Tu Quoque Philippi: Eannatum's Phalanx

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Abstract: The Stele of the Vultures displays Eannatum of Lagash fighting at the head of his phalanx, mostly composed of pikemen and shield-bearers. This formation requires a basic training for managers and soldiers, based on a particular conception of a group combat formation. This paper will investigate some issues in this concern and propose a theoretical, hypothetical and possible drill program that the warriors from Lagash could have followed to fight in such a way, and its possible similarities with the *sarrissophoroi* of Philip II of Macedony.

Introduction

A series of similarities appears with the close observation and comparison of the Neo-Sumerian and an Aegean phalanx[2] (Fig. 1-5).

Interestingly, the phalangists of these units were organized the same way and they bore quite the same weapons. Plus, the social origins and economical situation of both the kings and their warriors were quite similar for the two periods.

Thus, this paper will investigate the type of organization, drill and training required to command a unit like the phalanx of Lagash under the reign of Eannatum.

The basic data were deduced or observed on the Stele of the Vultures, treated as it is: an artistic view of a propagandist topic. Anyways, some points of

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[1] This paper is dedicated to Prof. F. M. Fales, for his keen eye and deep insight of the ancient Near Eastern military.
[2] For further discussion on the origins of the phalanx, see F. De Backer, 2009: "Some Basic Tactics of Neo-Assyrian Warfare", *Ugarit Forschungen* 39: 69-115.

this analysis find their origins in the common sense, and others are but hypothetical.

Although there are no written sources for the training of the phalangists during the Neo-Sumerian period, some manuals for the training of the Royal Guard, or for the Chief of an Outpost, are known from the Hittite and Akkadian periods, there would be no shame in assuming some kind of empirical and oral tradition ruled warfare at this time as well.[3]
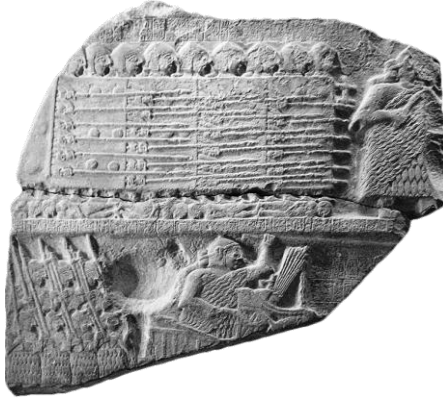

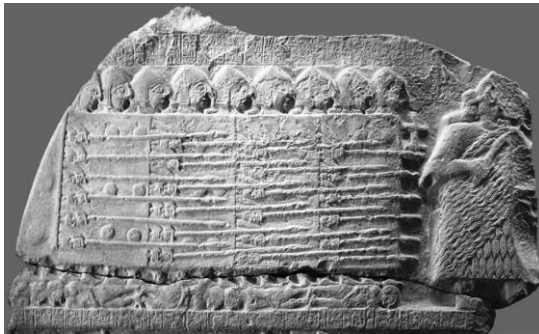Fig. 1: The Stele of the Vultures. Copyright Éric Jaba (WikiCommons Users: Sting).

Fig. 2: The Stele of the Vultures: Upper Part. Copyright Éric Jaba
(WikiCommons Users: Sting).

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[3] See H. Güterbock, 1991: *The Hittite Instruction for the Royal Bodyguard*, Chicago.
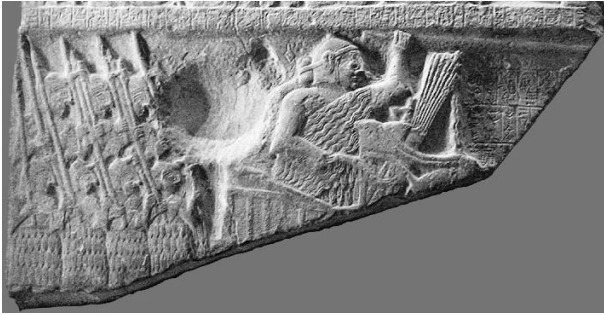
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Fig. 3: The Stele of the Vultures: Lower Part. Copyright Éric Jaba
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I. Organization

The phalanx relies on a series of soldiers standing alongside each other, providing the wide ranks of the formation, and followed by their fellowmen in successive files, thus providing its depth.

Locations around the phalanx are called the Front, at the foremost side of its perimeter and turned towards the enemy, while the aisles represent its Flanks (Fig. 4).
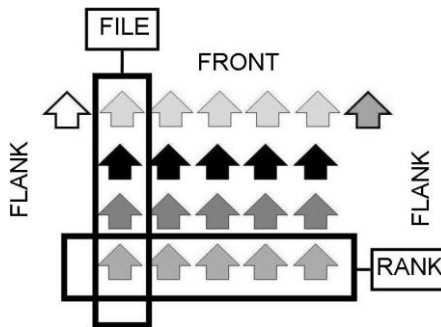

Fig. 4: Front and Flanks of a phalanx

Composed of a peculiar bunch of people, a phalanx needs some Overall Guides to direct the men of the point of the file towards the goal intended by its masters, and file keepers to keep the ranks together (Fig. 5).
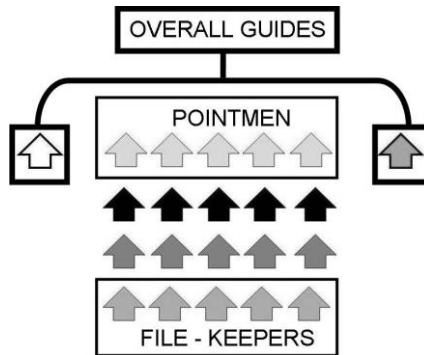
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Fig. 5: Phalanx formation as seen from above

II. Composition of the Neo-Sumerian Phalanx

The phalanx relied on a core built of ranks and file made with pikemen and / or spearmen and directed by senior warriors, mostly employing close-combat weapons to protect the front and flanks.

Missiles troops would be employed to hamper or delay any attack coming with heavier troops while mounted warriors, like the charioteers, could pursuit the lighter units of the enemy.

A. Infantry

1. Pikeman and / or Siege-Spearman

The pike was a spearhead with a very long shaft, designed to keep the enemy at bay and press forward when the warriors fought in group formation (Fig. 6). Actually, the training with such a weapon took a short duration to change a basic peasant in a good soldier.[4] This formation was highly effective against a frontal attack but can hardly protect its own flank if the depth of the ranks was too high.

Although the Aegean and Macedonian phalanxes seemed to rely on the help of missiles troops, close-combat troops like the Argyraspids or on cavalry, it appears that Eannatum had solved the weakness of his flanks by thinning the

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[4] For the training of pikemen fighting in a Macedonian, see F. De Backer, 2015: *Quelques notions d'escrime balkanique: Les Thraces et les Daces au combat*, Sarrebrück.

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length of his files.[5] This allowed for more flexibility in the maneuvers of the group.

Fig. 6: Pikeman

2. Spearman and / or Heavy Spearman

The spearman could be employed to improve the close-quarters strength on the front of the phalanx, as it can appear on the Stele of Eannatum, or to protect its flanks (Fig. 7).

Fig. 7: Spearman

3. Guardsman

The guardsmen were employed as the last line of defence, to protect the ruler, or for offence, to pursuit the enemy and achieve the job (Fig. 8).

Fig. 8: Guardsman

B. Missiles

1. Javelineman

Javelinemen protected the flanks of the Aegean phalanx, certainly as those of Eannatum did. These light skirmishers would be equipped with javelins to throw at the approaching enemy from afar, hamper and / or delay his advance, and

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[5] For further discussion on this matter, see F. De Backer, *Viens les prendre: étude sur le combat hoplitique*, Forthcoming.

then reunite behind the phalanx where they would serve as light close-combat supporting units.

2. Archer and / or Heavy Archer

Archers and armoured archers would soften then enemy troops attacking the front or the flanks of the phalanxes (Fig. 9).

The Thracian peltasts and Cretan archers helped to protect the heavy Aegean and Macedonian phalangists, as did their forerunners for the Neo-Sumerian heavier formations.

Fig. 9: Archers and Javelineman

C. Chariotry

Charioteers would be deployed on the flanks and on the back of the phalanx, to serve as radars designed to observe, to detect, hamper and delay any incoming attack on these points. After the main clash, charioteers would pursuit the fleeing enemy or rally their own units and flee themselves if the stakes had been against them (Fig. 10).

Fig. 10: Chariot

III. Organization

The phalanx, either Neo-Sumerian, Aegean or Macedonian, relied on the essential roles of the seasoned warriors, surrounding the freshly trained peasants to give them a frame they would feel comfortable, useful, safe and proficient.

This system also allowed the flow of orders and information from the rear of the line to the front through the military hierarchy, and from the front of the phalanx to the ruler at the back of the formation (Figs. 11-14).

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For practical reasons, the peasant-soldier of Eannatum were certainly organized in smaller sub-units, as the ancient Aegean and the Macedonian commanders did (Figs. 13-14).
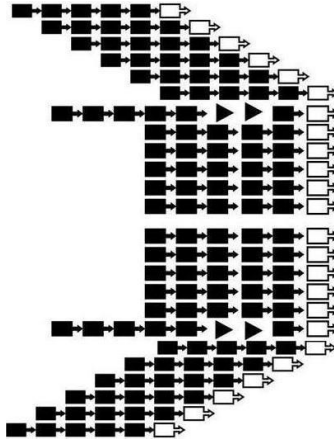

Fig. 11: Base deployment as seen on the Stele of the Vultures. NCO are indicated as triangles and pointmen as white rectangles with protruding arrow
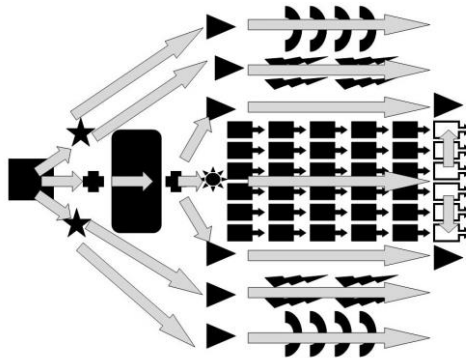

Fig. 12: Schematic displaying the theoretical flow of commands issued from the back of the formation to the front
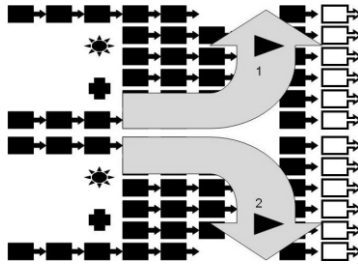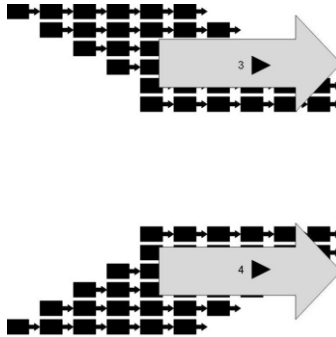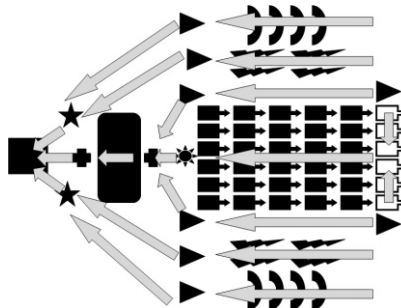
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Fig. 13: Schematic displaying the theoretical flow of commands issued from the back of the smaller centre formation to the front.

Fig. 14: Schematic displaying the theoretical flow of commands issued from the back of the smaller aisles formations to the front

Fig. 15: Schematic displaying the theoretical flow of information coming from the front of the formation to the back

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A. Officer

The officer of a phalanx needed to be on a high spot, like a chariot, to be able to observe the array of his troop, the surrounding area and detect any threat or any opportunity on the battlefield (Figs. 16-19).

The mission of the Commanding Officer was to give directions to the NCO's of the front rank.

Fig. 16: Senior Officer.

Fig. 17: Senior Officer.

Fig. 18: Junior Officer.

Fig. 19: Junior Officer.

B. Non-Commissioned Officer

Ancient Aegean phalanxes employed a series of Non-Commissioned Officers to direct and maneuver their bands of warriors, who were placed at particular locations within the formation as chief of sub-units made of files composed with different amounts of men (Figs. 20-22).

These Overall Guides were employed to frame the phalanx and provide the directions to the group, according to the orders of the Commanding Officer.

All in all, each corner of the front would be controlled by an NCO, and each corner of the back, by his Assistant, in case that the first one would be killed. As for the File-Holders of the Greek Phalanx, these men thrived to keep the back ranks in line and enforce the alignment.

If the Stele of the Vultures was to be employed as an accurate sources to assume the amount of men deployed by a Neo-Sumerian sub-unit "Z" belonging to a phalanx, it would be possible to count one two NCO per angle of the front formation, and possibly the same amount on the other side, at the front and at the back.

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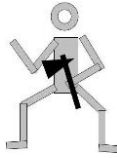
Fig. 20: Senior NCO.   Fig. 21: Senior NCO.   Fig. 22: Junior NCO.

C. Standard-Bearers

The Standard-Bearers wielded long shafts on which particular objects designed to represent the esprit de corps of the unit and work as identification and rallying points (Figs 23-25).
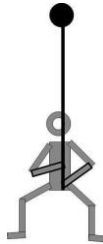

Fig. 23: Senior Standard Bearer.   Fig. 24: Senior Standard-Bearer.   Fig. 25: Junior Standard-Bearer.

D. Pointmen

The pointmen would be seasoned warriors, located at the front of the formation to lead their files where their NCO would have told them. Thus, if the same assumption as in the previous paragraph is followed, one counts at least six point men by the number of hands protruding with the shaft of a pike from the formation (Fig. 26).

As for the ancient Aegean Chiefs of File, these would have had an Assistant Chief of File located in the middle of their group and ready to take command in case of emergency or take their position if the Close Order was to be chosen (Fig. 27).

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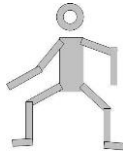
Fig. 26: Point Man. Fig. 27: File Keeper.

E. File-Keepers

At the end of each file, a seasoned veteran would work as a File-Keeper to hold the men forward or direct them during the backward motions (Fig. 27).

IV. Order of Battle

If the Stele of the Vultures was to depict a real-life unit, the amount of soldiers engaged and the components of such a phalanx would be easy to assume. Interestingly, the staff of these troops always turn around the multiple of six, as the main sexagesimal system of the Neo-Sumerian period.

A. Squad

The basic squad would be composed of six soldiers, either pikemen or spearmen, and leaded by a Pointman with his Assistant Chief of File (Fig. 28; Table 1).
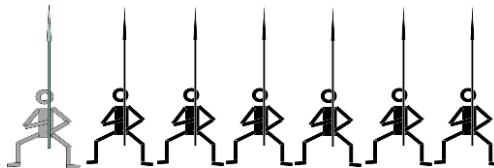
Fig. 28: A Squad.

B. Section

A Section would include six squads of six pikemen plus a Command Group composed of two Higher NCO's at the Front and two Lower NCO's at the back, plus a Lower Commanding Officer, and possibly, a Standard-Bearer (Figs. 29-31; Table 2).

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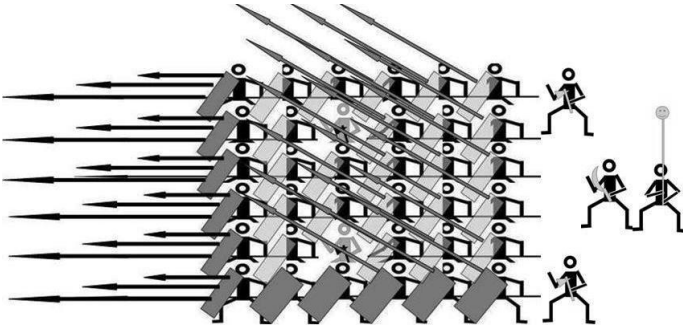
Fig. 29: A pikemen Section.
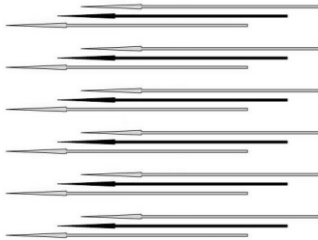
Fig. 30: A Section as seen from the top.

According to the Stele of the Vultures, a Section of spearmen, with the equivalent staff, would possibly accompany the pikemen (Fig. 31).
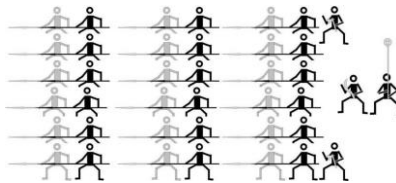
Fig. 31: A spearmen Section.

Perhaps the Lower CO of such a Combat Group would be with his driver in his chariot.

As the more seasoned NCO's would be leading the troops and ensuring the morale of the point men, it seems logical that their would keep the men at the

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back of the phalanx, as was the case in the Roman Republican and Imperial centuries.

The total amount of such a Combat Group would reach around eighty-three men.

C. Company

A Company would have included six sections, either only composed of pikemen or half and half with the spearmen, plus a Higher CO and a Higher Standard-Bearer, leading to the amount of four hundred ninety-eight men at full scale (Figs 32-33; Table 3).
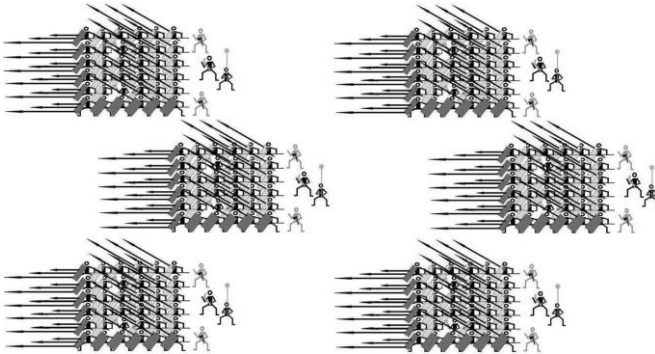
Fig. 32: A Company of pikemen.
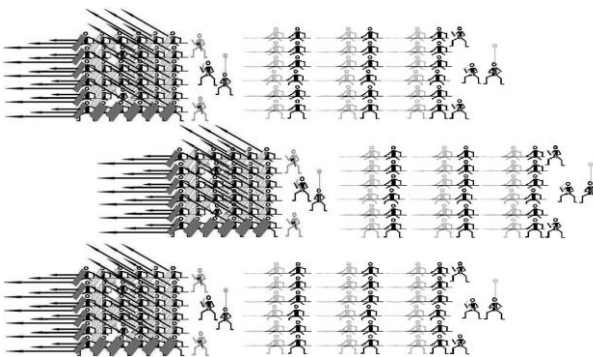
Fig. 33: A Company of pikemen and spearmen.

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D. Regiment

If the regimental level existed, such a unit might have included some two, three or six companies, plus a spare section to protect the regiment CO, bringing the strength of the unit to an amount of two thousand nine hundred and eighty-eight men (Fig. 34; Table 4).
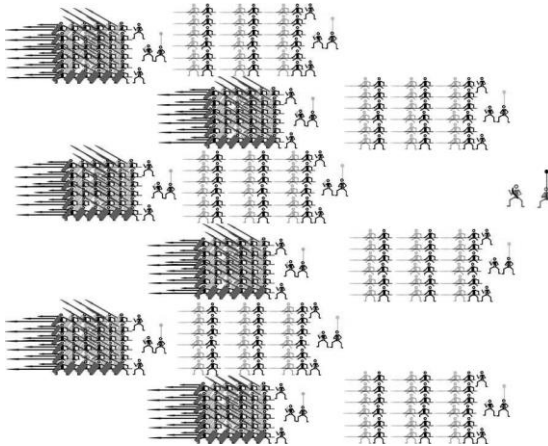
Fig. 34: A Regiment of pikemen and spearmen

V. Maneuvers

The peasant-warriors would be trained in some particular positions in order to move correctly in his band. The commands would be organised in two phases: the first to tell the men what they will have to do, and the other one to tell them when it's time to do it.

The peasants would surely be trained to realise some peculiar movements simultaneously and automatically, on the spot or while they were walking, in the shortest possible duration, to be effectively considered as trained soldiers.

As for the men of the Napoleonic armies, who reaches the top of training soldiers in the shortest duration during the summer of 1814, the military education of the raw recruits would be organised in four steps.

Step 1, the School of the Squad, would teach the men how to move individually and in the smallest group of fighters.

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Step 2, the School of Combat, accustomed the peasants to wield their pikes and spears. Step 3, the School of the Section, then helped them to maneuver as a small phalanx.

Step 4, the School of the Company trained the men in moving along with other kinds of allied troops.

Such a training, experimented by the author or volunteers, takes less than a months to be mastered.

A. Directions

Orders would perhaps have been issued in two times, as a way to make sure every soldier would react in the same time as his fellow spearmen or pikemen.

The first vocal and / or body signal would constitute the Warning, as a mean to attract the men's attention and get ready for the following motion. These were also and mostly designed for the Overall Guides of the formation, as a mean to let them know where they have to go and thus direct the incoming movement of the men from the rank and file.

The second vocal and / or body signal would represent the Execution order, as a mean to tell the men they had to act at that precise moment.

Commands had to be clearly visible for the men located at the flanks and back of the unit, a good reason to reinforce the vocals by the signals.

The following commands and signals are merely personal and theoretical work hypothesis, but such a complex and vast unit as the Eannatum Phalanx surely required some kind of drill and, though this has yet to be searched, included a kind of military pace.

1. Warning

This position, seen from the back, was assumed by the officer to warn the men that an order for a movement was coming. From his Port Arms position, he would raise the arm, providing the first part of the vocal order, and wait one second or two to make sure that everyone had seen his move (Figs. 35-37).

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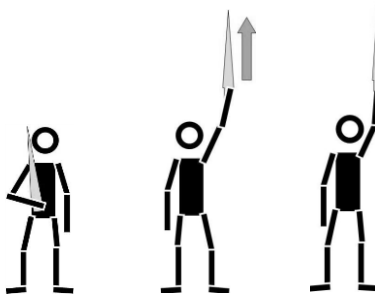
Figs. 35-37: Port Arms position of an authority, as seen from the front (35); Warning movement, as seen from the back (36); Pending position before the Execution order and movement as seen from the back (37)

2. Forward

This position, seen from the left side, was assumed by the officer with the second vocal signal to show the way (Fig. 38).

Fig. 38: Forward

3. March

This movement was realized to provide the Execution order, along with vocal order "March", as seen from the behind, from any of the Direction Warnings (Fig. 39).

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Fig. 39: March   Fig. 40: To the Right, Turn   Fig. 41: To the Left, Turn

4. Halt

This vocal command was provided with the same movements as described here above (Figs. 35-37), to indicate when the ongoing movement had to come to an end.

5. Backward

This vocal command was provided when the authority wanted his soldiers to walk backward, in order to realign for instance.

6. To the Right, Turn

This position, as seen from the back, was assumed when the foremost authority wanted to make his soldiers turn to his right (Fig. 40).

7. To the Left, Turn

This position, as seen from the back, was assumed when the foremost authority wanted to make his soldiers turn to his left (Fig. 41).

8. Fall In

These positions and movements were assumed by the authority to attract the eye of his soldiers and indicate them that they had to fall in around him (Fig. 42).

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Fig. 42: Fall In.   Fig. 43: Form Ranks, To the Right.   Fig. 44: Form Ranks, To the Left.

9. Form Ranks to the Right

This position, as seen from the front, was assumed by the authority to tell the soldiers they had to draw the ranks to his right (Fig. 43).

10. Form Ranks to the Left

This position, as seen from the front, was assumed by the authority to tell the soldiers they had to draw the ranks to his left (Fig. 44).

11. Retreat

This position, as seen from the front, was assumed by the authority to tell the soldiers in which direction they had to retreat (Fig. 45).
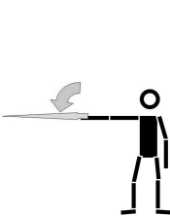
Fig. 45: Retreat.   Fig. 46: Order Arms.   Fig. 47: Parade Rest.

B. Arms

1. Order Arms

This position was assumed when a halt was commanded, and / or soldiers would possibly be given permission to order their weapons (Fig. 46).

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2. Parade Rest

This position was assumed when the soldiers had to stay on a specific spot for a while (Fig. 47).

3. Arms at the Ready

This position was assumed when soldiers had to be ready for the fight (Fig. 48).
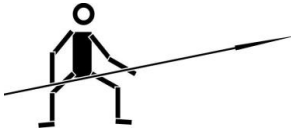
Fig. 48: Arms at the Ready   Fig. 49: Kneel
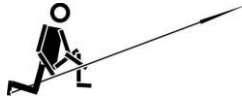
4. Kneel

This position was assumed when soldiers had to prepare for an incoming charge (Fig. 49).

5. Inspection Arms

This position was assumed when the authority wanted to inspect the proper state of the weapons of his soldier (Fig. 50).
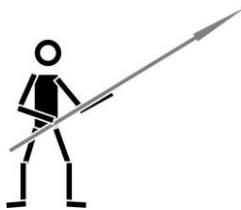
Fig. 50: Inspection Arms

6. Port Arms

One of the first moves to teach to a soldier was to travel with his weapon properly, resting his weapon against his shoulder (Fig. 51).

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Fig. 51: Port Arms

7. Shoulder Arms

For long travels in friendly lands, the men were possibly authorised to bear the shafts on their shoulder, as a means to relieve their arms from their weight (Fig. 52).

Fig. 52: Shoulder Arms

8. Present Arms

This position was assumed when the soldiers wanted to honour some person (Fig. 53).

Fig. 53: Present Arms

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9. Arms on the Ground

This movement was realized where the soldiers were about to work or have a rest without their weapons in their hands (Fig. 54-55).
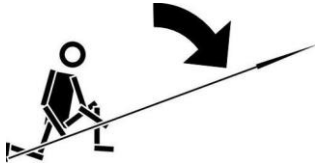
Fig. 54: Arms of the Ground, phase 1   Fig. 55: Arms on the Ground, phase 2

10. Recover Arms

This movement was realized when the soldiers were about to assume the "Order Arm" position (Fig. 56).
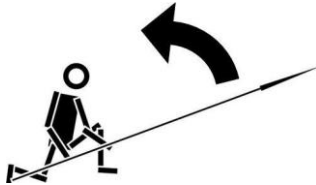
Fig. 56: Recover Arms

11. Lower Arms

This movement was realized was assumed by the soldiers when they were travelling with their shafted weapons in a densely wooden area, in order to avoid the lower branches. The men would lower their weapons on their side in a way that prevented the spearhead from touching their foremost and backmost colleagues (Fig. 57-59).

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Fig. 57: Lower Arms, phase 1
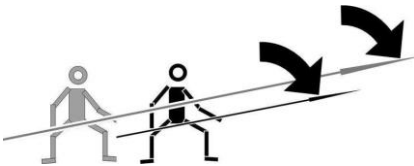
Fig. 58: Lower Arms, phase 2   Fig. 59: Lower Arms, phase 3.
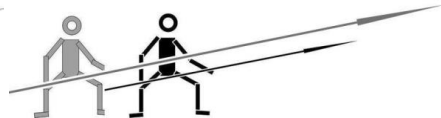
12. Raise Arms

This movement was realized by the soldiers when they were travelling with their shafted weapons in a densely wooden area, in order to avoid the lower branches (Fig. 60).
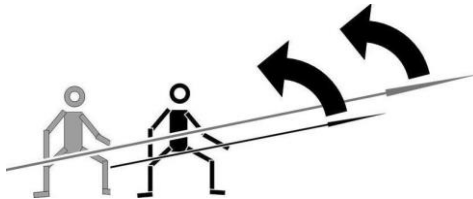
Fig. 60: Raise Arms

C. Fencing

The second part of the training surely included the basic stances to fight with a shaft weapon. The main offensive motions would have been to adopt a

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threatening attitude and use the shaft to keep the enemy at bay, to stab to the front and push on any side the enemy weapons.

1. High Guard

The High Guard was mostly designed to aim at the head, throat and chest of the enemy (Fig. 61).
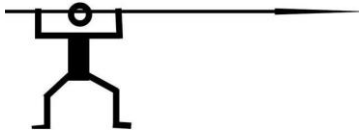
Fig. 61: High Guard

2. Descending Guard

The Descending Guard was adopted to threaten the throat, the chest and the belly of the enemy (Fig. 62).
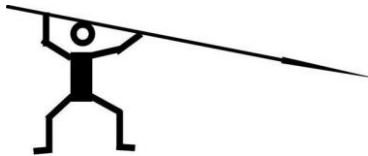
Fig. 62: Descending Guard

3. Ascending Guard

The Ascending Guard was adopted to threaten the belly, the chest and the throat of the enemy (Fig. 63).
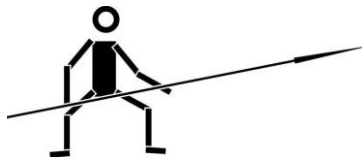
Fig. 63: Ascending Guard

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4. Low Guard

The Low Guard was adopted to threaten the belly, the groin and the thighs of the enemy (Fig. 64).
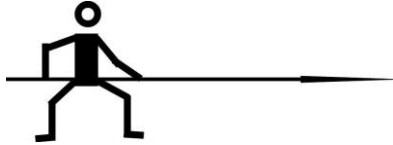
Fig. 64: Low Guard

Raw recruits in Eannatum of Lagash's Phalanx would surely learn this position in the first instance, and then learn to develop it with the shield suspended on their shoulder (Fig. 65-66).
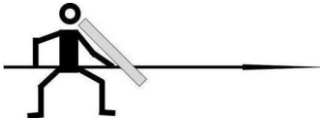
Fig. 65: Low Guard with the huge shield suspended in front of the soldier.
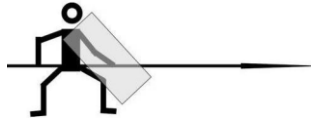
Fig. 66: Low Guard with the huge shield suspended on the side of the soldier.

Once every recruit would master this simple guard, they would surely be taught how to adopt the synaspism formations, where all their shields would switch to the side and cover each other's shoulder and front altogether (Fig. 67).
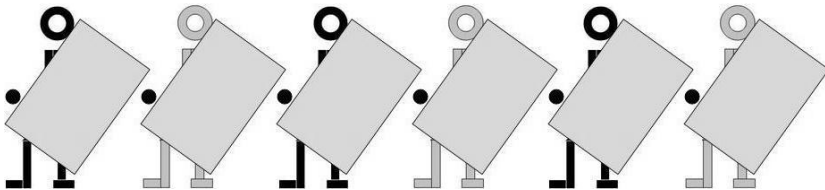
Fig. 67: Synaspism adopted by the front rank of Eannatum of Lagash's phalanx as seen from the front

52

When synaspism would be mastered, recruits would learn how to move as a group with the shaft weapons at the ready and the inclusion of spearmen in their ranks (Fig. 68-69).
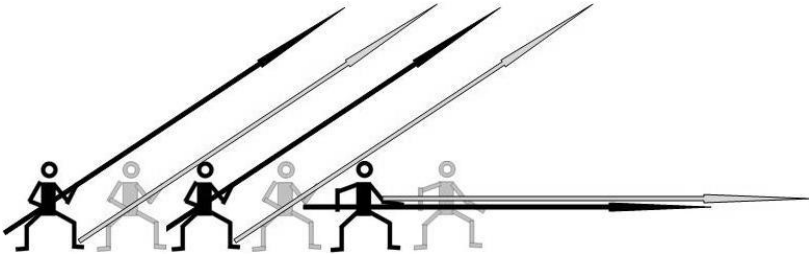
Fig. 68: Squad of Pikemen at the ready
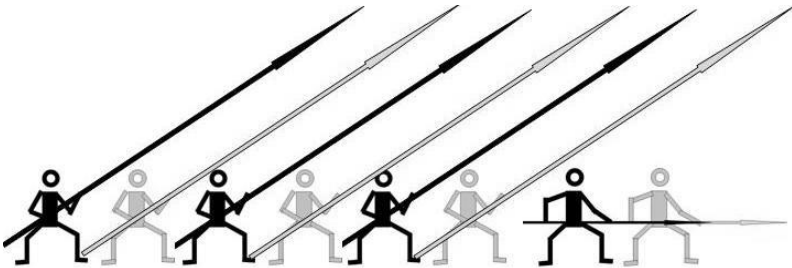
Fig. 69: Squad of pikemen and added spearmen at the ready

Once the recruits would have proven their ability to move as a group in single formation, they would learn how to do so in particular guards and with their NCO's among them (Fig. 70-71; 72-81).
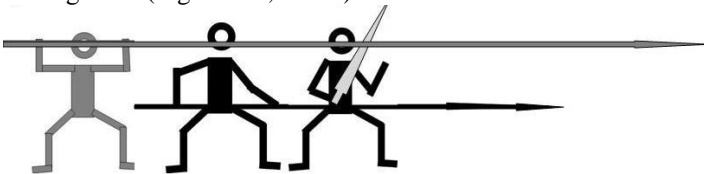
Fig. 70: NCO's taking their positions at the front of the phalanx

53
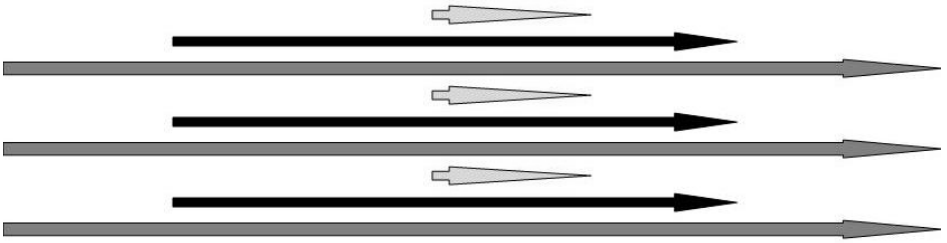
Fig. 71: NCO's taking their positions at the front of the phalanx, as seen from above.

From the mastery of the first essential moves and guards, some combos could be employed according to the circumstances encountered by Eannatum of Lagash's armies and designed against peculiar types of enemy troops.

5. Combo 1

Designed against chariotry, with the Front Rank assuming the Descending Guard, and the Second Rank, the High Guard (Fig. 72).
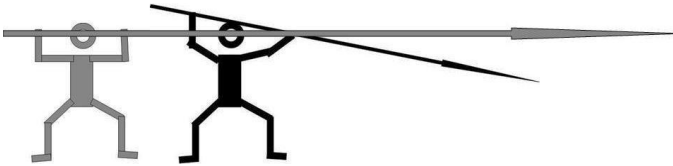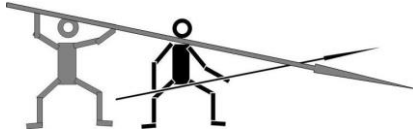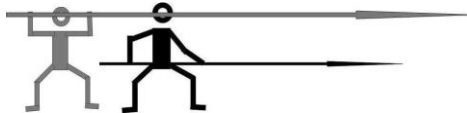

Fig. 72: Combo 1. Front Rank in Descending Guard and Second Rank in High Guard.

6. Combo 2

Designed against chariotry, with the Front Rank assuming the Ascending Guard, and the Second Rank, the High Guard (Fig. 73).
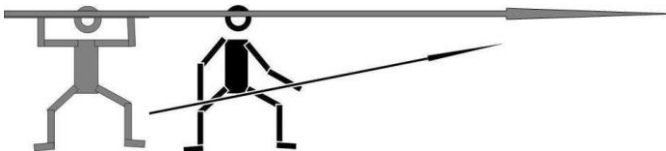
Fig. 73: Combo 2. Front Rank in Ascending Guard and Second Rank in High Guard.

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7. Combo 3

Designed against chariotry, with the Front Rank assuming the High Guard Guard, and the Second Rank, the Low Guard (Fig. 74).
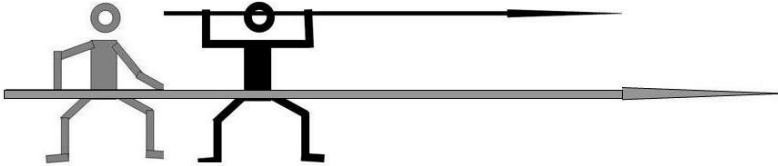
Fig. 74: Combo 3. Front Rank in High Guard and Second Rank in Low Guard

8. Combo 4

Designed against infantry, with the Front Rank assuming the Low Guard, and the Second Rank, the Descending Guard (Fig. 75).
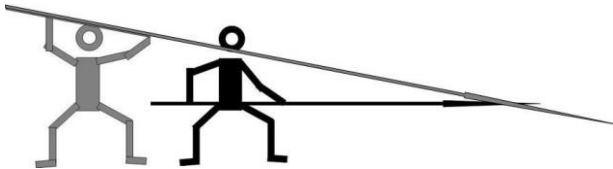
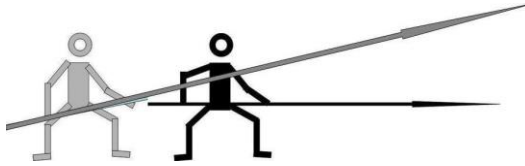Fig. 75: Combo 4. Front Rank in Low Guard and Second Rank in Descending Guard

9. Combo 5

Designed against infantry, with the Front Rank assuming the Ascending Guard, and the Second Rank, the Low Guard (Fig. 76).
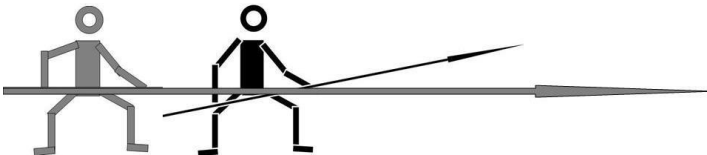
Fig. 76: Combo 5. Front Rank in Ascending Guard and Second Rank in Low Guard

10. Combo 6

Designed against infantry, with the Front Rank assuming the Ascending Guard, and the Second Rank, the Descending Guard (Fig. 77).

Fig. 77: Combo 6. Front Rank in Ascending Guard and Second Rank in Descending Guard

11. Combo 7

Designed against chariotry and infantry, with the Front Rank assuming the Low Guard, and the Second Rank, the High Guard (Fig. 78).

Fig. 78: Combo 7. First Rank in Low Guard and Second Rank in High Guard

12. Combo 8

Designed against infantry, with the Front Rank assuming the Low Guard, and the Second Rank, the Low Guard as well (Fig.79).
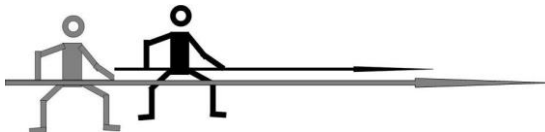
Fig. 79: Combo 8. First Rank in Low Guard and Second Rank in Low Guard as well

13. Combo 9

Designed against chariotry and infantry, with the Front Rank assuming the Low Guard, and the Second Rank, the Ascending Guard (Fig. 80).

56

Fig. 80: Combo 9. Front Rank in Low Guard and Second Rank in Ascending Guard

14. Combo 10

Designed against chariotry and infantry, with the Front Rank assuming the Ascending Guard, and the Second Rank, the Ascending Guard as well (Fig. 81).
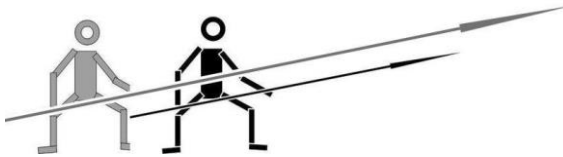
Fig. 81: Combo 10. Front Rank in Ascending Guard and Second Rank in Ascending Guard as well

D. Movements

As the actions of the phalanx relied on the simultaneous execution of particular motions by its components, men would be trained in changes of orientations, both individually and as a group.

1. By the Flank X

When the NCO's would command to face on a flank, he would order the men to turn towards the right or left, "X", thus the right or left, flank (Fig. 4-5; 82-84).
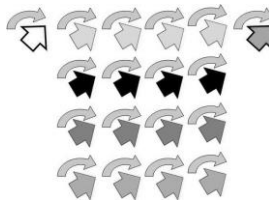
Fig. 82: By the Flank, Right, phase 1

57
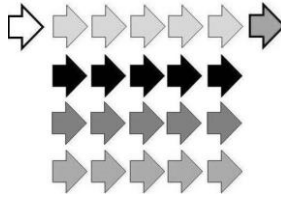
Fig. 83: By the Flank, Right, phase 2
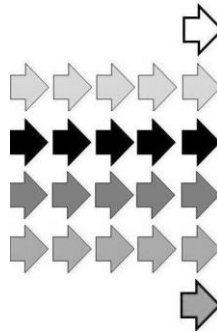
Fig. 84: By the Flank, Right, phase 3

2. About Turn – About Face

If the unit was to face towards the back of its ranks rapidly, the NCO's would surely command the men to turn over. Thus, "About-Turn" would tell the men to turn to their back, and "About-Face", to return to the face of the front (Fig. 85-87).
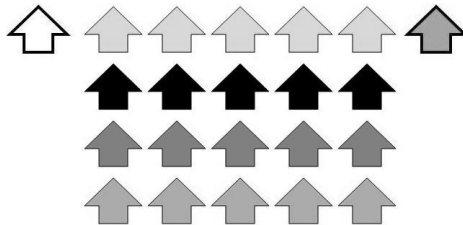
Fig. 85: About Turn, phase 1

58
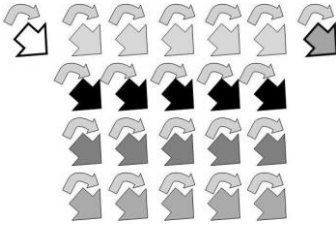
Fig. 86: About Turn, phase 2
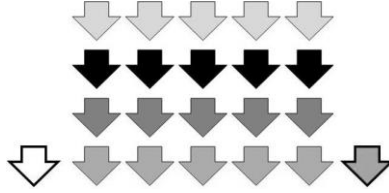
Fig. 87: About Turn, phase 3

3. By File to the X

If the men were supposed to move by file, the NCO's would command those files to turn to the right or left (Fig. 88-90).
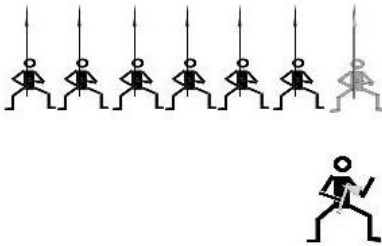
Fig. 88: By File to the Right, phase 1
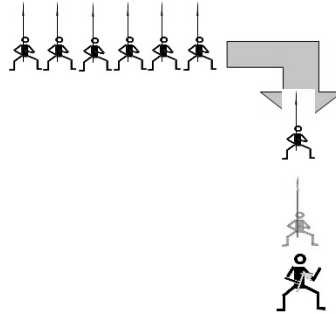
Fig. 89: By File to the Right, phase 2
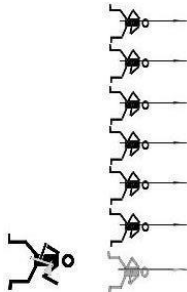
Fig. 90: By File to the Right, phase 3

59

E. Squad

Soldiers would also have to master the moves as a small group, like a squad. The Pointmen would work as leading points for the remainder of the troops.

1. X Wheel

If the men were supposed to move by ranks, the NCO's would order the men to right or left, thus "X", Wheel (Fig. 91-93).
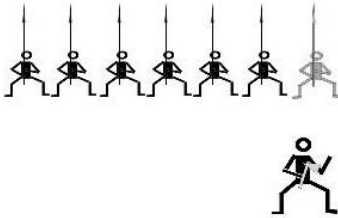
Fig. 91: Left Wheel, phase 1
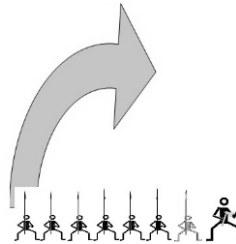
Fig. 92: Left Wheel, phase 2

Fig. 93: Left Wheel, phase 3

60

F. Section

The men also had to learn how to work as a medium group, like in a section.

These commands worked to change the facing and the array of the sections from a side to the other, and from a block to a line.

NCO's would work as a guiding frame for the remainder of the troops.

1. X (amount) Files from the X (right or left) to the Back

If the CO wanted to remove particular Squads from the line, to give way to an obstacle, he could command "X" (amount) of Files from the "X", right or left, to the back (Fig. 94-96).
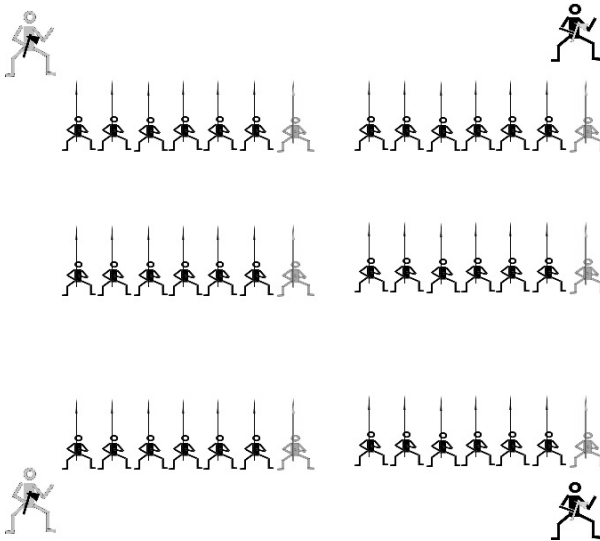
Fig. 94: One File from the Right to the Back, phase 1
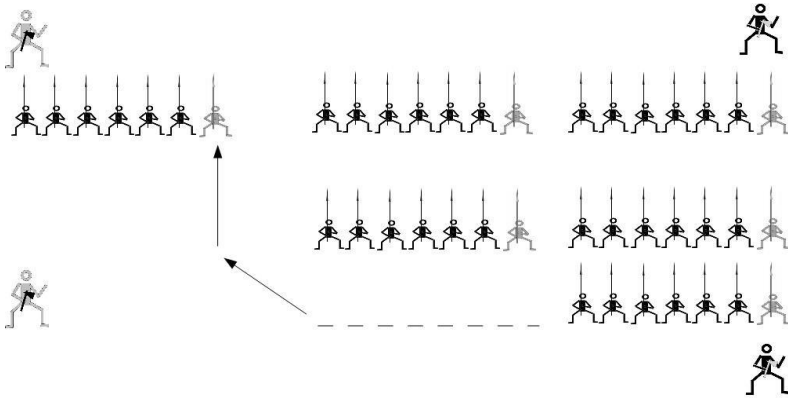
Fig. 95: One File from the Right to the back, phase 2
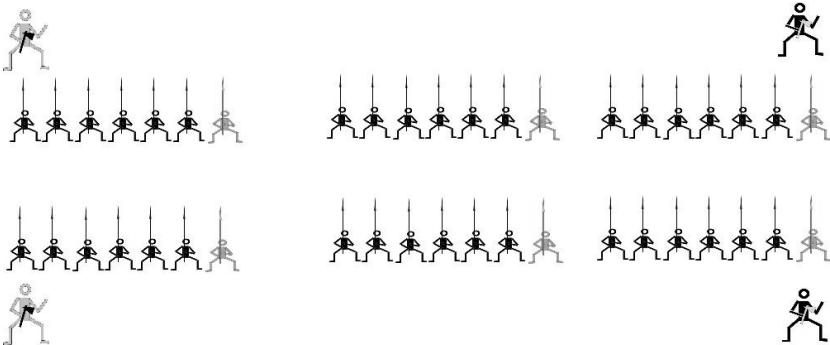
Fig. 96: One File from the Right to the Back, phase 3

2. X (amount) Files from the X (right or left) to the Front

If the CO wanted to re-array his front ranks, he could command "X" (amount) Files from the "X", right or left, to the front, and they would act in the inverted way as the one described here above (Fig. 94-96).

3. Form a Line by Section

When the NCO's wanted to form a line by section, he would give this command and each section would wheel around at the same speed but lengthening their pace, keeping it and take its position as a line (Fig. 97-99).

62
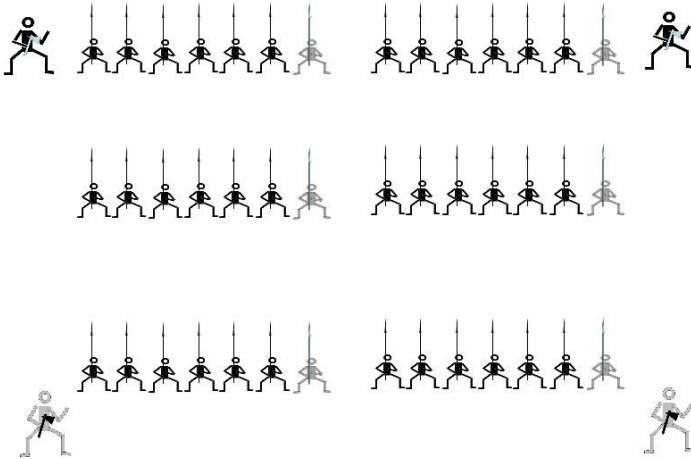
Fig. 97: Form a Line by Section, phase 1
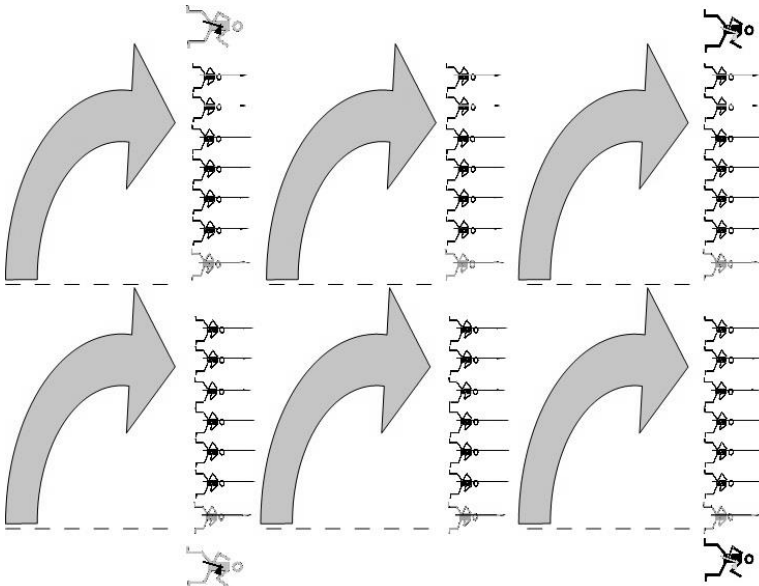
Fig. 98: Form a Line by Section, phase 2

63
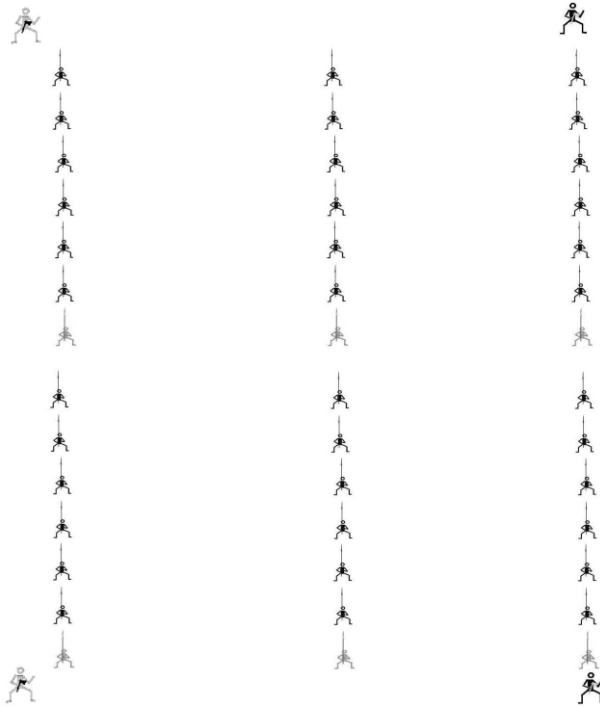
Fig. 99: Form a Line by Section, phase 3

4. Form a Column by Section

If the Section needed to deploy in a column, the NCO would give the related order and, again, each section would wheel again.

G. Company

Finally, the men would be trained to act as a large group, like a company.

1. Form a Line by Company

When the Overall CO wanted to deploy as a column of attack, he would command the men to form a line by company, and thus each company would wheel around to reach its position in the line of battle.

64

2. Form a Column by Company

When the Overall CO wanted to organize his companies in a column, he would command his officers to wheel around again and get back into position.

VI. Formations

In any period, particular formations would be employed according to the phase of the combat and to the peculiar needs of the situation of the troops concerned.

A. Travel: Column

In any period, the Column formation would be employed to travel with the soldiers and use the available room on the tracks and roads of the kingdom (Fig. 100).
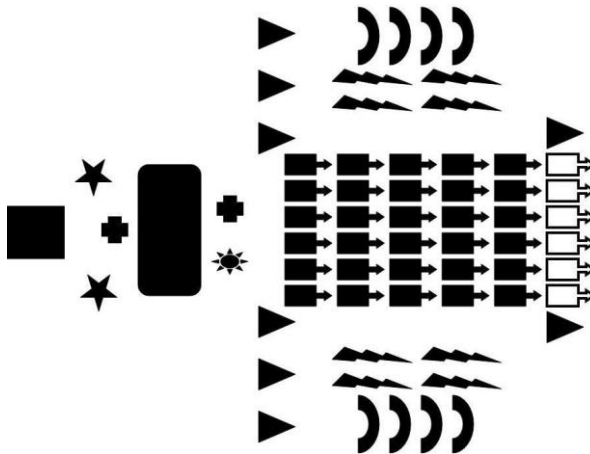
Fig. 100: Column Formation

B. Attack: Line

When the time had come, the phalanx would deploy in a Line formation, to prepare the outflanking motion against any incoming enemy threat, while the sirmishers would start to deploy on the flanks and start the shooting or the throwing (Fig. 101).

65
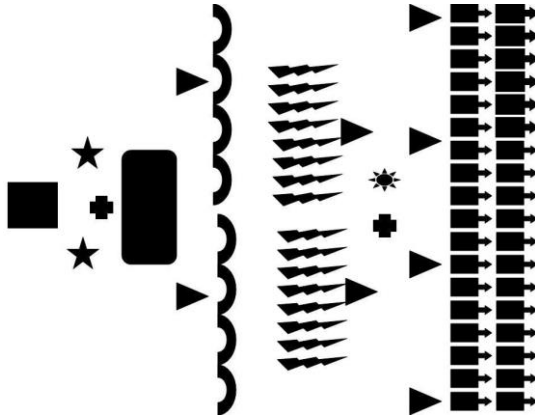
Fig. 101: Line of Attack Formation

C. Outflank: Broken Line

As the enemy would be intermingled in the shafts of the phalanx, the flanks would starts to outflank the enemy line and break through their back or their flanks.

Sub-Units could surely be detached to attack enemy spots and thus would have possibly employed a variant of the Broken Line formation: the Diamond Formation (Fig. 103).
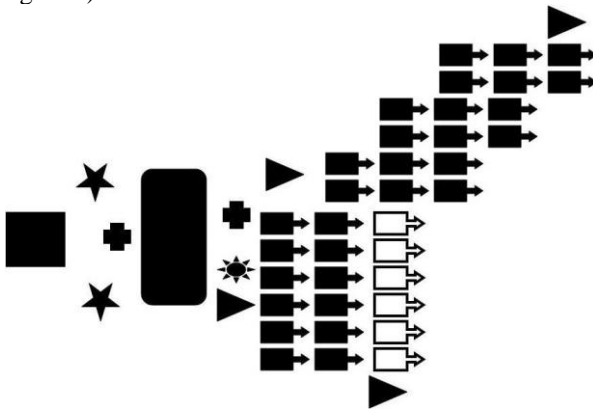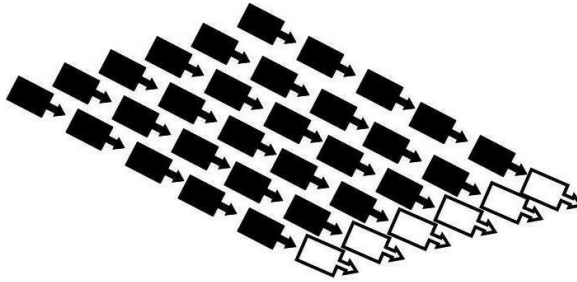

Fig. 102: Broken Line Formation

66

Fig. 103: Diamond Formation

D. Protect: Square

If the day was against the Command Officer could choose to retreat behind a shield-wall, either built as a squarish or as a roundish formation, recreating the model ramparts of a mini-town around the chiefs.
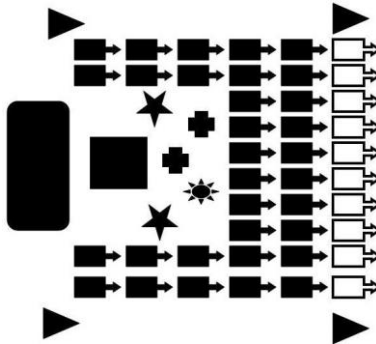
Fig. 104: Square Formation

E. Wall of Shields

During sieges, or under particular circumstances, the phalanx would surely deploy in a Wall of Shields Formation, like during the approach to the ramparts while besieging fortress or cities[6] (Fig. 105).

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[6] For further references on the siege-redoubts, see F. De Backer, 2010: "Neo-Assyrian Siege-Redoubts Tactics: Some Issues", *Historiae* 7: 1-25.

67
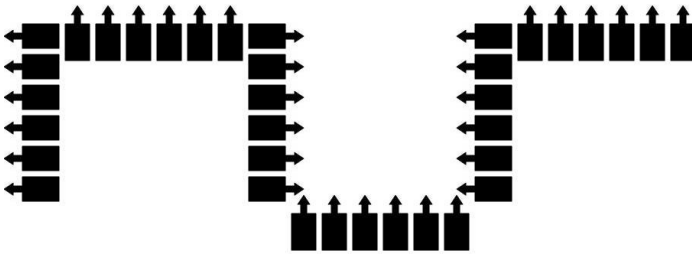
Fig. 105: Wall of Shields

F. Fish Scale

The Fish Scale formation might have been employed to pierce the enemy first lines and widen the gap to crush his ranks, with the obvious goal of attaining a quick and decisive victory.

This could be the formation depicted on the Stele of the Vultures, thus showing Eannatum of Lagash leading the charge of his troops at the most exposed and honourable spot: the point of the scale (Fig. 1-3; 106).
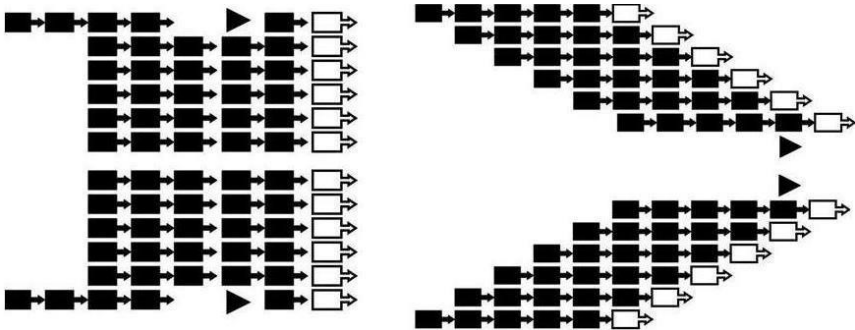

Fig. 106: Fish Scale Formation

G. Buffalo

The Buffalo Formation, might have been employed to keep the enemy centre busy while deploying troops on both his aisles, and crush his files from three sides in the same time (Fig. 107).

68
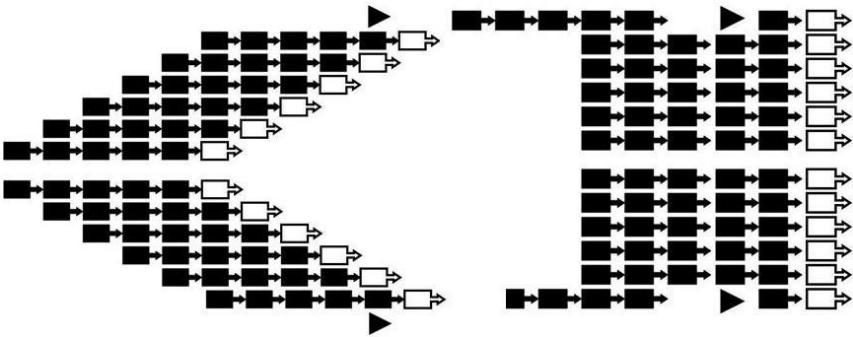
Fig. 107: Buffalo Formation

VII. Tactics

As can be seen on the Stelae of the Vultures, and if this monument shows a real-life contemporary unit, it would appear that the pikemen formation was backed by a similar unit made with spearmen, designed to protect the flanks and the intervals between the pikemen in close-combat.

No cultural or whatsever heritage comes under debate here, one can only assume some battles of the Early Dynastic period would have developed along certain phases including particular troops and movements.[7]

A. Pikemen to the Front

To push the enemy backward, the CO would call the pikemen to advance for some paces, in order to leave some room behind them to their spearmen buddies (Fig. 108-111).

In a second step, the CO would call the spearmen to the front, to sustain the effort of their pikemen buddies (Fig. 112-113).

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[7] See F. De Backer, 2012: "Early Dynastic People and Neo-Assyrians in the Wake of Cultural Heritage and Conflict: 'We, As Them' or 'We, And Them'?", in R, Matthews et alii. (eds.): *Proceedings of the 7th ICAANE, vol. 2*, Wiesbaden: 81-88; F. De Backer, 2009: "Some Basic Tactics of Neo-Assyrian Warfare", *Ugarit Forschungen* 39: 69-115.
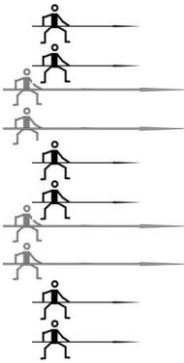
69

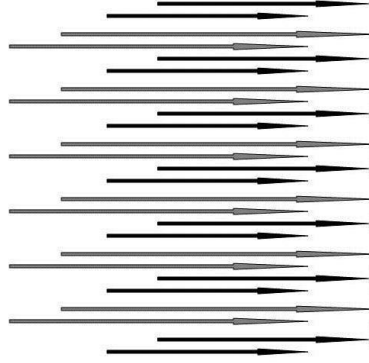Fig. 108: Pikemen to the Front, phase 1

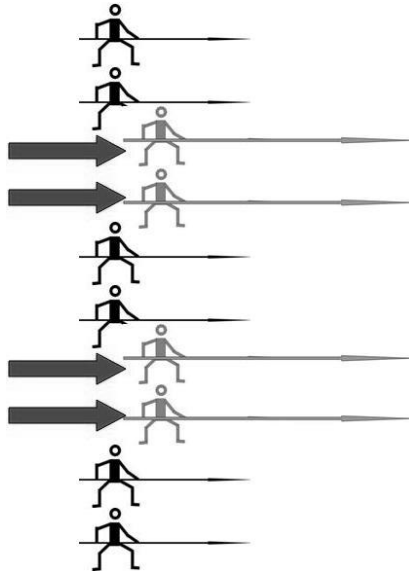Fig. 109: Pikemen to the Front, phase 1 as seen from above
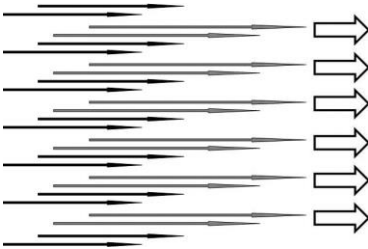

Fig. 110: Pikemen to the Front, phase 2

70

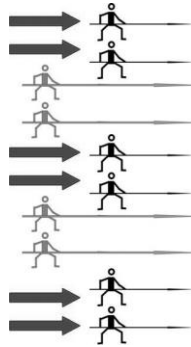Fig. 111: Pikemen to the Front, phase 2
as seen from above

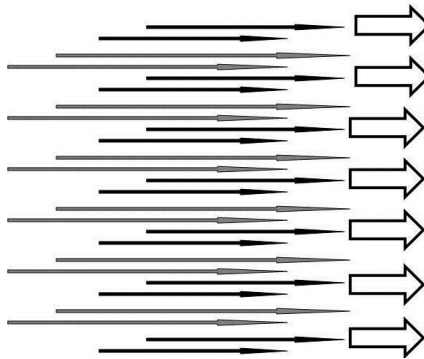Fig. 112: Pikemen to the Front, phase 3

Fig. 113: Pikemen to the Front, phase 3 as seen from above

B. Back to Align

To adjust the formation, the CO would call the pikemen to back for some paces, while keeping in touch with their spearmen buddies, staying at the front to keep the enemy at bay and to protect their move (Fig. 114-115).

In a second step, the CO would call the spearmen to back for some paces and align with their spearmen buddies (Fig. 116-117).

71
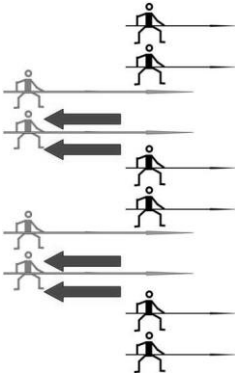
Fig. 114: Back to align, phase 1
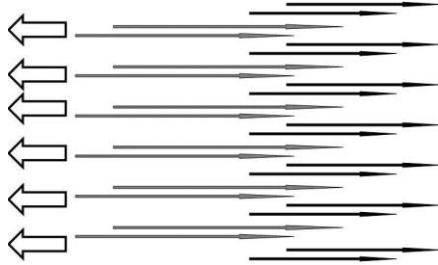
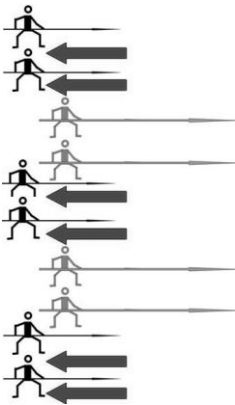Fig. 115: Back to Align, phase 1 as seen from above
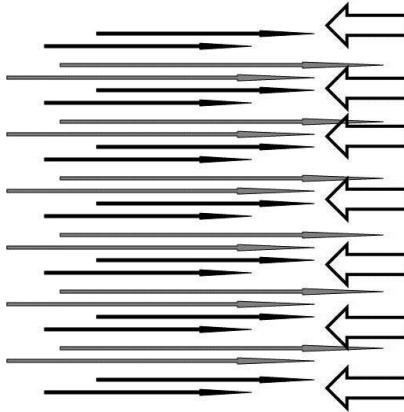

Fig. 116: Back to align, phase 2

Fig. 117: Back to Align, phase 2 as seen from above

C. Open Order

If the CO wanted to re-organize, or prepare a particular tactic, he would call for an Open Order formation, leaving room to allow the fellow troops to come through the intervals of his own (Fig. 118).
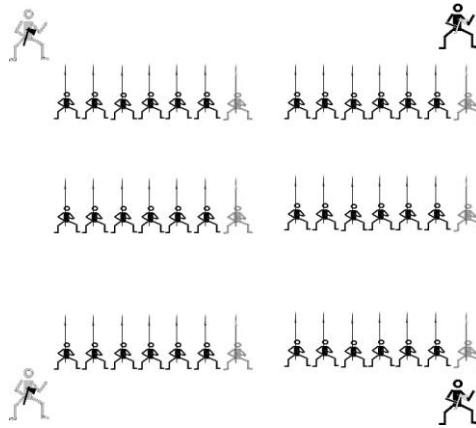
72

Fig. 118: Open Order

D. Close Order

As the CO would want to try to press on the enemy, he would call the NCO's to double the strength of his front in Close Order. Then, the Assistant Chiefs of Files would come in between the front files and take positions on their side (Fig. 118-120).
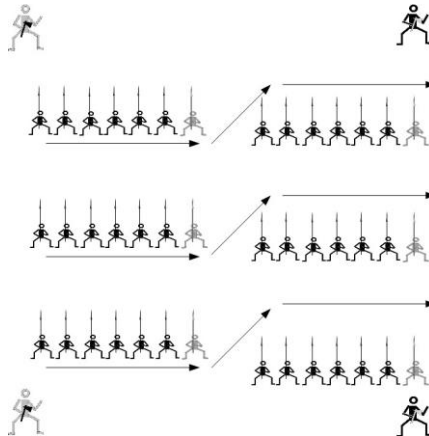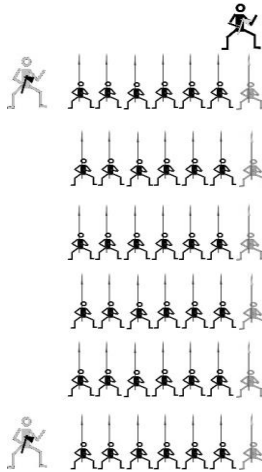

Fig. 119: Close Order, phase 1

73

Fig. 120: Close Order, phase 2

VIII. Deployment

Units were deployed in a check-board pattern, to allow movements to units and room for movements between the units (Fig. 121-122).
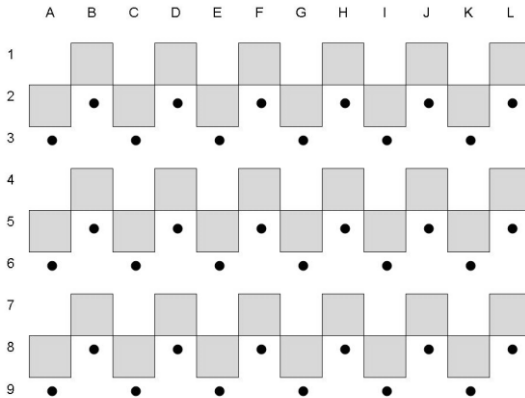

Fig. 121: Checkerboard pattern of deployment for a Neo-Sumerian phalanx
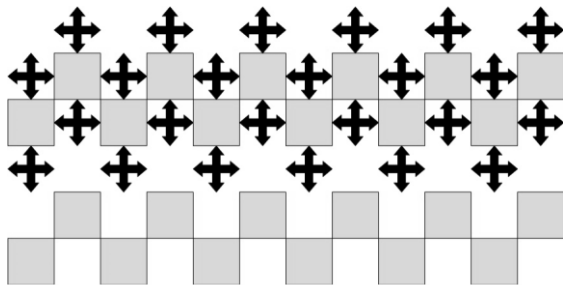
74

Fig. 122: Movements for and between the units

This room was made necessary by the amount of troops and specialized soldiers deployed by an army composed of six regimental phalanx is quite impressive, reaching quite a 10.000 people not counting the supporting units, even if these numbers are but theoretical (Fig. 123).

Army	
PointMen	1296
Pikemen/Spearmen	6480
	7776
Added Section Command Groups	
HNCO	432
LNCO	432
LSB	216
LCO	216
	1296
Added Company Command Groups	
HNCO	72
LNCO	72
HSB	36
HCO	36
	216
Added Regimental Command Groups	
HNCO	12
LNCO	12
HSB	6
HCO	6
	36
TOTAL	9324

Fig. 123: Theoretical amount of specialized troops in a six regiments Neo-Sumerian Phalanx.

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The calculation of the theoretical distances covered by the deployment of such a force can also be realised with a long broom stick and a tape measurer.

Upon the theoretical assumptions of distances described in the following figures, a Section of has a depth of 1185 cm for a front of 610 cm, while a section of spearmen would the same front, but a depth of 1085 cm, due to the shorter shafts of their weapons (Fig. 124-128).

Thus, the deployment of two companies of pikemen and spearmen on two lines of battle would take 48,80 m on the front, and 63,70 m in the depth, leaving rooms for the second line units to move between the front line units, and between the two lines for movement of any of them (Fig. 129).

That way, a regiment would need an read 146,40 m wide and 191,10 m long to deploy, while a six regiments army would require 878,40 m wide for 1146,60 m long to deploy, not counting the supporting troops, messengers, archers, javelinemen, guardsmen, allies and chariotry.
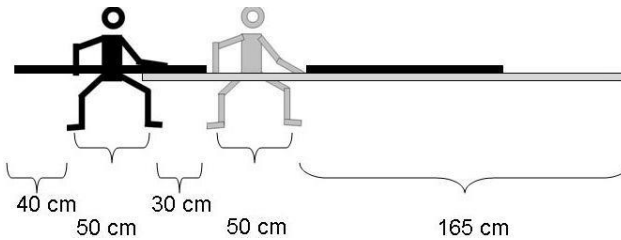
Fig. 124: Calculation of the length needed for the deployment of the two first ranks of soldiers in a section of pikemen
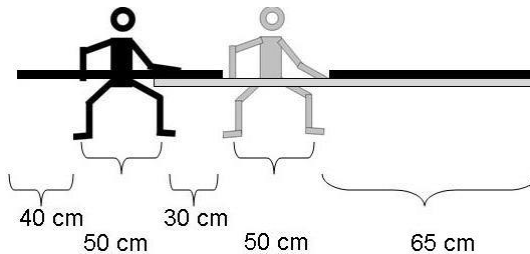
Fig. 125: Calculation of the length needed for the deployment of the two first ranks of soldiers in a section of spearmen
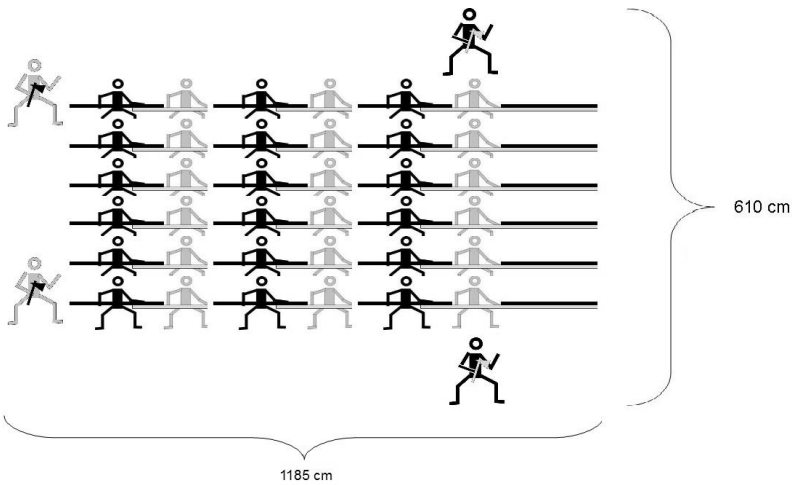
76

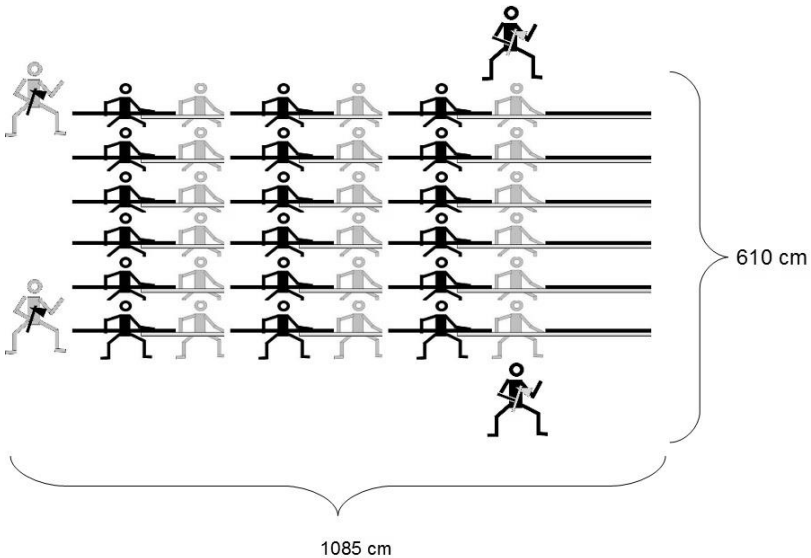Fig. 126: Calculation of the length and front needed for the deployment of a section of pikemen

Fig. 127: Calculation of the length and front needed for the deployment of a section of spearmen
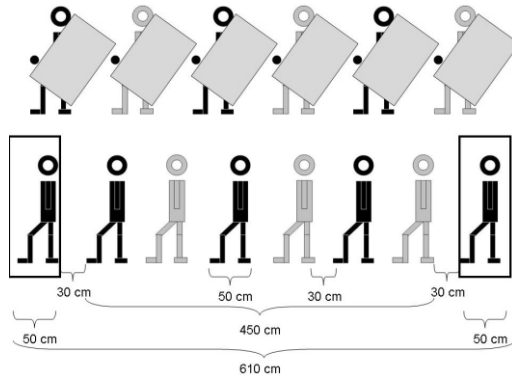
77

Fig. 128: Calculation of the frontal distance required for the deployment of the first rank of a section of pikemen, above, or of spearmen, beyond. The NCO's are located on the flanks and surrounded by a bold rectangle
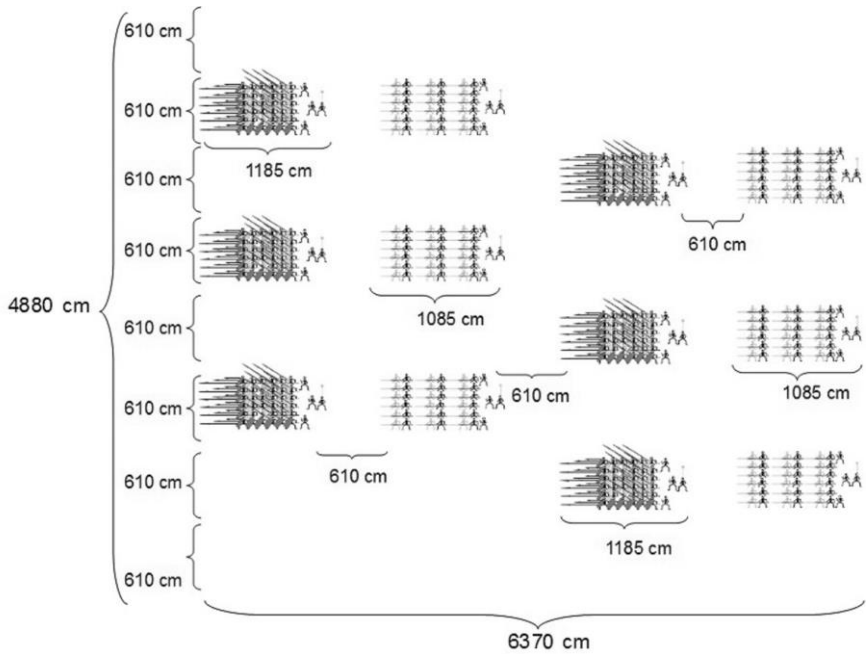

Fig. 129: Calculation of the area needed for the deployment of two companies

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IX. Attrition

Replacement of casualties within the ranks of Eannatum phalanx seemed quite an interesting question to investigate. Theoretically, the organization of the troops in ranks and files made it all the most easy and possible; that said, it would only be true whether the phalanx of Lagash used the rank and file organization (Fig. 130).
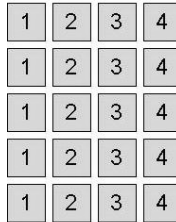

Fig. 130: Disposition of individuals organized in ranks and file within a formation

Soldiers could move in nearly all directions within their formation: to the front, to the back, to the side and in diagonal (Fig. 131).

The essential preoccupations of the leaders must have been to keep the front line continuous, a certain depth of the file and their flanks covered with spare men.
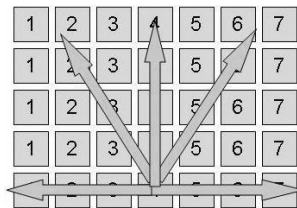

Fig. 131: Possible movements of an individual within a rank and file formation

A. Single Casualty at the First Rank

If the pointman of File 2 dies, being in the first rank of the second line, the whole file advances forward so that the immediate follower of the pointman can take his stead and fulfils the gap in the front line (Fig. 132-133).

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As the reader surely understands it, this method works for the replacement of many pointmen as well.
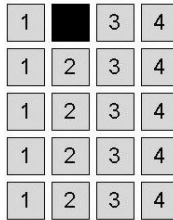
1	■	3	4
1	2	3	4
1	2	3	4
1	2	3	4
1	2	3	4

Fig. 132: Death of the pointman of File 2, depicted as a black square

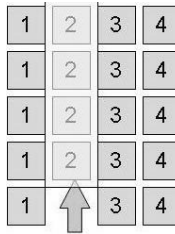| 1 | 2 | 3 | 4 |
1	2	3	4
1	2	3	4
1	2	3	4
1	⬆	3	4

Fig. 133: Movement of the whole Row 2 designed to fulfil the gap in the frontline

B. Several Casualties in a Single File

Should several casualties occur in a single file, the whole file would advance forward as far as required in order to fulfil the gap (Fig. 134-136).
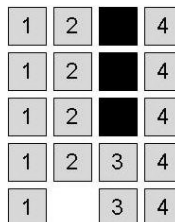
1	2	■	4
1	2	■	4
1	2	■	4
1	2	3	4
1		3	4

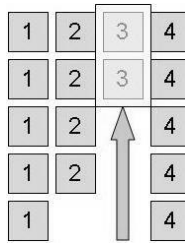Fig. 134: Death of many soldiers at the front of File 3

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Fig. 135: Movement of the whole file in order to fulfil the gap of the front line
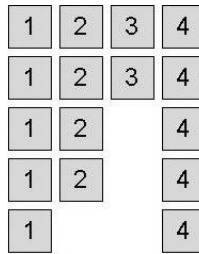
Fig. 136: Situation of File 3 after its move forward

C. Filling in the Back of a File with Several Casualties

As File 3 has lost a certain amount of its man-power and depth, the situation needs to fill in the gaps as a mean to continue the fight with a basic combat capability.

The good point of the File system lies in its ability to move a part of a file on the side, thus File 4 can help File 3 (Fig. 137-138).
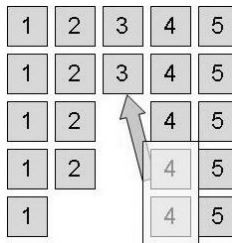
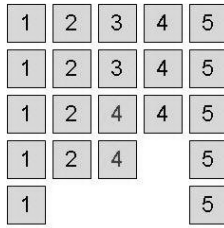Fig. 137: Displacement of some soldiers from File 4 to fill in some gaps of File 3

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Fig. 138: The situation of File 3 after its re-allocation of soldiers from File 4

D. Many Casualties in a Single File

Considering the hypothesis that many casualties would occur in a single file following a volley of javelins or arrows, the File Keeper of this file would have to fill in the gap in the front line a soon as possible, for the other pointmen would be busy keeping their own lines (Fig. 139-143).
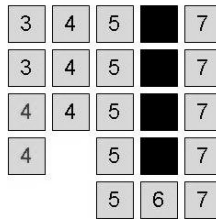

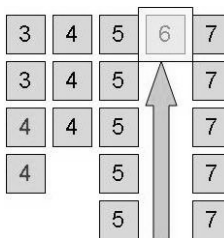Fig. 139: Death of many soldiers at the front of File 6

Fig. 140: The file-keeper of File 6 reaches the front line to fill in the gap
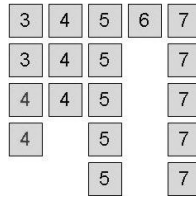
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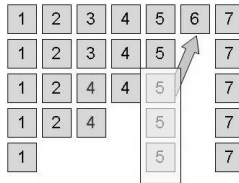Fig. 141: Situation of File 6 after the displacement of its file-keeper

Fig. 142: Displacement of reinforcements from File 5 into File 6
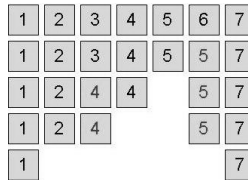

Fig. 143: Situation of File 5 and File 6 after the reinforcement of File 6

E. Filling the Gaps at the Back of the Files

Once the front line was reinforced, soldiers from the back of the files could move along to fill in the gaps of the other files (Fig. 144-147).
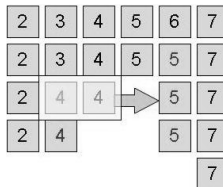

Fig. 144: The foremost men from the middle of the files standing alongside the one requiring reinforcements move along
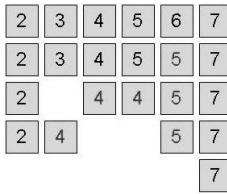
83

Fig. 145: While some men from the middle of the files move along, others from the back of the files keep their stead to make sure they can help their own fellow filers
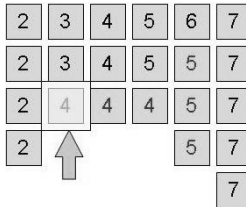

Fig. 146: One the foremost men from the middle of the reinforcing files have move, those from the back move along to support their own fellow filers of the front line
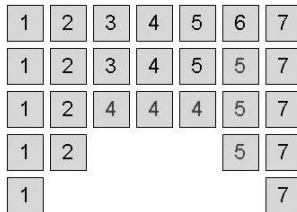

Fig. 147: The situation of the phalanx once the gaps at the back of the files have been filled, and the flanks are still covered

Conclusion

The employment of a phalanx formation in a military context obviously points to the necessary drill required for overall guides and soldiers.

A frame of seasoned warriors, that one can clearly consider as an eventual possibility, surely acted as NCO's and professionals, while CO's would be provided by the upper and wealthier classes of the Neo-Sumerian population of Lagash.

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Some kind of training would be achieved with the peasant levies in a few weeks to obtain ambidexterity with the shaft weapon, knowledge of the vocal and visual commands, and simultaneity in the movements. This method also proved efficient with the *sarissophoroi* of Philip of Macedony.

That these principles of training were fast to learn en masse for the peasant can be observed with the choice of a long shaft weapon, as a means to keep the recruits as far as possible from the enemy lines, and a group formation, to enhance self-confidence, comfort and utility while sustaining morale with a kind of group security and personal safeguard feeling.

Eannatum of Lagash might or might have not used such particular organization of tactics, but his were surely quite close enough to sustain his victories and have his phalanx depicted with so many details on a victory stele.

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