would not undertake anything of importance, had now returned from Rome, so in the early days of spring he left Tarraco with his composite army and marched straight for the enemy.

The country through which he passed was everywhere peaceful; each tribe as he approached gave him a friendly reception and escorted him to their frontiers. On his route he was met by Indibilis and Mandonius. The former, speaking for himself and his companion, addressed Scipio in grave and dignified language, very unlike the rough and heedless speech of barbarians. Instead of claiming credit for having seized the first opportunity of going over to the side of Rome he rather pleaded that he had no alternative. He was quite aware, he said, that the name of deserter was an object of loathing to the old friends and of suspicion to the new ones, nor did he find fault with this way of looking at it as long as the twofold odium attached not merely to the name but to the motive. Then after dwelling on the services they had both rendered to the Carthaginian generals and the rapacity and insolence which the latter had exhibited and the innumerable wrongs inflicted on them and their fellow-countrymen, he continued: "Hitherto we have been associated with them so far as our bodily presence is concerned, but our hearts and minds have long been where we believe justice and right are cherished. Now we come as suppliants to the gods who cannot permit violence and injustice, and we implore you, Scipio, not to regard our change of sides, as either a crime or a merit; put us to the test from this day forward, and as you find us, so judge and appraise our conduct." The Roman general replied that this was just what he intended to do; he should not regard as deserters men who did not consider an alliance binding where no law, human or divine, was respected. Thereupon their wives and children were brought out and restored to them amid tears of joy. For that day they were the guests of the Romans, on the morrow a definite treaty of alliance was concluded, and they were sent off to bring up their troops. On their return they shared the Roman camp and acted as guides until they reached the enemy.

[27.18]

[27.19]Hasdrubal had secured the war-chest before the battle, and after sending on the elephants in advance and collecting all the fugitives that he could, he directed his march along the Tagus towards the Pyrenees. Scipio took possession of the enemy's camp, and gave up all the plunder, with the exception of the prisoners, to his troops. On counting the prisoners he found that they amounted to 10,000 infantry and 2000 cavalry. The Spanish prisoners were all released and sent to their homes; the Africans were ordered to be sold by the quaestor. All the Spaniards, those who had previously surrendered and those who had been made prisoners the day before, now crowded round him, and with one accord saluted him as "King." He ordered silence to be proclaimed, and then told them that the title he valued most was the one his soldiers had given him, the title of "Imperator." "The name of king," he said, "so great elsewhere, is insupportable to Roman ears. If a kingly mind is in your eyes the noblest thing in human nature, you may attribute it to me in thought, but you must avoid the use of the word." Even the barbarians appreciated the greatness of a man who stood so high that he could look down on a title the splendour of which dazzled other men's eyes. Presents were then distributed amongst the Spanish princes and chieftains, and Scipio invited Indibilis to choose 300 horses out of the large number captured. Whilst the quaestor was putting up the Africans to sale, he found amongst them a remarkably handsome youth, and hearing that he was of royal blood, he sent him to Scipio. Scipio questioned him as to who he was, what country he belonged to, and why at his tender age he was in camp. He told him that he was a Numidian, and his people called him Massiva. Left an orphan by his father, he had been brought up by his maternal grandfather Gala, king of the Numidians. His uncle Masinissa had come with his cavalry to assist the Carthaginians, and he had accompanied him into Spain. Masinissa had always forbidden him to take part in the fighting because he was so young, but that day he had, unknown to his uncle, secured arms and a horse and gone into action, but his horse fell and threw him, and so he had been made prisoner. Scipio ordered the Numidian to be kept under guard, and when he had transacted all the necessary business he left the tribunal and resumed to his tent. Here he sent for his prisoner and asked him whether he would like to return to Masinissa. The boy replied amid tears of joy that he should only be too glad to do so. Scipio then presented him with a gold ring, a tunic with a wide purple border, a Spanish cloak with a gold clasp, and a beautifully caparisoned horse. He then ordered an escort of cavalry to accompany him as far as he wanted to go, and dismissed him.

[27.20]A council of war was then held. Some of those present urged the immediate pursuit of Hasdrubal, but Scipio thought it hazardous in case Mago and the other Hasdrubal should join forces with him. He contented himself with sending a division to occupy the passes of the Pyrenees, and spent the remainder of the summer in receiving the submission of the Spanish tribes. A few days after the battle of Baecula, when Scipio had descended from the pass of Castulo on his return to Tarraco, the two Carthaginian generals, Hasdrubal Gisgo and Mago, came from Further Spain to join forces with Hasdrubal. They were too late to prevent his defeat, but their arrival was very timely in enabling them to concert measures for the prosecution of the war. When they came to compare notes as to the feeling in the different provinces, Hasdrubal Gisgo considered that as the distant coast of Spain between Gades and the ocean still knew nothing of the Romans, it was so far faithful to Carthage. The other Hasdrubal and Mago were agreed as to the influence which Scipio's generous treatment had had upon the feelings of all states and individuals alike, and they were convinced that the desertions could not be checked until all the Spanish soldiery had either been removed to the furthest corners of Spain or transported into Gaul. They decided therefore, without waiting for the sanction of the senate, that Hasdrubal must proceed to Italy, the focus of the war where the decisive conflict would be fought. In this way he would remove all the Spanish soldiers out of Spain far beyond the spell of Scipio's name.

His army, weakened as it was by desertions and by the losses in the recent disastrous battle, had to be brought up to its full strength. Mago was to hand over his own army to Hasdrubal Gisgo, and cross over to the Balearic Isles with an ample supply of money to hire mercenaries among the islanders. Hasdrubal Gisgo was to make his way into the interior of Lusitania and avoid any collision with the Romans. A force of 3000 horse, selected from all their cavalry, was to be made up for Masinissa, with which he was to traverse Western Spain, ready to assist the friendly tribes and carry devastation amongst the towns and territory of those who were hostile. After drawing up this plan of operations the three generals separated to carry out their several tasks. This was the course of events during the year in Spain. Scipio's reputation was rising day by day in Rome. Fabius too, though he had taken Tarentum by treachery rather than by valour, added to his prestige by its capture. Fulvius' laurels were fading. Marcellus was even the object of general censure, owing to the defeat which he had suffered and still more because he had quartered his army in Venusia in the height of the summer whilst Hannibal was marching where he pleased in Italy. He had an enemy in the person of C. Publicius Bibulus, a tribune of the plebs. Immediately after Marcellus met with his defeat,

this man blackened his character and stirred up a bitter feeling against him by the harangues which he was constantly delivering to the plebs, and now he was actually working to get him deprived of his command. Claudius' friends obtained permission for him to leave his second in command at Venusia, and come home to clear himself of the charges brought against him, and they also prevented any attempt to deprive him of his command in his absence. It so happened that when Marcellus reached Rome to avert the threatened disgrace, Fulvius also arrived to conduct the elections.

## 2) **Critical Logistics Thinking Skills** (Lieutenant Colonel Gary Dehrer, USAR (Ret.))

The different levels of logistics thinking are the bridges between theory and practice. **[Note, if applying this list to ancient armies, what questions might Alexander or Scipio have asked about logistics?]**

As the Army Logistics System moves closer to the 21st century, it is increasingly important to apply critical logistics thinking skills to solving supply problems. Thinking clearly is not always easy. If it were a simple task, logisticians always would make the right decisions and the entire supply system would operate flawlessly. The reality is that people are fallible, and advanced technology does not compensate for the poor choices people make. Critical thinking skills are vital to making the best possible choices and using resources and technology to their greatest advantage.

There are seven levels of logistics thinking that help apply individual skills and knowledge to solving supply problems. The different levels are bridges between theory and practice that enable a logistician to progress from basic information to comprehensive application, thereby achieving successful logistics.

**Logistics Intelligence (Knowing)** The first step to solving any problem is to define the problem accurately. You must gather sufficient information to answer: Who? What? When? Where? Why? Separating the important from the unimportant is crucial to organizing and focusing logistics data to develop proposed supply solutions. This skill results from professional experience, training, intelligence, talent, attitude, and commitment. Suggested guidelines-

Write down the problem, and state exactly what needs to be done.

Determine when a response is needed, and develop a working timeline that will meet the deadline.

Perform a mission, enemy, terrain, troops, and time available (METT-T) assessment of the situation.

Compile pertinent information, names of points of contact, and other resources.

Develop a list of relevant questions, and seek definitive answers.

Coordinate and collaborate with others.

Don't give up! Persistence is essential to problem solving.

**Supply Connections (Comprehending)** "What does it mean?" is an ongoing question that guides the formulation of a logistics solution or plan. A careful review of your question-and-answer list will give direction to your problem-solving efforts. Creating an overall logistics picture is important and involves putting together myriad "mosaics," or bits of logistics data, to produce an overall image. This situational profile is vital to later, more detailed analysis and evaluation. For example-

Develop answers to key questions such as: What do others think? How do they see the situation?

Complete a favorable supply profile (list everything that is in your favor).

Complete an unfavorable supply profile (list those factors that are against you).

Revise your assessment as you receive additional information.

**Supply Judgments (Applying)** Asking the question, "What would happen if?" tests assumptions and considers various ramifications. Consider the interrelationships between supply variables and attempt to project their consequences. A balance between effectiveness and efficiency is essential to successful logistics operations. For this you should-

Match up supply resources with needs.

Anticipate supply requirements for the duration of the operation. Will needs change?

Consider how logistics and tactical operations will be integrated.

Consider logistics capabilities. What is the best use of available resources?

Consider ratio of combat, combat support (CS), and combat service support (CSS) troops.

Determine logistics priorities.

**Supply Consequences (Analyzing)** "What exactly will follow?" This question addresses the operational levels as well as the different scenarios that could be used to accomplish the mission. Consider and evaluate every possible supply solution before making a decision. Strategic and operational logistics (supply support to foreign policy and military campaigns) and tactical logistics (direct logistics support to operations and battles) are intertwined and impact directly on supply scenarios. Some questions you should answer-

What is the stated mission?

What is the theater logistics situation?

How will the logistics reception, onward movement, and sustainment be organized?

How will troops and their equipment be manned, armed, fueled, fixed, moved, and sustained?

Could various scenarios be used? If so, what are the advantages and disadvantages of each?

Which scenario should be selected, and why?

**Supply Strategies (Synthesizing)** "How will it be done?" is a key question that reflects the final concept. All previous thinking comes together in a well-written logistics operation plan. However, communication and coordination of any plan are critical to its success. Great plans can easily falter and even fail without direction, determination, and follow-through. Some considerations-

What logistics preparations have been made in the theater?

What is the available force composition (combat, CS, and CSS)?

Are logistics priorities established and logical?

Will there be any joint logistics operations among services?

Will there be any combined logistics operations with other countries?

What kind of host nation support will be possible?

Does the logistics operation plan (OPLAN) describe the situation (enemy forces, friendly forces, logistics requirements, and assumptions); mission (combat support and combat service support tasks); logistics overlay (direct support and general support supply data); materiel and services (classes of supply, main supply routes, and services data); medical requirements (evacuation and hospitalization); and personnel (unit strength, prisoners, and morale).

**Logistics Resiliency (Reasoning)** "How will the unexpected be handled?" is a question that must not be overlooked. No matter how comprehensive and detailed your planning has been, unexpected events always play a role. Successful logistics operations must be adaptable to changing situations. American logisticians always have shown a genius for improvisation when unforeseen enemy actions or complications upset the best of plans. Some guidelines to remember-

Practice mental agility and creativity.

Anticipate as much as you can, but be ready with some contingency plans. Contemplate worst-case scenarios and how they could be handled.

Always be ready for Murphy's Law. Whatever can go wrong will go wrong and at the worst possible moment.

Master logistics practices and techniques so you can apply them with confidence.

Constantly monitor situations so you will know what is actually happening. Never assume anything.

**Power Projection Logistics (Evaluating)** Asking "What lessons were learned?" puts a supply operation into perspective. Logisticians never stop learning how to move and sustain armies. In each military campaign and operation, lessons in logistics abound. The seven levels of logistics thinking underscore the complexity of logistics and the difficulty of determining lessons learned. Power-projection logistics cannot be practiced successfully until everyone involved has an understanding of how a system solves problems and how they can learn from the flaws in that system. Consider these questions-

Were the combat units adequately armed and fueled?

Was the total force effectively manned, moved, fixed, and sustained?

Were the military objectives achieved?

Did the logistics plan work? What were the plan's accomplishments? Shortcomings? Greatest surprises? Most important lessons learned?

If the operation could be redone, what would be changed and why?

Twenty-first century logistics responses to urgent military requirements around the world will demand critical logistics thinking skills. The Army Logistics System must be driven by logisticians who can think clearly and critically. A winning logistics team must be able to move from just knowing and comprehending to applying and analyzing and then to the higher levels of synthesizing, reasoning, and evaluating. Such critical thinking will enable 21st-century Army logisticians to achieve "a seamless logistics system capable of providing world-class logistics support for America's Army in any scenario." **ALOG**

## Military History Lesson & Resource Materials

Lieutenant Colonel Gary Dehrer, USAR (Ret.), was formerly an individual mobilization designee to the Office of the Deputy Chief of Staff for Logistics, Department of the Army. He is now a vice principal with the San Bernardino City (California) Unified School District. He graduated from San Jose State University and received a master's degree from California State University at San Bernardino. He is a graduate of the Army Command and General Staff College and the Air War College.

Downloaded from <http://www.almc.army.mil/ALOG/issues/MarApr97/ms117.htm> (July 29, 2007)