

MILITARY FORTIFICATIONS, WEAPONRY, WARFARE AND MILITARY
STRATEGY IN ANCIENT SYRO-PALESTINE (IRON AGE II A)

by

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MILITARY FORTIFICATIONS, WEAPONRY, WARFARE AND MILITARY STRATEGY IN ANCIENT SYRO-PALESTINE (IRON AGE II A)

(Summary)

The title above comprises elements of the strategic studies concept 'foundations of military force'. Military force has been the final arbiter between the political entities of mankind throughout all ages. The prevalence of this social scourge has left a footprint in every dispensation of man's efforts at civilisation. Regrettably, warfare was and remains one of the core characteristics of human nature.

The artefacts of antiquity are catalogued in archaeological periods. In nearly every instance each layer of human settlement is separated by the effects of warfare. Rather than a sub-discipline on the periphery it is demonstrated herein that military archaeology, refined with the post-World War Two scientific discipline of polemology, can and ought to be moved onto the centre stage of archaeology.

The application of core polemological concepts to IA IIa accurately describes the unfolding of the United Monarchy's capacity to pursue political goals commensurate with its evolutionary war potential.

KEY TERMS:

Syro-Palestine; Archaeological Period Iron Age IIa (IA IIa); Foundations of military force; War potential; Military potential; Technology; Logistics; Strategy and tactics; Weapons, defensive armour and military architecture; Military archaeology.

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I declare that *Military Fortifications, Weaponry, Warfare and Military Strategy in Ancient Syro-Palestine (Iron Age IIa)* is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references.

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KEY TERMS AND CONCEPTS

For ease of reading and reference the *key terms* listed on the ‘summary page’ and some additional important concepts are briefly explained below. These terms and concepts are more thoroughly treated in the main body of the text.

1. Syro-Palestine

The secular term for the territory coinciding with Israel, Lebanon, southern Syria, Jordan, the northern reaches of the Arabian Peninsula, and the Levant. In short, the territory over which the United Kingdoms of Saul, David and Solomon exercised political influence. Such lesser political entities had begun to emerge in the wake of the tumultuous large scale migrations that occurred at the end of the Late Bronze Age. The weakening of the traditional great powers allowed for the emergence of smaller regional powers and princedoms for the first time in this strategic land bridge region of the ancient Near East (Miller & Hayes, 1986:28).

2. Iron Age II a

A technical archaeological temporal reference, denoting the years (ca. 1045 – 931 / 30 B.C.E). This time frame has relevance as applied to the spatial unit ‘Syro-Palestine’ (Bimson, Kane, Paterson, & Wiseman, 1992:20).

3. Polemology

The branch of political science that treats the scientific study and classification of warfare. It derives its name from one of the ancient magistrates of the Greek city

states made responsible for military affairs (i.e.) the *polemarch* (*The Consolidated-Webster Encyclopedic Dictionary ... 1962, s.v. 'polemarch'*).^e

4. Military Statecraft

Statecraft is defined as “The art of conducting state affairs” (*The Consolidated-Webster Encyclopedic Dictionary ... 1962, s.v. 'statecraft'*). Military statecraft is thus that form of political dialect between political actors (usually nation-states in modern international politics), using or threatening the use of coercion in order to achieve a political goal.

5. Foundations of Military Force

A broad polemological concept designed to objectively measure a political entity's capacity for military statecraft, both defensively and offensively. The scope of the study entails the war potential, the military potential, the technological sophistry, and all aspects of logistics of the entity (STUSTO-S Only study guide, 1996:69).

6. War Potential

A political entity's capacity to engage in warfare. It is an all-inclusive assessment of tangible and intangible factors, ranging from psychology, the national economy, political alliances, geographical location, manpower, levels of training and education, cultural heritage, demographic profile, ethnic cleavages in the given entity, strength of national cohesion, food and water security, political regime, and many other factors (STUSTO-S Only study guide, 1996: 70).

7. Military Potential

The capacity to engage only in restricted military action, such as the allocated armed forces to a given theatre of military operations or a military expedition or mission, whatever its nature (STUSTO-S Only study guide, 1996:70).

8. Technology

“That branch of knowledge which deals with the various industrial arts” (*The Consolidated-Webster Encyclopedic Dictionary... 1962, s.v. 'technology'*). In the context of the pre-industrial time period of this dissertation, the word technology is a general reference to the scale and sophistry of a political entity's productive occupation.

9. Logistics

The science of movement and supply, including communications (STUSTO-S Only study guide, 1996:70)

10. Strategy

A complex term with at least three subdivisions according to scale of engagement, command and control. All generally levels of strategy embrace the ideal of creating circumstances for overcoming the enemy by force. The three subdivisions of strategy are *total strategy* (sometimes ‘national strategy’), involving the highest authorities of a political entity in the selection of objectives and the allocation of resources for the attainment of a political objective (STUSTO-S Only study guide, 1996:19). *General strategy* deals with the overall conduct of military operations in a given theatre and usually involving the most senior commanders or the companions and personal retainers of the king. It especially deals with the broad selection of the method of engaging another power until a conclusion has been reached (STUSTO-S Only study guide, 1996:20-21). Lastly, *operational strategy* is where conception and execution meet. Operational strategies are used to execute general strategies (STUSTO-S Only study guide, 1996:23). A simple, abstract definition for strategy is given by Fourie as: “the method of using means of coercion to create an untenable situation for an opponent” (STUSTO-S Only study guide, 1996:15).

11. Tactics

The disposing of fighting forces once they have engaged the enemy. While strategy need not necessarily involve actual fighting, tactics always does (STUSTO-S Only study guide, 1996:13).

12. Weapons

Any instrument of offence or defence in the combating of enemies. These are catalogued according to their chief characteristics (i.e.) melee or ballistic, edged or concussive etc. (*The Consolidated-Webster Encyclopedic Dictionary*, 1962 ... s.v. ‘weapons’).

13. Defensive Armour

Any covering of the body or vehicle for the purpose of increasing personal security in a dangerous setting. Against the backdrop of combat tactics: to increase a soldier’s chances for survival on the battlefield.

14. Military Architecture

Temporary or permanent fortifications are the hallmarks of a defensive general strategy (Montgomery, 1972:152). The prevalence of such architecture, designed to optimise the defensive value of strategically important sites, is a useful gauge in itself in fathoming the degree of political stability of a given period of history. In conjunction with topographical factors, weather patterns, seasons, engineering and

capacity, military architecture is also a useful mirror of both the war and military potentials of the political powers in that period and in that region.

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CHAPTER 1. INTRODUCTION

This dissertation is essentially a study of a selected ancient political dynamic that affected the world of the common man in the biblical land of Canaan during the archaeological period known as Iron Age IIa (henceforth IA IIa). It is not a review of general political history in a given time and place, supplemented by a study of the *in situ* cultural remains of that place. Rather, the content of this work aims to specifically examine the expression of the political dynamic as it pertains to military statecraft. The underlying question throughout this dissertation is to what degree has military statecraft served as the principal means to political ends during Canaan's IA IIa period.

Essential here is the Clausewitzian proposition that military statecraft in its basest form, i.e. warfare, is simply a continuation of political discourse by means of another form of language or communication. This idea is born out by the record of pandemic warfare among human beings in all ages and in all places. Even where the textual records fail us, the evidence of the social scourge of warfare can be found by an appeal to the cultural remains in most instances. This dissertation has as its goal to affirm the proposition that an accurate study of the warfare in a given time and place can serve as an accurate index to the lifeworld of such people, especially the nature of their polity. A study of the character of a polity may yield some insights as to the values of such a society. The outcome will yield much helpful data necessary for the reconstruction of the cultural components of such a lifeworld.

Polemology (from the Greek word *polemos* that means 'war', and *logos*, meaning 'the study of') will largely provide the conceptual framework for this study. Polemology

is known more commonly as strategic studies. It is a relatively new field of scientific enquiry, notwithstanding the plethora of pseudo-scientific writings that have been produced over the centuries, including within living memory. Its beginning as an academic discipline goes back only a very short way, to the early Cold War days following the Second World War. Ironically, ‘polemology’ may be new as a scientific discipline but the social phenomenon of war dates back to mankind’s earliest efforts at civilisation (Fourie, 1996:3–4). This relatively new field of *scientific* enquiry, when studied in conjunction with archaeology produces the sub-discipline of military archaeology. This dissertation attempts to make a contribution to this synthetic sub-discipline, as it pertains to the common man during IA IIa in the land of Canaan.

Competence in any subject calls for a clear understanding of the constituent concepts that will be encountered in that particular course of study. Studies in the humanities and social sciences are notorious for the freewheeling, undisciplined use of words and terms, a practice that tends to foster confusion and inaccuracies. Clarity of thought will obtain to the degree that there is clarity of concepts, which in turn requires clarity about terms (Fourie, 1996:46). The foundation of military force is the central concept throughout this dissertation. It is a multiplex concept that embraces several significant aspects of military statecraft. It measures particularly the *military potential* and the *war potential* of a political entity, be they an ancient tribe or confederation of tribes, the ancient equivalent of the nation state, or any other form of political collective. The foundation of military force is a scientific measurement concept that aims to assess a political entity’s potential and existing military capacity to wage and sustain war at any given time. In as much as the concepts *war potential*

and *military potential* are concepts that are used frequently throughout this dissertation, it is necessary to explain briefly their meaning before going further. War potential is the sum total of a political entities resource base, including tangible and intangible factors within that society that contribute to its resource base. Military potential on the other hand refers to forces specifically available at a given time in a given place for a given purpose. In physics terms, war potential is to potential energy as military potential is to kinetic energy. Such potentials also entail the scope and standards of technological sophistry and all aspects of logistics. A more complete discussion on war and military potentials follows in chapter four.

The third chapter argues the merits of a retroactive analogous approach for a review of the foundations of military force in Syro-Palestine during this time. The constituent elements of such military force are outlined in detail in the third chapter with care being taken not to give mere lip service to the issue of logistics. Technical aspects of the foundations of military force, to the extent it existed within the various political entities, were made manifest by the tactics employed and in the doctrines governing operational strategies. As is typically still the case in the modern world, technology was readily adapted to military means with doctrines carefully devised to suit, for gaining the advantage in the pursuit of political ends.

An analogous approach is the principal research attitude of this dissertation. Care has been taken to avoid careless ethnocentric and anachronistic errors. Misuse of even sophisticated tools in the workshop still results in a poor quality product. There are certain constants in polemology that do not vary from one period to another and lend credibility to such an approach. These include, inter alia, geographic distances,

nutritional requirements for sustaining human and other animal life, and the employment of war as a political instrument of means in all ages. Some factors have undergone only moderate change since IA IIa so can be allowed for with an acceptable degree of tolerance, such as weather patterns and the kinds of foodstuffs that can be produced in the region. There are however some components of the lifeworld of man that have altered radically and knowledge of these are vitally important to the integrity of the conclusions of this dissertation. In anthropological terms, these radically changing components included historical awareness, religion, politics, social norms and relationships, economic and commercial activities, forms of education and even recreation (Vermaak, 1996 b: p.5).

The effective mustering and employment of military potential, and ultimately even a political entity's war potential, generally constitutes the business of strategy. Strategy is the next persisting theme of this paper. A detailed discussion of this 'umbrella' concept is given in chapter four. The premise at work throughout this dissertation is that a careful analysis of the foundations of military force will yield many fruitful insights to supplement our conceptions of this period. The temporal and spatial context will be primarily Syro-Palestine during IA IIa, but this must be studied within the cultural context of the Ancient Near East at large. A brief historical survey of the region during IA IIa serves as the point of departure. Particular attention is given to Israel, which at the time of IA IIa was making the socio-political transition from confederated tribes to a unique brand of theocratic monarchy. This invites the reminder that technology and logistics are only two dimensions of the overall scope of strategy. The social dimension of strategy in warfare is a measurement of societal cohesiveness, unity of purpose, or in layman's terms, the capacity of the people to

endure common stress and hardship to attain the political objective. This is a vitally important dimension of strategy, which if ignored or misunderstood, will bring political disaster in its train. To illustrate, notwithstanding their technological and logistical superiority in the Vietnam War, France and then the United States of America was decisively defeated in turn by their communist Vietnamese opponents. The latter were inferior to them logistically and technically, but vastly superior in its social cohesiveness, i.e. the social dimension of strategy.

Ancient case studies that bear out concepts from modern studies of polemology can be found provided researchers eyes are trained to be adequately sensitive to all the dimensions of strategy. Regarding the social dimension, the Maccabaeen Wars against the Seleucids of Hellenistic Syria and even the Israelite invasion of Canaan under Joshua's leadership are relevant case studies for the social dimension of strategy. Some scholars have also labelled aspects of this dimension of strategy as 'psychological warfare'. The mass deportation of conquered enemies by the Assyrians, and by the Neo-Babylonians after them, sought to achieve political objectives by means of the social dimension of strategy, i.e., the break-up of social cohesiveness and unity of enemy political entities. The eventual total loss of the ten northern tribes of Israel, as a constituted political entity, points to the success of this strategy employed by the Assyrians. Their ruthless treatment of rebellious subjugated peoples or intransigent enemies was another aspect of the social dimension of strategy employed by the Assyrians. Ancient Israel's treatment of conquered Canaanite city-states during Iron Age Ia and b identifies her as a practitioner of the social dimension of strategy (Joshua 6: 21; 8: 22 – 29; 11: 21 – 23). Again later, during Iron Age IIa,

Saul's treatment of the Amalekites (1 Samuel 15: 3) gives further evidence of the social dimension of strategy at work in Israel's colourful political history.

The nature of military force, as outlined in chapter four, includes a review of weapons systems and the operational doctrine for their effective tactical employment during IA IIa. Even today some strategic studies place a heavy emphasis on the technical arsenals of the political actors, too weighty in several instances, when reviewing the nature of force in a political dispensation. Though relevant, such poorly conceived 'balances of power' are not stand-alone factors of political power in a given time and place. Nevertheless, technology is an integral component of political power and must be properly accounted for. Technological innovation is certainly one of the outstanding cultural components when distinguishing between the ancient and modern worlds. Technology was and remains the principle agent for the evolution of warfare. And notwithstanding the material differences of past and present, technology remains a principal component of all military potentials and of all war potentials, whatever the political entities under consideration. Thus technology and its impact must be factored in, but it must be done so judiciously when studied retroactively.

Chapter five reviews the various wars and military operations that occurred in Syro-Palestine during IA IIa. The operation of all dimensions of strategy is best studied in the light of the military record, with due attention to the tactical factors present at each engagement. The influence of technology is closely tied to the tactical options a commander has to draw upon in the field. Greater technological capacities usually translate into a potentially more powerful and articulate fighting force. History does not bear this out in every instance though; thus the need for a multiplex approach that

will weigh all dimensions of strategy appropriately. IA IIa provides scope for such a study and such a study in turn adds light to our spectrum of understanding of the world at this temporal juncture in Syro-Palestine.

The material cultural remains, in addition to pictographic and literary evidence, of greatest interest to this study, are the weapon systems and military implements of IA IIa. Military statecraft was a political option only to the extent that weapons and the tactical doctrine for their effective employment were to be found among a people or a state. Chapter six will review the various categories of arms and defensive equipment present in Syro-Palestine during IA IIa. Military architecture is an important part of this chapter, tracing the evolution of the static defences of cities and towns.

When considered holistically the chapters of this dissertation will establish an informed visage of the political dynamics that shaped the lifeworld of the common person in the period catalogued by archaeologists as Iron Age IIa. Much of the cultural lifeworld of the Ancient Near East was shaped by political events. These ancient political events were also largely the substance from which the foundations of the Western World's history were laid. Frequently, the tool that carved out these foundations was military statecraft. The onset of Polemology in the last half-century has supplied social science scholars the tools long needed for a more refined study of the role of military statecraft in the affairs of the Ancient Near East in general and ancient Israel, IA IIa, in particular.

CHAPTER 2. HISTORICAL OVERVIEW OF SYRO-PALSTINE DURING IRON AGE IIa.

State, nation, people, band and tribes are value-laden concepts in social science. 'People' is not easily defined in anthropological studies. Lexicologists trace its development from the Greek root *ethnos* to the related word *demos* that has come to signify 'nation' in modern English usage. The latter carries with it political weight and serve to distinguish a particular group or collection of persons. These persons are in most instances linked by a geographical proximity or by their shared common will to form a social unit, which, within a geographical territory, introduces the concept of a *nation-state*. Generally, a 'people' is characterised by common descent, a community of history, tradition, culture, custom, and language and they usually occupy a definable territory (Wiseman, 1973: Preface). Such factors of commonality when undergirded by social structure contribute to the strength of social cohesion. The social cohesion of a people or a nation state is an important and contributing factor to a political entity's war and military potential.

A 'band' is the oldest form of political organisation, typical examples being groups of hunter – gatherers. Bands are normally small in number ranging from 20 – 500 people. Bands are normally nomadic communities and commonly employ operational strategies in the form of raids. They have a less formal political regime and consequently have recourse to fewer general strategies. Their war potential is generally smaller though they may combine to increase to larger confederacies, sometimes with very large military potentials. The stark contrast between a bands war potential and its military potential explains why such raiders throughout history have been destructive and fearsome but unsustainable in the long term. Tribes are

larger than bands and may include a number of local groups and bands within their composition. Tribes often have an economy based on agrarian farming and animal husbandry and therefore produce a greater population density and more resources in a typically agrarian world (Vermaak, 1996c: 8-9). Over time this can become the basis for a greater war potential.

In the arena of international politics these various groupings evolved to become the principle political actors. Throughout the history and even prehistory of the Near East these political actors, regardless of their respective regimes, have determined the conditions of the lifeworld of the common man. From the polemology standpoint, the social cohesion of such political associations informs the social dimension of strategy and bears significantly upon the war potential of all these political actors. War potential is a general expression of political power. The greatest political power has most often been found in the hands of the larger political actors, possessed of large populations with strong centralised economies such as Egypt and the various larger Mesopotamian states and empires. These traditional great powers neighbouring Syro-Palestine have ever-viewed the latter as a political and economic prize. In total and general strategic terms, Syro-Palestine is the key to the Near East. Every Eastern Mediterranean and West Asian power that arose in the Ancient Near East sought to penetrate and occupy this region in the pursuit of their own political interests.

In the second millennium B.C.E. imperial Egypt held political sway and left a huge cultural footprint in Syro-Palestine. Only toward the end of this period did the Hittite's effectively challenge Egypt for a greater share of the region's spoils. Egyptian influence lingered on though for centuries beyond its effective political

control of Syro-Palestine. During the first millennium B.C.E. the political centre of gravity in the Ancient Near East swung eastwards and away from Egypt and culminated in the successive empires of Assyria, Babylonia, and finally Persia. This dissertation positions itself in the time period of the Ancient Near East described by scholars as a general political nadir for the traditional great powers. From the vantage-point of hindsight, the period IA IIa, (ca. 1045 – 931 / 30 B.C.E.) transpired when Egypt's formidable New Kingdom was in steady decline and before the rise of the militaristic Later Assyrian Empire. This political vacuum created the necessary regional political environment in which the confederated tribes of Israel could politically transform themselves into the United Kingdom of Israel. These political developments impacted broadly on political entities throughout the region.

What then does the material and other evidence tell us of the political discourse between the peoples and political entities of Syro-Palestine during IA IIa ? The discussion under this heading will outline the context, content, and the actors who engaged in such political dialogue and the means they had at their disposal for such political discourse. Further thereto, what can be discerned about the levels of social cohesion in these various political groupings and how the social dimension of strategy affected the war potential of these political entities?

2.1. Israel

In terms of Israel's superbly long and inimitable history, the state is the basic unit in any study of international politics. The period 1045 – 931 / 30 B.C.E. was a watershed period in which the state of Israel was established. The Israelites hammered out a unique conception of political kingship. Israelite history had its

beginnings long before the creation of Greek polis-type city states. Their history continued long after their state's political downfall. To what factors may one attribute Israel's historical and ethnic longevity? Vogel and Van Oosten noted that the reason for this lies in Israel's view of history and substantiated their assertion by quoting Moscati thus: "Israel has its God; this God made a pact with Israel; the working out of this pact constitutes history" (Unisa 1983: 90). The criterion for Israelite historiography is unique. The covenant was between the people and their God. It was timeless and was not bound to any territory. Territory was a reward for covenant faithfulness, not a precondition for their relationship with their deity, as was the case in Egypt, Mesopotamia, and most other places the Mediterranean world and the Ancient Near East. All of these states flourished or waned into obscurity according external secular criteria rather than according to religious or sacral fidelity. Israel's *corporate nationalism*, even their national identity, derived from the Abrahamic Covenant and not from the evolution of a political state or any concomitant constitution. Significantly, even gentiles (those not party to their covenant with Yahweh), could be included within the scope of this corporate nationalism by embracing the Israelite religion and entering into the covenant with Yahweh by means of its associated ordinances like circumcision etc. As an aside, this goes a long way to explaining the position of Urriah the 'Hittite'; a valiant convert to Yahwism and one of the listed 37 'mighty men' serving in the Israelite army of duplicitous King David (2 Samuel 23: 39. cf. 2 Samuel 11: 11). The nationalism that issued from the Abrahamic Covenant also explains the essential difference between Greco-Roman historiography and Israelite historiography. The former is simply described as the study of cause and effect. Israelite historiography on the other hand, most notably in the Old Testament before the massive diffusion of Greek cultural influence under

Alexander and the *diodochi* (Alexander's political successors) who inherited the broken up Macedonian Empire, entailed the recording of God's long association with the Israelites and the details of that interaction within the confines of the Ancient Near East. These recorders were writing as witnesses to God's deeds. Israelite 'historiography' was sacral in nature and contrasted the secular nature of Greco-Roman historiography.

Ironically, in the face of extant textual records for this period, the Bible is the only written source that deals with the United Monarchy. What is the source or literary criticisms for the biblical texts dealing with this period? Allowance must be made for the original authorship, language, ethical and theological concepts, textual patterns and formulae, and the historical standpoint of the writers. Such sensitivities will do much for the analytical domain of this study and its academic credibility. Noteworthy in this regard is the Deuteronomistic History source (henceforth D = Deuteronomist source). This is seen by biblical socio-literary scholars as the redactive work of (initially Israelite and continued later by Jewish) traditionists. Their recording of Israel's history was programmatic, striving to impress upon their readers the uniqueness of Israel's covenant with Yahweh and that obedience to its terms produced security and prosperity while all political ills were directly traceable to collective unfaithfulness to their covenant relationship with Yahweh. The D is traceable from Deuteronomy to the end of the Books of Kings, thus covering in its timeframe the end of Moses' ministry to the death of King Josiah in 609 B.C.E (Gottwald, 1987:138-9). In archaeological terms, D edits Israel's history from Late Bronze Age to mid-Iron Age. While the D draws liberally from both primary and useful secondary sources such as administrative documents from the united monarchy, independent cycles of

traditions about the prophet Samuel and the kings of the united monarchy, excerpts from the royal archives of the divided kingdoms and from the temple archives, it is important to appreciate that D, as a traditionist source, is selective, biased in its interpretation of certain king's reigns, and even openly hostile in its later redaction of Israel's history. For instance, David is treated very generously, Solomon's flaws and errors are glossed over 'for David's sake', and Saul is vilified (compare 2 Kings 18: 3-7 and 2 Chronicles 30: 23-27).

The Israelite change in regime to a monarchy was gradual, even pedantic. It was challenged internally by the devout religious elements and from without by Israel's political foes. From a conservative Israelite religious standpoint these political innovations were at best a hankering after worldly regimes and trappings, evidence of false values, and at worst a blatant abrogation of the all-important covenant with Yahweh. From the outset, Yahweh had vested His prophets with authority to speak and act on His behalf, to direct the affairs of His hierocracy on earth and for this purpose a loose confederation of tribes was deemed *politically* adequate. This defining covenant relationship traced its beginnings to the era of the patriarchs. Yahweh had prescribed the original terms and had renewed the basic tenets of the Abrahamic Covenant, as outlined in Genesis 17 and Genesis 22: 15 – 18 with each succeeding generation. It was Abraham's grandson Jacob who in due course of time became the eponymous patriarch and recognised progenitor of the twelve tribes of Israel. By faithful compliance with the terms of the Abrahamic Covenant, the promised blessings were to be realised, not least among them being membership in the 'household of God' and the boon of inheriting a promised land in both mortality and post-mortality. When the voice of the people called for a new political

dispensation (1 Samuel 8: 4-5), it was seen by the devout as an admission of the peoples wanting faith.

Perhaps the people's confidence was shaken by the inability of their spiritual leaders to engender proper spiritual values in their own sons. The priest Eli's sons, Hophni and Phineas (1 Samuel 4: 11-14), and thereafter the prophet Samuel's sons, Joel and Abiah (1 Samuel 8: 1-3), were failures in terms of their own moral and spiritual rectitude. Each sought after his own narrow interests and failed to keep God's commandments and the requirements of the established priesthood. Aside from their own personal failings, the consequences of this at the national level were dire; without divine approbation any attempt to check foreign intrusions were doomed to disaster.

The external challenge was simply the continuation of political hostilities from a preceding era, remembered to us as the period of the Judges (ca. 1200 – 1000 B.C.E.). To the majority of Israelite rank and file, whose faith and spiritual vigour ebbed and flowed, Israel's *war potential* had been abundantly exposed for its vulnerability by relying as it did on the ethereal factor of divine intervention for security. Hemmed in by powerful and centralised empires, kingdoms, principedoms, and long established city- states, and located on a land bridge between three large continents, serious question marks were placed alongside the merits of the system of the judges. To those who placed more stock in reason than in their covenantal relationship with Yahweh, their peculiar monotheistic deity, the military balance was wholly lopsided in favour of their political antagonists. It left the confederated tribes of Israel singularly dependant on Yahweh, His charismatic prophet, and a military novice to provide martial leadership in the role of a 'judge' for the sporadically mustered tribal

yeomanry. Only miraculous divine intervention in nearly every instance could provide security for Israel in their new though highly contested sedentary, agrarian lifestyle. Thus the Israelite of at least average faith keenly felt the need for a stronger political hand to deal with *inter alia* resilient Canaanite enclaves, to secure the territorial spoils already won, and to level the political playing fields between them and their well established neighbouring political entities. The sharpest spur though, was the political power of the Philistines which during this time period, when the long-standing powers of the Ancient Near East were in a temporary nadir, was still significant and a persistent threat to Israel's security.

At political centre-stage during this period of Israelite history, referred to by archaeologists as IA IIa, were the three monarchs, namely Saul (c. 150 – 1011/10 B.C.E.), David (c.1011/10 – 1071/70 B.C.E.), and Solomon (c. 971/70 – 931/30 B.C.E.). It is noteworthy that Albright alternatively proposed the dates 961 – 922 B.C.E. for Solomon (Blaklock and Harrison, 1983 ... s.v. 'Solomon'). My option is for the former sets of dates provided by Bimson et al (1992:117) owing to the cumulative and dynamic nature of scientific enquiry which recommends later rather than earlier sources. According to Blaklock and Harrison, the greater majority of scholarly opinion in this field of science rests with the earlier set of dates (id.).

King Saul was of the tribe of Benjamin, a tribe renowned for its martial prowess. The patriarchal blessing given to Benjamin, the eponymous progenitor of this Israelite tribe by Jacob, affirmed this hereditary characteristic; "Benjamin shall ravin (*sic*) as a wolf: in the morning he shall devour the prey, and at night he shall divide the spoil." (Genesis 49: 27). The Benjamites as a tribe enjoyed a high reputation for bravery and

skill in war, and was particularly noted for its deadly accurate slingers with their traditional left-handed action (Judges 3:15 and 20: 16).

Notwithstanding the biblical accounts of the various successes of the Judges, which proceeded Israel's period of the United Monarchy, the Israelites were under unremitting pressure of Philistine suzerainty, as mentioned above. The biblical record attests to several factors that qualified Saul to be the *political deliver* of Israel from the Philistine oppressors. He was of above-average manly stature. As a warrior-king his natural strengths were obvious, as were his leadership skills. Even these worthy traits were further supplemented by the pedigree of a family of mighty men and the advantages of personal charisma and good looks (1 Samuel 9: 1 – 2). From the vantage point of hindsight Benjamin, though recognised for their military abilities, was a minor tribe and divine favour would still need to play its part to ensure Israel's political success at the onset of the first millennium B.C.E. Moreover the tribal land of Benjamin, from whence Saul came, lay right in the path of Philistine expansion. The struggling Israelites of this period had good reason to look to Saul - a well-chosen weapon in Yahweh's hands, with confidence for political successes against their arch-rivals the Philistines. The military superiority of the Philistines was in large part due to their superior technological skills in metallurgy. However, the most effective weapon to wield against armoured targets is not a sharp-edged weapon (especially in this pre-steel period of IA II a), but rather a concussive weapon such as is the case with heavy sling-shot, the traditional and outstanding weapon of the Benjamites. The broken terrain of the central hill country in which the tribal land of Benjamin lay easily offset the principal disadvantage of the sling, its short range as a ballistic weapon. (See the 'Weapon Lethality Tables' for the sling in chapter 6).

But ultimately Saul failed. He disqualified himself politically by assuming spiritual leadership prerogatives on three separate occasions that fell outside his political mandate. For this Yahweh rejected him. First, Saul arrogated to himself the priestly functions for priesthood ordinances for which he had no priesthood authority to perform. Such behaviour was reminiscent of contemporary pagan kings of the Ancient Near East who were either incarnate gods themselves such as Pharaoh or acknowledged as the high priests of their respective deities as in the cases of the Hittites and the Mesopotamian kingdoms. This was no trivial oversight by a novice king but rather the presumptuous intrusions of political leadership into matters of sacral authority, born of arrogance and conceit (1 Samuel 13: 8 – 14). Second, Saul was blatantly disobedient to the divine injunction to annihilate the troublesome Amalekites who had set themselves against Israel at Rephidim in the wilderness of Sinai during the days of the Exodus (Exodus 17: 8 – 16) and had become the foresworn enemies of Yahweh as a result thereof. Again Saul had taken religious liberties in which he had no authority and then tried to deceive Samuel the prophet with half-truths and rationalisations. Third, Saul's dabbling in witchcraft as a medium for discerning the future course of events points to the extent of his own personal spiritual corruption and his unfitness to serve as a public and representative figure among the covenanted Israelites. Such dealings in spiritualism were expressly forbidden on punishment of death by the Law of Moses (Leviticus 20:27). That Yahweh had rejected Saul and called another to serve as the political leader of Israel became common knowledge throughout the land (*The New Bible Dictionary ...1974*, s.v. 'Saul').

David, youngest of Jesse's eight sons had no overt characteristics or credentials that set him apart as Israel's heir-apparent. His training during childhood and adolescence was typical of a rural upbringing and held out no promise for the sophistry of oriental kingship. He was a shepherd-boy and at best, this apprenticeship inculcated in him the qualities of a shepherd – courage (1 Samuel 17: 34 – 35) and a caring disposition.

David was ordained at Bethlehem (1 Samuel 16: 1 – 13) to be Israel's new king and political leader after Yahweh had rejected Saul for his improprieties. Providence provided for David to become familiar with the regimen and protocol associated with the royal court. He served as a minstrel in Saul's court. David had originally come to Saul's attention as one who could possibly assuage his manic depressions: “...*that is cunning in playing (the harp), and a mighty valiant man, and a man of war, and prudent in matters, and a comely person, and the Lord is with him*” (1 Samuel 16: 18). He found favour with Saul and soon thereafter David was appointed Saul's armour bearer and was repeatedly exposed to the martial role of Israel's king.

David's courage and competency with a sling against the heavily armed and armoured Philistine champion, Goliath of Gath, broadcast irrefutable evidence to Israel that here was one that matched Saul's credentials as a political deliverer. It appears that the sling was to Iron Age IIa Israel as was the bow to the ancient Egyptian and Mesopotamian kings. The bow was regarded as a weapon of power, possessing the ability to strike down enemies from a distance, a trait easily associated with the power of the gods or with their earthly appointees or representatives. The bow held an important place in the iconography of many ancient cultures, especially in Egypt where it was a symbol of monarchical power, and one which seems to have been used extensively in the vocabulary of dominance gestures, and, as shown below,

in gestures of submission. The largely illiterate world of the first millennium B.C.E. would have readily recognised the message of the 'turned-bow' omen in this political exchange between the two champions. The redacted text of D (1 Samuel 17: 43-47) gives a 'direct quotation' of the verbal exchange between the two combatants, notwithstanding both are well out of earshot of the two clamouring armies positioned on the facing hills of the valley (1 Samuel 17: 1-3) in which Goliath and David met (Wilkinson 1994: 200).

PICTURE

(Picture from ANE 201 Reader for 201-E, *Communications in the Ancient Near East*. 1996. p.74).

The picture on page 19 shows Seti I defeating Libyans. The large Libyan archer, the iconography depicting the Libyan general, demonstrates capitulation by placing himself under the bowstring of his own bow. In the case of Israel with no significant military tradition of archery, the sling served as the principal ballistic weapon for Iron Age IIa Israel. In the context of the warrior-king narrative, it is not far-fetched that the chosen warrior be endowed with the opportunity and necessary skill to demonstrate divine approbation for military leadership as had previously been the case for 'Saul the Benjamite' in his emphatic victory over the Ammonites (1 Samuel 11). The personal contest between the champions of the Philistine and the Israelite armies has several precedents in Asian warfare. David's victory (1 Samuel 17: 38 – 54) made him an obvious choice to all as a suitable replacement for King Saul. David's military achievements were widely and publicly heralded, and became the source of Saul's jealousy from that time onward (1 Samuel 18: 7-9).

The relationship between Saul and David deteriorated to the point where the latter had to flee for his life. In time David established the 'Adullam band', a group of political dissidents and fugitives whom he trained and armed as a war-band (Adullam is an historical site pre-dating the Israelite conquest period. Located some 25 km's south-west of Jerusalem, Adullam was typically a former Canaanite royal city of the Shephelah). Under David's leadership, the Adullam war-band harried foreign invaders, protected outlying Israelite interests and won the support of many of the Israelite commoners. The hostility of Saul eventually drove David and his war-band out of Israel altogether. The Philistine king of Gath granted the frontier town of Ziklag to David in exchange for the occasional use of his war-band. Following the Philistine victory over the Israelites at Gilboa and the death of Saul at this battle, the

Philistines briefly re-established their suzerainty over Israel. David returned to Judah as a Philistine vassal. His claim to the throne, initially set up at Hebron, was contested by the old courtiers of Saul, but upon the death of Captain Abner and Saul's son Eshbaal, organised resistance died out and David reigned over all the twelve tribes of Israel. To further cement his long anticipated kingship over a united Israel, David expelled the Jebusites from Mount Ophel and transferred his capital to Jerusalem, a neutral site between the northern and the southern tribes of Israel. David's "new status as king of Israel amounted to a declaration of independence for the whole kingdom. It immediately precipitated a war with the Philistines" which he defeated decisively in the Valley of Rephaim (Bimson *et al* 1992:41). From his new capital David embarked upon several highly successful military campaigns and subjugated Israel's hostile neighbouring enemies. These enemies included the Philistines whose technological advantages had by this date become negligible, many of the remaining Canaanite strongholds and enclaves, Edomites, Moabites and Ammonites across the Jordan, Amalekites near his earlier Philistine refuge Ziklag, and Aramaeans to the north in the region of modern Syria. All this was accomplished as already stated, during the contemporary political nadir that existed in Mesopotamia and in Egypt. Nevertheless, it is to the political triumphs of David that Jewish theologians have ever looked to, as a type of messiah / deliverer- even down to the present time (*The New Bible Dictionary ...*1974. s.v. 'David').

It fell to David's successor, Solomon, to consolidate these political gains. His accession to the throne was not without intrigue and the shedding of rival claimant's blood. He is unique in that he was Israel's first dynastic ruler - the first of several successors in the Davidic dynasty that was to rule from Jerusalem for over four

centuries. During Solomon's forty-year reign he made several political changes for the more effective administration of the United Kingdom of Israel. Solomon's reign was also the meridian of Israel's monarchic history; the king was the great patron of Israel's wisdom literature, international diplomacy and political accords, fabulous wealth, peace and general prosperity (*The New Bible Dictionary...*1974, s.v. 'Solomon').

Solomon's first order of business was to accomplish the building of the temple in Jerusalem, a focal point of Israelite 'nation building'. This seven-year project was followed up by the building of a palace suited to the station of a king who ruled over a significant kingdom in the Near East. The kingdom was drastically reorganised along what appears to be the Egyptian model; twelve administrative 'tax districts', with little regard for tribal boundaries which in retrospect had the effect of underscoring differences and accentuated the interests of individual tribes rather than the common national interests of the fledgling nation-state. Indeed, only a centralised government would be capable of maintaining Israel's empire. Egypt's cultural influence and eons-long imperial dominance over Syro-Palestine offered a ready model for emulation. Even the titles of his administrative officers follow translations of Egyptian prototypes. In the realm of international politics diplomatic capacity is enhanced or restricted, even in times of peace, by a political entities military potential. Israel's war potential grew to an unprecedented level at this time, yielding a military potential that could secure the territorial gains bequeathed him by David and the able generals whom had served his father well. Evidence of this is to be found in Solomon's establishment of 'chariot cities', including Jerusalem, Hazor in Galilee, Gezer towards Philistia, and Megiddo, a common battlefield site of Near Eastern armies. Some

scholars estimate that some 4 000 horse stalls were kept for the chariot arm of the military establishment. The 40 000 horse stalls given in 1 Kings 4:26 is regarded a scribal error (*The New Bible Dictionary ... 1972*, s.v. 'Solomon'). This expanded military potential held in check Israel's several subject-allies, and elevated Israel's monarch to comparable parity with politically depressed Egypt during this period (id).

The degree of Israel's political prominence was such that a diplomatic marriage could take place involving King Solomon and Pharaoh's daughter – it was a rare instance when a pharaoh's daughter was given in marriage to an alien (1 Kings 3: 1; 7: 8). 1 Kings 11: 1 tells of an array of political marriages during Solomon's reign among whom were Moabites, Ammonites, Edomites, Sidonians, and Hittites. Later period Hellenistic sources also suggest that a diplomatic marriage existed between Solomon and Hiram of Tyre's daughter (*The New International Dictionary of Biblical Archaeology ... 1983*, s.v. 'Solomon'). The strength of the economy, a critical factor in any political entity's war potential, and the expansion of Israel's war potential allowed Solomon to make fundamental changes in Israel's military organisation, the details of which will be more closely investigated in Chapter 5.

2.2. Canaan and Neighbours East of the Jordan.

Canaanite territory is variously described, depending upon which records are being consulted, and upon the temporal setting of those records. Egyptian records from the New Kingdom period, immediately prior to the onset of the Iron Age of the Ancient Near East, are imprecise, as are Ugaritic, Assyrian, and Hittite tablets and inscriptions. This is an enigma for a typical modern, occidental mindset, born of a political heritage comprising finely demarcated international boundaries and strict

controls that regulate contacts between peoples of the modern political units labelled the nation-state. With due regard for the challenges of ethnocentricity, some clarity is necessary for the accommodation of proper scientific investigation. In due process of time, Iron Age Canaan generally covered the territory of western Palestine from Ugarit in the north to the Negev desert and the port Ezion-geber in the south. The Mediterranean's eastern littoral formed its western boundary and Hamath in the north to the Jordan River in the south formed its eastern boundary. It would be a mistake to equate these boundaries in the same way a modern political state has carefully demarcated geographical boundaries.

The discussion of the so-called neighbours east of the Jordan includes the minor kingdoms named Ammon, Moab, and Edom. The latter two kingdoms featured during David's reign in particular, once the greater political threat of the Philistines had been dealt with. When Ammon allied itself with the Aramaean kingdoms of Zobah and Damascus, it too was defeated along with its allies at Helam in Transjordan and its capital captured (*Bimson et al.* 1992: 41).

2.2.1. Canaan.

The Ugarit texts from nearby modern *Ras Shamra* have gone some way to correcting the dearth of dedicated Canaanite records. From this site on the north Syrian coast and from nearby *Minet el-Beida*, C.F. Schaeffer's twenty-two season's long excavations (1929 – 1960) have produced much material evidence that illuminates several aspects of Canaanite culture. Among the many important finds since excavated are royal palaces, temples (including one dedicated to Baal), and administrative buildings. Fine objects uncovered include ivories, weapons, statues,

and stelae. Of particular value are the many inscriptions in cuneiform and hieroglyphs, reflecting the variety of ancient languages and dialects that were practised at Ugarit. No less than 350 Ugaritic texts prepared in the unique Ugaritic alphabet have been recovered. There is a semblance between this northwest Semitic dialect and ‘Canaanite’ and Hebrew. This holds out prospects for dedicated Canaanite textual sources that are yet to be uncovered in Syro-Palestine. The Ugaritic texts also contain several epics that fill in important social details of a religious nature. The religious rites of Canaanite worship graphically describe their particular world-view. Their tough and enduring religious beliefs centred on the storm-god Baal, who by the 14th century had already displaced ‘El’, an obscure and remote god who had in earlier centuries been more prominent as the ‘father of the gods’. Baal’s consort was Anat whose rescue of Baal from the god of death, Mot, aetologically explained the rotation of the seasons. Autumn was explained in terms of Baal’s death and springtime in terms of Baal’s rescue from Mot and his resurrection or renewal of life. Baal’s epithets underscore his primal position as god of storms and controller of rain and fertility in the agrarian world of the Canaanites, viz. ‘Lord of heaven and earth’ and ‘the rider on the clouds’ (Isaiah 19: 1). Anat for her part was similar to the Phoenician goddess Ashtart, the goddess of war, love and fertility. The biblical texts allude to these aspects of Canaanite culture in a pejorative sense, expounding upon *“the degrading results of the worship of these deities, with their emphasis on war and sensuous love, sacred prostitution, and the consequent social degradation”* (*The New Bible Dictionary...1974, s.v. ‘Archaeology’*).

Notwithstanding the Canaanite religious emphasis on *“war and sensuous love”* etc. the Canaanites were spent as a political force by the onset of the Late Bronze Age.

Their political regimes were feudal in nature. They organised themselves into city-states. This period of Canaanite history coincided with the vigorous imperialism of the New Kingdom of Egypt and Canaan was largely reduced to vassalage, forming part of Egypt's Asiatic Empire. As Egyptian vassals they had only a very limited military potential, retaining some infantry and chariots. These petty princedoms and city-states of Canaan continued their downward political spiral, spurred on to political ruin by the corruption of the contemporary Egyptian bureaucracy. In view of this political scenario, many of them were irreparably shattered by the political upheavals of the Thirteenth Century B.C.E. that ushered in the new archaeological era of the Iron Age. Information on the Canaanites after the Bronze Age is accordingly sparse and information such as exists for the Iron Age era still needs to be synthesised. The formerly great Bronze Age Canaanite city-states such as Hazor were now well passed their heyday. Resistance to invasion from the east by the Israelites and from the west by the Philistines could not be consolidated and only the strongest Canaanite cities held out during Iron Age I (1200-1000 B.C.E.). The result was that the Canaanites, by the time of Iron Age IIa, now ruled only in Phoenicia proper with its ports and in isolated principalities elsewhere (*The New Bible Dictionary...1974*. S.v. 'Canaan'). Phoenicia is referred to in the Amarna Letters as the "land of Canaan" and will be discussed briefly below as a separate political entity.

2.2.2. Neighbours East of the Jordan.

Like the native inhabitants of Canaan, Israel's political discord with its Transjordan neighbours had its beginning from the earlier period remembered to us as the Judges. The book of Judges the various 'oppressions' by King Eglon of Moab with Ammonite warbands in tow (Judges 3: 12-13), and attacks on Israelites east of the Jordan in

Gilead (Judges 10: 8-9) by the Ammonites. From the very outset, Israel's occupation of Canaan augured stormy political relations for the region. Indeed, after thirty centuries of internecine war in the region, one can hardly argue against *war as the societal norm* for the common man in this part of the world and for the key role that military archaeology must play in recreating the lifeworld thereof.

2.2.2.1. Ammon. The Kingdom of Ammon was located on the central Transjordanian plateau from at least the Late Bronze Age until the end of the Iron Age. Situated between the Jabbok and the Arnon rivers, their capital city was Rabbah-ammon. We know the Ammonites mainly through the Old Testament, which records their several clashes and skirmishes with Israel, from the era of the Judges until the end of the Iron Age. Vermaak observes that the Ammonites, for much of their Iron Age existence, were integrated into the political and economic systems of the kingdoms of Israel and Judah (1996a: 28). Their socio-economic structures were transformed as the Iron Age periods progressed. Their earlier pastoral mode changed to one of intensive agriculture.

Their political history is interesting; during the Early and Middle Iron Age periods until about 650 B.C.E. they followed a political pattern of forming coalition alliances. This was done in acknowledgement of their political weakness that they compensated for by entering into political alliances rather than by fighting on their own. This pattern is evident even in Israel's settlement period (Judges 3: 12-14). Their political policy of dependence or semi-dependence toward dominant powers helped to assure their political survival into Hellenistic times (Vermaak 1996a: 29).

There is little material at our disposal owing to a general lack of scholastic interest in ancient Ammon and extensive excavations are still to be undertaken. Archaeological data to hand at this time shows the Ammonite kings, like other Near Eastern potentates, established a series of border fortresses to demarcate and protect their territories. Immediately preceding Saul's accession to the newly established political throne, the Ammonite king Nahash besieged Jabesh Gilead. This political challenge was a continuation of earlier discord and Saul's first test as political king of Israel. Saul rallied the Israelite tribes and drove the Ammonites out (1 Samuel 11: 1-11). During Saul's decline, David as an Israelite renegade was befriended by King Nahash (1 Samuel 10: 1-2). The spurious treatment of King David's messengers and ambassadors by King Nahash's son Hanun and his enlistment of Syrian mercenaries against Israel precipitated a war between Israel and Ammon. David's generals Joab and Abishai defeated the Ammonites. Chapters 11 and 12 of 2 Samuel and chapter 20 of 1Chronicals provide some details of the war between Israel and Ammon. Joab, David's military commander invested the capital city Rabbah-ammon, which still occupies the same 'footprint' even today, with some success. Following the initial breakthrough, David brought up reinforcements and the entire city was carried. The Ammonites were dealt with by King David in a typical Near Eastern fashion: they were 'cut and harrowed' and "made to pass through a brick kiln" (2 Samuel 12: 31). The Israelite's suzerainty over the Ammonites ended when the latter gained their independence sometime after Solomon's death and retained their independence until attacked and overwhelmed by the powerful Neo-Babylonian army in c.580 B.C.E. (*The New International Dictionary of Biblical Archaeology* ...1983, s.v. 'Rabbah').

2.2.2.2. Moab. The core of Moab, land of the biblical Moabites, lay between the wadis Arnon and Zered on the plateau east of the Dead Sea. Around 1300 B.C.E. Moab and a number of Transjordan Iron Age kingdoms appeared simultaneously. Like the others, Moab was a highly organised and centralised kingdom with good agricultural and pastoral pursuits, splendid buildings, distinctive pottery, and the typical arrangement of border fortresses as discussed under the Ammonites above. The mainstay of this modest kingdom's economy was sheep farming and its related activities, and trade opportunities that were to be had as a result of the King's Highway that passed through this territory.

The Moabites were ethnically and politically akin to the Ammonites and regarded the united and divided kingdoms of Israel and Judah as their common foe(s). During the period of the Judges Eglon the king of Moab oppressed Israel for 18 years until assassinated by Ehud the Benjamite (Judges 3: 12-30). Hostilities continued into the Iron Age IIa period. 1 Samuel 14: 47 records war between Saul and the Moabites. David lodged his parents there while he was a fugitive, and as in the case of the Ammonites, David warred against them and reduced them to vassalage (2 Samuel 8: 2 and 12) which continued until the end of Solomon's reign. The political upheavals during Rehoboam's reign weakened Israel and afforded Moab the opportunity to regain her independence, which she held until the Omride dynasty temporarily reconquered Moab again (*The New Bible Dictionary*...1974, s.v. 'Moab, Moabites').

2.2.2.3. Edom. Notwithstanding earlier periods of Israelite toleration, during IA IIa King Saul led the Israelite army against Edom (1 Samuel 14: 47). King David followed in turn, finally conquering it and establishing Israelite garrisons in Edomite

territory. The Edomites suffered great destruction and carnage at the hands of Israel during David's reign. David's military chief, Joab, campaigned for six months in Edom with the aim of destroying Edom's military potential i.e. 'until he had cut off every male in Edom' (1 Kings 11: 14 – 22). The long-term political goal became more apparent when Solomon built a port at Ezion-geber. Israel's war potential benefited from the exploitation of the copper-mines in the region and the construction of a port for his merchant fleet there. Edom remained in subjection to Israel for the period IA IIa.

2.3. Phoenicia

According to Old Testament parlance, Phoenicia was part of the greater Canaanite picture. The distinctive appellation 'Phoenician' found purchase first in the *Roman* archaeological period (37 BCE – 324 CE). The 194 km's of Eastern Mediterranean coastline, between the rivers Litani and Arvad, existed in a loosely constructed political confederation of city-states, not unlike the Canaanite city-states in the south-eastern hinterland of Syro-Palestine. Rather than the belated name of Phoenicia, the inhabitants of each city state referred to themselves by the name of their own city-state. In the centuries preceding IA IIa the Eastern Mediterranean lay within the Egyptian New Kingdom's sphere of political influence. Disaffection with the political status quo was evident and by c.1400 B.C.E. Sumuru, Berut, and Sidon each pursued political goals independent of Egypt which had slumped into its so-called Late Period (1070 – 332 B.C.E). The Sea Peoples invasions of c.1200 B.C.E. marked the onset of IA IIa in the Eastern Mediterranean with great disruptions and the violent destruction of Byblos, Arvad, and Ugarit. The displaced Sidonians fled to Tyre, which now became the principal Phoenician port. The greatest period of political

cohesion, and war potential, coincided with IA IIa during the reign of Hiram I. The latter's treaties with David and Solomon produced a golden age for the Phoenicians, which continued until the rise of the New Assyrian Kingdom (*The New Bible Dictionary* ... 1974, s.v. 'Phoenicia').

2.4. Syria (Aram)

The ancient and largely undefined country of Aram roughly equates with modern Syria. Like the Canaanites to the south, the Aramaeans were a collection of city-states that experienced varying levels of political confederation over the centuries. Damascus, Bit-Adini, Beth Rehob, Maacah, and Zobah were the more prominent Aramaean city-states. The name 'Syria' is an anachronism of Greek origin; purportedly derived from 'Assyria' in the latter half of the First Millennium B.C.E. Throughout IA IIa to c.700 B.C.E. these people more often than not were Israel's enemies to the north. They were the initial buffer between the Old Assyrian Empire and the Israelites and Canaanites further to the south. Each one of United Israel's kings fought against the Aramaean city states (see 1 Samuel 14: 47; 2 Samuel 3: 3, 5 and 1 Kings 11: 23-25). The cooperation of Israel and the Aramaeans against the powerful New Assyrian Empire such as occurred at the Battle of Qarqar (853 B.C.E.) came later, during the Omride Dynasty (*The New International Dictionary of Biblical Archaeology* ... 1983, s.v. 'Aram, Aramaeans').

2.5. Philistines and other Sea Peoples.

The Sea Peoples exerted a huge cultural and political influence on the affairs of the peoples of the Eastern Mediterranean by the end of the Bronze Age. The Philistines, or 'Pulusati' as they were referred to anciently, were the dominant group in a wave of

Sea Peoples that settled the coastlands of southern Canaan. In terms of their war potential the Philistines were technically very advanced over local contemporaries such as the Israelites. The Philistines had acquired their advanced metallurgical skills from the Hittites who held the monopoly on such before them. Trading in metal implements and weapons together with their distinctive pottery allowed them to build up a robust economy by the onset of IA IIa, another key aspect of their substantial war potential.

Prior to the creation of the Israelite monarchy, the Philistines overran Canaan. They also defeated the Israelites at Shiloh. Archaeological evidence confirms the technological superiority of Philistine arms at the onset of IA IIa. The more fertile plains of the Philistines were worked with the aid of iron implements while the less fertile mountainous areas, controlled by the Israelites, were worked with bronze implements. The Philistines superior military potential suffered severe reverses at the hands of David from which they never fully recovered. By the time of Solomon the Philistine threat was largely removed and their culture appears to have been absorbed by the Phoenicians (*The New International Dictionary of Biblical Archaeology* ... 1983. s.v. 'Philistines').

2.6. Egypt: Beginning of the Late-Dynastic Period (Dynasty 21)

'Strange political circumstances' is an apt description of the situation that obtained in Egypt during IA IIa. The imperial New Kingdom effectively ended in c.1180 B.C.E. with the death of Rameses III. This traditional great power of the ancient Near East now degenerated into long-term weakness under a series of inept kings. Egyptian history of this era is referred to as Late-Period Egypt and it extends beyond the

artificial archaeological boundaries of IA IIa. The once great state was by the onset of IA IIa greatly weakened by increasing poverty and divided political leadership.

Pharaoh Rameses XI of Dynasty XX was still the nominal monarch of all Egypt but real executive power and authority, such as existed in Egypt at this time, was divided between Prince Nesubanebted I, regal prince of Lower Egypt and Herihor for Upper Egypt. Herihor had served as a general when pharonic rule was rapidly weakening and the priesthood of Amun at Thebes was growing correspondingly more independent of the Egyptian king. In the ensuing maladministration, corruptions, and chronic inflation an army *coup d' etat* secured for Herihor the high priesthood at Thebes and established him as the ruler of Upper Egypt. This political division was ratified by mutual agreement, both halves of Egypt being too weak and politically fragile to impose the alternative of a united, centrally governed Egypt on the other.

When Rameses XI died in c.1085 B.C.E. Prince Nesubanebted I, better remembered as Smendes, became the pharaoh at Tanis, but only by the consent of Herihor. By further mutual agreement, both Herihor and Smendes confirmed for each other the principle of hereditary succession in their respective portions of Egypt. Thus began Dynasty XXI. During this period Egypt's war potential was severely curtailed by this *de facto* division of the state into the traditional Upper and Lower portions of Egypt. This explains why Egypt's foreign policy in Syro-Palestine was so benign compared to the New Kingdom. Egypt pursued a policy of selective neutrality, cooperation and occasionally fostered friendships with the political entities of southern Syro-Palestine. During David's southern campaign against the Edomites, Egypt granted Hadad the infant Edomite heir political refuge. Hadad's Egyptian royal education and subsequent royal marriage, along with Solomon's royal marriage to Egyptian

princesses reflects Late-Period Egypt's reliance on non-military means in the pursuit of political objectives. The now powerful state of Israel was seen as a buffer on Egypt's Asiatic frontier. The death of the last Tanite pharaoh in 945 B.C.E. coincides with the end of IA IIa. The ensuing Libyan Dynasties (Dynasty XXII) belong to another era (*The New Bible Dictionary* ...1974, s.v. 'Egypt').

2.7. Nomadic Raiders from the Desert.

After Israel's settlement in Canaan, the nomadic threat stemmed mainly from the Arabian Peninsula to the south and southeast. The raiding strategies of these peoples allowed them to prey upon the vulnerable settlements, driving off livestock and plundering the resources of the locals pursuing a sedentary lifestyle. Saul and David both campaigned vigorously against such peoples and Solomon's commercial expansion in the 10th century brought Israel into greater contact with Arabia.

2.7.1. Amalekites

Ethnically the Amalekites traced their ancestral roots to the same progenitor as the Edomites (Genesis 46: 12, 16). The Amalekites were nomads of the Negeb and Sinai. From the outset the Amalekites and the Israelites became inveterate enemies. The war potential of these nomads would have been limited and set piece battles between these two foes would have been rare. The first violent encounter recorded took place at Rephedim under Moses leadership (Exodus 17: 8-13). Prior to IA IIa the Amalekites often allied themselves to other nomadic enemies of Israel, pursuing a typically nomadic raiding strategy. Their limited war potential did not provide them with the means necessary for a persisting strategy against Israel (Judges 6: 3-5, 33). .During both Saul and David's reigns Israel and the Amalekites clashed violently (1

Samuel 15 and 1 Samuel 27: 6 respectively). The Amalekites were almost entirely destroyed by the start of Solomon's rule (*The New Bible Dictionary*. ...1974, s.v. 'Amalekites').

2.7.2. Midianites

The desert lands to the east of the Gulf of Aqabah were the traditional homelands of the Midianites who, during the reign of the Judges, had posed a significant threat to Israel. Some interesting ethnic connections are observed. The Kenites were a Midianite tribe who were spared by Saul in his war against the Amalekites (1 Samuel 15: 6) and by David (1 Samuel 30: 29) who in turn pursued a peaceful cooperative policy with them (*The New Bible Dictionary* ...1974, s.v. 'Kenites'). Aside from the minor tribe of Kenites, the Midianites in general had been nomadic predators against the Canaanite settlements during the Bronze Age and Israelites as they began to displace the former during the Iron Age period. From the days of the 'judges' the Midianites had cooperated with other nomadic raiders, including some of Israel's bitterest enemies such as the Amalekites. The Midianites constituted a constant threat to Israel's southern borders (Judges 6: 3 - 6). Their mobility stemmed from their longstanding employment of camelry as mounts, increasing their capability for a raiding strategy and providing the means for greater lines of communications. Judges chapter's six and seven recounts their menacing raids far to the north from the Gulf of Aqabah into the Jezreel Valley and their expulsion under Gideon's military leadership (Bimson *et al.*1992: 37).

CHAPTER 3. THE SCOPE FOR A RHETROACTIVE STUDY OF STRATEGY IN ANTIQUITY.

The period IA IIa is well treated in a large collection of literary sources, including biblical and extra-biblical documents. Of particular significance are the Books of 1 Samuel and 2 Samuel that give details of the reigns of kings Saul, David, and Solomon, the three kings of the United Monarchy. Mazar reminds us however, that the Bible as a principal textual source, is centred mainly upon Israel and only incidentally upon her neighbours and the Ancient Near East at large. The role of archaeology in the study of the life world of Syro–Palestine continues to fulfil its traditional function, namely, the reconstruction of material culture and material changes. For the purposes of this period’s strategic studies it also plays the secondary role of verifying, illuminating and supplementing the written sources. This secondary role is helpful to our knowledge of the non–Israelite political entities that are not accorded equal consideration in the biblical sources. This function of archaeology also allows for the evaluation of Israelite material culture against the larger spatial and temporal background of this region and period (Mazar, 1990: 370). The material remains of culture tend to resist ethnic and national categorisation, producing endless riddles and enigmas for modern scholars of antiquity. Optimal success in this challenging aspect of archaeology requires a holistic approach in every instance. This is also true in the sub-discipline military archaeology.

The analytic domain of science requires that the scope of the concept *culture* not be assumed nor glossed over for fear of speaking past each other or trying to arrive at accurate conclusions using flawed language or unsound propositions in the process (Faure, 1988: 32 - 39). At the present time, anthropologists, sociologists and

philosophers are not unanimous as to what the concept *culture* actually means. Broadly speaking, culture includes everything that can be made, changed, or developed by humans. Thus culture is the product of man's creativity. It includes within its scope everything found in the lifestyle of a person or a given group of people, ranging from their beliefs and attitudes to that which pertains to their survival and their social intercourse. Semantically, the meaning assigned to this term is very broad and entails several aspects, inter alia geographical awareness, historical awareness, religion, politics, kinship, social aspects, the economy, education, and even recreation.

All of these factors interact with each other to create a *worldview*, or fundamental assumptions held by that person, family, clan, or ethnic group, people or nation. By means of such a world view, individuals and societies conceive the world around them. In a computer science analogy, a person's worldview is comparable to the *software* that receives and reacts to signals from the environment. To the extent that a worldview is held in common by a political entity, and to the degree that every aspect of that worldview is shared, the social dimension of strategy – that index of social cohesion within a polity, is informed. In sum we may say that culture as a concept is taken to mean an “expression of *daily activities of living* of the individual or group within a society” (Vermaak, 1996 b: 4 – 5). In terms of war potential, social cohesiveness is an important determinant, too often ignored by military historians and scholars of political science. The schematic on the next page conceives the idea graphically of how various components and aspects of daily life interact on a micro and macro level to produce a dynamic world view. The several arrows point to inputs and outputs and some aspects of socialisation that are the determinants of a person's

or a society's perceptions of how things 'really are' in the world around them. If the buy-in or acceptance is to a great degree (i.e. large scale and intense), powerful social cohesiveness will result. To the degree that the buy-in is small, social cohesiveness is weak and consequently the achievement of strenuous economic, social, and political goals are impossible.

(D I A G R A M O F A W O R L D V I E W)

(Picture from Vermaak, ANE 100-A, 104/96: p.18)

The entire cultural milieu, as demonstrated in the worldview diagram above, constitutes the components typical of the lifeworld of any peoples regardless of time and place. The history of Syro-Palestine during IA IIa rests on an amalgam of all these factors. All facets of the cultural model dynamically interact with each other. The lifeworld of any people is never static. Analogously speaking, rather than a *photograph*, the recreation of a lifeworld is the recreation of a slow-motion motion

picture and data from a particular stratum of a given archaeological site should be understood as a *frame* from a movie.

Up to the present time and as it pertains to archaeological work in Syro-Palestine in general, the military aspect has been largely a fringe subject to the greater body of scholars involved. I assert that this lack of in-depth attention to the polemological perspective threatens to distort scientific efforts to accurately recreate the lifeworld of antiquity. Speaking of Alexander the Great's political achievements in the Fourth Century B.C.E., Ulrich Wilken was quoted by Major-General J.F.C. Fuller, in the *preface* of the latter's book: "The whole subsequent course of history, the political and cultural life of after times cannot be understood apart from the career of Alexander" (1991:5). The accuracy of our conception of the ancient world is at risk when scholars reconstruct antiquity with insufficient attention to the polemological lens needed to bring it into crisp focus.

A general dearth of specialised scholarly studies in the military aspect of anthropology may be explained in terms of two cardinal reasons. Firstly, the unsubstantiated generalised notion that war is an *aberration of human social conduct* and does not therefore merit the attention of social scientist attempting to reconstruct the *normal* lifeworld of the common man in any given society. Secondly, the scientific study of war as a social phenomenon is a relatively latecomer to the academic conspectus of typical modern university curricula. Only since the conclusion of World War Two and the advent of nuclear power has the study of *strategy* really come of age in institutions of higher learning (Fourie 1996: 7). In conjunction with this, the revised approach to archaeology, the so-called *New*

Archaeology since the 1950's, has adjusted the focus of archaeology from a historical orientation to an anthropological orientation; *the lot of the common man* rather than *the great man* (i.e. the ruler) now being the principal focus of attention. Artefacts and other evidence becomes 'data' only when these "are properly excavated in context, interpreted in relation to a pertinent question, and published in full" (Craffert 1998:5). The study of phenomena in context requires that a more consistent and systemised effort be paid to the military aspects of ancient society. The scientific scope and academic basis for the reach of archaeology has thus been broadened remarkably over the last half-century. The undergirding proposition of this dissertation is that Military archaeology, as specialised sub-discipline and a legitimate part of New Archaeology's holistic approach to recreating an accurate image of the common man in his ancient lifeworld, be moved from the periphery of scientific endeavour to a more central position.

Regarding the second cardinal reason for the dearth of scholarly work in the military perspective of anthropology, it is regrettably the case that far from being an aberration of normal human intercourse, the *norm* [meaning the "rule; a pattern; a model; an authoritative standard" (*Consolidated Webster...1962*, s.v. 'norm')] in fact argues that organised violence on a large scale, involving for this gross purpose the resources and values at the disposal of the band, tribe, or nation-state has in fact been and continues to be the *norm* in the lifeworld of the common man throughout all dispensations of time. Will and Ariel Durant calculated in 1968 that there had only been a paltry 268 years free of war in the previous 3 421 years of world history (Kagen 1995: 4). The principal variable in this assertion of war being the *de facto* norm is only the nature, scale and duration by which the political issue is resolved. The greater the sophistry

and the war potential of the political entities involved, the greater the corresponding scales of misery and wanton destruction. Empirical studies confirm this pattern from antiquity onwards until the evolving belligerents reached that awful stage of ‘overkill’, which in modern political parlance goes by the acronym ‘*MAD*’ (mutually assured destruction). At this point the whole calculus, as far as the *norm* goes, is turned on its head. Violent political discourse, or war, between such modern powerful entities becomes much more circumspect and careful owing to the unprecedented military potentials among the leading political entities of the modern era. Less powerful modern contemporaries continue to liberally apply the age-old *norm* of war as the final arbitrator for resolving political disputes.

The cultural emphasis of this dissertation has a markedly political bias. More accurately, this dissertation deals with the logical extension of political discourse in Syro-Palestine’s Iron Age IIa, namely, the *warfare* that obtained during this period. Warfare was and still is seen as a principal means to political ends. To paraphrase Clausewitz; “When whole communities go to war – whole peoples, and especially civilised peoples – the reason always lies in some political situation, and the occasion is always due to some political object” (Howard and Paret 1976: 75). Since the onset of what A. Bernard Knapp has termed the ‘era of internationalism’ in the Ancient Near East (i.e. the Second Millennium BCE.) commercial, political, and social contacts between political entities in the international arena had increased (Knapp 1988). Equally rather than coincidentally, there had also been a corresponding increase in war between nations. When limited local and regional resources were competed for and the various political entities disagreed as to their respective military strengths – their war and military potentials, war irrupted.

3.1 The Motivation for War: Present and Past.

Essentially, the reasons for political entities going to war against each other have not changed since antiquity. This is not surprising to those social scientists that assert that human nature is basically the same wherever you go or in whatever time period you study man in context. A study of the factors leading to the irruption of war between modern nation-states and peoples today will give a fairly accurate insight then as to the causes of war anciently. Several stereotype half-truths are commonly bandied about as to what are the typical causes of war. A closer look exposes the sandy foundation on which many of these enduring misnomers rest. Recognising the military aspect as a dominant cultural component in the political shaping of the world, it is important to gain some insight as to what are the factors that generally precipitate the outbreak of war.

Blainey asserts that a state of war only exists between political actors when it is agreed upon by these actors (1976:269). The defender's chosen form of statecraft also often reflects the war potential of that political entity. For instance, a diplomatic response coupled with economics (payment of tribute) may be a de facto recognition of an inferior military potential. If however the respective military strengths are in dispute between the political actors, then it is resolved by warfare until the lessor is vanquished and the true military potentials of the belligerents are established. The surest test of military potentials is warfare. In reaching the decision for peace or war, the issue is strongly influenced by several factors, some operating concurrently. Aggressive political attitudes and dispositions of leaders are often nurtured by ideologies that see war as a solution to political disputes. Such decision-makers believe that more can be gained through fighting than through diplomacy. Attitudes

useful for the promotion of peace will return when others, who see the reverse as true, replace such leaders, or when aggressive leaders are forced to review their beliefs in the face of failed military ventures (Blainey, 1976:270).

An effort by political leaders to impose their will on other political actors is often a valid cause for the outbreak of war. Notwithstanding the several forms of statecraft that exist by which means political goals may be pursued, political leaders are often swayed to opt for a military solution. The following factors are noteworthy and common considerations when choosing between military and other forms of statecraft in the pursuit of political ends:

- *All available military strength and the ability to effectively apply that strength in the given political circumstances* (i.e. military potential). This embraces many aspects of a political actor's circumstance and the power available to them. To illustrate, assume the correctness of the Israelite invasion of Canaan, as detailed in the Book of Joshua. This factor presupposes manpower (the logistic aspect), technical skill (the weaponry, tactical and operational competency), and the ethos to engage an enemy in a war of annihilation based on religious or ideological ideas (a worldview) about the political actors destiny.
- *What will outside political actors do if a political entity opts to pursue its political goals by means of military statecraft in that given time and place?* Early Iron Age Canaan was a complex political arrangement of several lesser regional powers, including the Transjordan kingdoms, the Israelites, Philistines, other Sea Peoples, and the several Canaanite princedoms - all competing for larger stakes in this key crossroad region of the Ancient Near East. Alliances changed swiftly and success against one could bring positive acknowledgement and recognition from one

political actor and hostility and attack from another quarter. David's successful wresting of Jerusalem from the Jebusites brought political support from King Hiram of Tyre while simultaneously it provoked two powerful attacks from the Philistines (2 Samuel 5: 6 – 25).

- *Perceptions of whether there is internal unity or discord within their own land and in the land of the enemy.* This consideration for military statecraft is reflected in Egypt's motives to enslave the Hebrew remnants from the former Hyksos dynasties that had ruled Egypt to the end of the Middle Bronze Age II (c. 1553 BCE). The aggressive political spirit of the New Kingdom of Egypt was a reaction to the internal discord and its resulting weakness that shamed Egyptians for centuries afterward.
- *Knowledge or forgetfulness of the realities and sufferings of war.* Several millennia of political history with only a few outbreaks of peace along that broad timeline suggest that forgetfulness of the misery of warfare is a norm between each succeeding generation and in some instances even during the time-span of a single generation, notwithstanding war-weariness and impoverishment. Even decisive military outcomes are no assurance of enduring peace.
- *Nationalism and ideology.* The New Kingdom of Egypt, Assyria the military state with its war ideology associated with the god Assur, and Israel's martial God Yahweh all stand as examples of nationalism and ideology that precipitated war between the political actors of the ancient Near East.
- *The state of the economy and also the ability of the economy to sustain the war.* Strategies are differentiated at various levels of political governance and further differentiated according to the type of warfare engaged in. The choice of warfare type is dictated according to war potential, particularly economic circumstance.

David's Addulam band employed a *raiding strategy* against King Saul and while in Philistine employ against the nomadic Amalekites of the Negev. Then once David had secured Israel's throne that same Adullam Band became the nucleus of King David's standing army and were employed in a *persisting strategy* against Israel's several enemies.

- *The personality and experience of those who shared in the decision to pursue political goals by means of military statecraft.*

Blainey concludes his book with a generalisation that endorses the merits of a retroactive study of ancient warfare with the aid of modern polemological concepts. Notwithstanding the extensive cultural changes that characterise the differences between modern and ancient society, especially the technological revolution that has since occurred, there is still a wealth of evidence among political actors on the modern international scene that points to the relevance and continuity between 'the era of cavalry and the era of intercontinental missiles' (1976: 273). Van Crefeld supports this position, and even takes it one step further by noting the advantages to perspective that accrue with the passing of time. He points out the errors of Clausewitz's analysis of Napoleon's system of warfare by noting that Clausewitz was 'too close' to the events of the day and this was the reason for the great war philosopher's clouded judgement on Napoleonic logistical systems (1977:70 – 71). There is thus a case to be made for a retroactive study of polemology, notwithstanding the technological revolution that separates the ancient and modern eras.

3.2 Si Vis Pacem Para Bellum

This oft-mistranslated maxim, originally given by Vegetius, when translated correctly states ‘if you wish for peace, *understand* war’ (and not ‘... *prepare* for war’). When attempting to better understand the social phenomenon of war, regardless of temporal or spatial frameworks, close attention must be paid to the universe in which war exists. Social context is one of the keys. Just as social circumstances vary, so too do the types of warfare. It is helpful to know something of the variations if one is to understand this crucial arbiter between political actors. Warfare does not exist in isolation from other cultural aspects of the life-world of mankind and has to be studied in a multiplex approach if conclusions reached are to be reliable. There are social relationships between the concepts that pertain to this subject. Our understanding of war will progress according to how well one understands the dynamic relationships between all the components of a given culture. It is critically important that one begins with the understanding that war is a social phenomenon. From that starting point, one can appreciate that warfare is a function of politics that strategy is a function of warfare, and that tactics is a function of strategy (Fourie, 1996: 47). This generalised assertion belies the complexity of the subject at hand.

Wars, like strategy, may be generically categorised according to scale and type. This unbundling will prove helpful to improving our understanding of warfare. The scale of war may be limited or unlimited according to the political resources, political design, or circumstances at that given time and place of the actors concerned.

Regarding the type of warfare a simple criterion such as internal or external will also go a long way to clarifying warfare (Fourie, 1996:41). IA IIa Israel provides both interesting and relevant case studies for the discussion of these concepts. The

existence of these concepts of warfare predated their formal use in military vernacular by several millennia, some of which found purchase only after 1945.

3.2.1. Limited War and Unlimited War

King Saul's mandate to transform confederate-tribal Israel into a political unitary state required several campaigns against neighbouring political entities of various war potentials. Israel's gradual progress towards this political goal illustrates two aspects of limited war. Firstly, Saul was limited by both what prerogatives and initiatives he could take independently and what resources he had placed at his disposal for realising this goal. In the former aspect, King Saul's political prerogatives were severely curtailed by religious custom and a tradition that was carefully guarded over by the prophets such as Samuel. Yahweh's ratification, always through the prophet, was essential. Without divine approbation Saul's tenure as king lost its legitimacy. Saul and the IA IIa kings after him, ruled only by the sufferance of Yahweh and all political undertakings were subject to ecclesiastical scrutiny and sanction.

The second aspect of limited war had to do with the management of a political actor's finite war potential. The limited military resources forced upon Saul were not just as a result of religious conservatism, but also for more mundane and practical reasons, i.e. by Israel's comparative poverty in the Early Iron Age Canaan. This was especially acute in the face of so many hostile neighbouring political actors. It was prudent for the Israelite kings to appreciate Israel's inherent limitations during IA IIa and to not pursue political goals by means of military statecraft that exceeded the new state's war potential. The several remaining Canaanite enclaves had to be tolerated until Israel's war and military potentials had developed sufficiently to cope with them.

During the reigns of Saul and David, political goals and resources had to be very finely weighed and balanced. To achieve this Israel's IA IIa kings designed a general strategy that dealt with her enemies in a piecemeal and successive fashion. Thus limited war, as a category of warfare, was discernible in Israel's general strategy against her several political opponents.

Unlimited war as 'unlimited means to political ends' was never really an option in Israel's history, not even during the celebrated reign of King Solomon. When compared to the traditional great powers of the ancient Near East, Israel was never more than a regional power and her political meridian coincided with the general nadir of the great powers and only for as long as those circumstances persisted. Even Israel's strategy against the nomadic Amalekites did not amount to unlimited war in that not all Israel's resources were committed to that annihilation of this bitter foe.

3.2.2. Internal War or External War

Internal war is distinguished from other kinds of war in that the belligerents often both originate from the same polity and are fighting for control of the same. There are several variations to this criterion and IA IIa once again provides credible case studies for this category of warfare. Civil war is a term sometimes used to describe this kind of warfare, though the distinguishing criteria are often blurred. King Saul's jealousy of David's military prowess, a quality that earmarked him as a potential threat to any future Saulide dynasty, soon precipitated political crises in the fledgling monarchy. Saul's relentless pursuit of David and his Adullam band of fellow political dissidents qualify as an example of internal war. David eventually sought respite from Saul's unrelenting hostility by hiring out the Adullam band's military services to the

Philistine king, Achish of Gath. David's status to Achish was that of political vassal. After Saul's death at Mt. Gilboa, much of Saul's political gains against the Philistines were undone, leaving Israel vulnerable to Philistine aggression. David's coronation by his Judaeen tribesmen at Hebron also marked the renewal of the civil war between David and the house of Saul. The latter's supporters had established Saul's son Eshbaal as Israel's king in Mahanaim. Two years of civil war ensued before the deaths of Abner and Eshbaal ended the strife.

Also noteworthy is how such civil wars are prone to dragging other political actors into the fray, including enemy states who take advantage of the civil strife to pursue their own political goals. Blainey maintains that a link exists between civil unrest and international wars, the former often precipitating the latter (1976: 82). David sought respite from Saul's unrelenting hostility by hiring out the Adullam band's military services to the Philistine king, Achish of Gath. Thus David's status to Achish was that of political vassal. When David later claimed the throne, following Saul's death at Mt. Gilboa, his actions were viewed as hostile to Philistine interests in that his status changed from vassal to king of an enemy nation. War quickly broke out again and Israel's great victories under David regained her full independence from Philistine oppression.

Israel had no custom or established principle of royal succession. This created a political crisis with the passing of each king during IA IIa. Civil war irrupted again when Absalom attempted to wrest the kingdom from his ageing father David. In this instance there was no outside political interference and the crises passed when Absalom was defeated and killed.

Such political setbacks were to dog Israel's history for several centuries, constantly wearing away her power base. The end of the United Monarchy in c.931 BCE was in itself a crippling development to her future war potential, leaving her divided and vulnerable to the resurgent great powers of the Near East during the First Millennium BCE. The consequences of internal war had a severely negative impact on Israel's future political security.

3.2.3. Non-military Forms of Conflict

Such forms of political dialogue do include coercion, but the application of coercion differs from military statecraft. Israel pursued her goals during this period not only by military statecraft but frequently by recourse to non-military forms of statecraft. One such non-military method is diplomacy. Diplomatic marriages, such as Solomon's celebrated marriage to a pharaoh's daughter were very important statecraft devices in the pursuit of political objectives. The significance of this should not be glossed over. Greater eastern states than Israel were never accorded this honour which underscores the international prestige of Israel towards the end of the period IA IIa and also underscores the downward trend in Egyptian international power at this time.

Another important non-military form of conflict is in the area of economic support or sanction. Such forms of political dialogue are in evidence in IA IIa too. King Hiram of Tyre pursued a policy of political friendship primarily through economic cooperation with the rising power of Israel. Israel was a strong military regional power during IA IIa, and Hiram's motives for cementing such a longstanding alliance may have been coloured by events still in living memory for the Phoenician city states

along the Eastern Mediterranean littoral. Generally, the purpose of such an alliance serves to coerce a power not party to the alliance, or who is a common enemy to the alliance members. The coercion is implicit, conveying a warning to enemies of its capacity to call on military potentials beyond its own to engage and destroy enemy aggression (Fourie, 1996: 45). The aggressors in this instance were the ubiquitous Philistines. Around 1200 BCE Sidon, the mother city of Tyre, had been plundered by the Philistines and many of its inhabitants had fled to Tyre. The Sea People menace was a persistent common enemy to both the monarchs of Israel and Phoenicia during IA IIa. This colours the historical picture as to why Hiram sought the alliance with Israel and why Israel in turn welcomed it. The accord between Tyre and Jerusalem was fostered by Hiram sending skilled artisans and valuable building materials to aid the building of David's palace (2 Samuel 5:11 and 1 Chronicles 14:1). When Solomon acceded to the throne the policy of friendship and cooperation was renewed in the same way. The temple was built in Jerusalem with the help of valuable wood and skilled Phoenician artisans. Solomon reciprocated with annual payments of wheat and fine oil to Hiram and barley and wine to the Phoenician workers for the duration of the temple construction, some twenty years in all (*The New Bible Dictionary* ... 1974, s.v. 'Hiram' and 'Tyre').

3.3 Establishing True Military Potentials from Ancient Texts

Reading ancient texts uncritically invites several problems, including inflated military potentials. Military historians such as Hans Delbruck and Otto Hinze highlighted the flaws of several ancient historians such as Herodotus, Thucydides, Vegetius, Tacitus, and others. Tendencies to bias, born of pride in national achievement, personal dislike and even hatred, ethnocentrism and uncritical transmission of eyewitness and

secondary reports and earlier texts all combined to produce romantic history rather than historiography proper (Fourie, 1996: 27).

Aside from objective and rational enquiry in general, conflicting numbers in parallel biblical accounts points to the problems of faithful reproduction of the original texts over the several intervening centuries. I Chronicles 21: 5 records that David's census counted a total of 1 570 000 men of military age. In 2 Samuel 24: 9 the total given is only 1 300 000 men (Church Educational System, Old Testament Student Manual, Rel.302, 1981:193). To determine accurate military and war potentials for Israel during IA IIa, these obvious errors must be reconciled. Ancient texts such as the books comprising the Bible have been subjected to repeated laborious manual copying for hundreds and even thousands of years. The margin for error from such an ongoing enterprise is huge, significantly increased by time and the number of scribes involved; each with their own varying levels of scholastic competence, commitment, personal motives and controversies at work. Unless the context was accurate, the scribe had little to be guided by in making correct decisions in the process of translation and the faithful reproduction of earlier texts. Subjective and personal viewpoints and even religious dogma all played a role in what was transmitted and adjusted. Occasionally misguided piety led scribes to uncritically accept fantastic numbers simply because these distorted reports were part of holy script and that placed them beyond the rational enquiry of mankind.

3.3.1 The Corruption of Numbers

Numbers are particularly susceptible to errors when translating from ancient texts, especially if the numbers were given in figures rather than in letters. Figure-written

numbers are easily altered, dropped, or added to inadvertently or deliberately. The addition of extra noughts is evident from the parallel passages of 2 Samuel 10: 18 (700 chariots) and 1 Chronicles 19: 18 (7000 chariots). Likewise, 2 Kings 24: 8 gives the age of King Jehoiachin as 18 on accession whereas 2 Chronicles 36: 9 gives it as 8. A digit has been dropped in the latter passage. Even when fully written out, certain numbers were and are easily confused in Hebrew, just as some are in English. The numerical value 'eight' can be radically altered by several hundred percent by the addition or dropping of the letter 'y'. Likewise in Hebrew the addition of a single letter would make three into thirty (Church Educational System, Old Testament, Rel. 301. 1981:193).

3.3.2 The Confusion of Words

The ancient Hebrew texts were devoid of vowels which made it easy for two words using a similar arrangement of consonants to be confused and the meaning of the phrase and text to be corrupted. A key example in the matter of military potentials serves to illustrate this problem: '*eleph*' and '*alluph*'. When written in the manner of ancient Hebrew without any vowels, these words look identical (i.e.) '*lp*'. In ordinary usage '*eleph*' is the word for 'thousand', but is also used in other senses, namely for 'family' (see Judges 6: 15), or 'clan' (see Zechariah 9: 7; 12: 5 – 6), and even for military unit. The word '*alluph*' on the other hand connotes 'chiefdoms' such as the chiefdoms of Edom (Genesis 36: 15 – 43). When used in context, '*alluph*' probably denotes a commander of a regular military unit. Among the irregular and regular forces of antiquity, the military roles of civic leaders were not generally rationalised until the mid-first millennium B.C.E., and then only by a gradual socio-political evolutionary process. Nevertheless, a strong probability exists that the usage of this

word in a military sense refers to a senior military rank, the rank of a professional fully armed soldier (Church Educational System. Old Testament Student Manual, Rel. 302, 1981:193).

Confused words of this sort have challenged translators and scribes, let alone the fact that languages are simply not equal. Words, phrases, and terms can at best only approximate each other. Crude treatment of military concepts such as distinguishing between regular soldiers of a standing army and ‘territorial cadres’, also sometimes referred to as ‘irregulars’, can lead to skewed conceptions of the facts. The word for a regular soldier is the same as the word for the number ‘thousand’. Where crude translation skills have been employed military potentials may get severely distorted, i.e. what should read as 500 ‘regular’ infantry can erroneously become half a million soldiers per se.

3.3.3 David’s Census During IA IIa

Historians are not unanimous in the matter of Israel’s population size. The conventional number of about five million by the time of IA IIa has some acceptance amongst scholars based on passages such as 2 Samuel 24: 9 and 1 Chronicles 21: 5. Roland de Vaux challenges this proposition which rests on the generalisation that if 800 000 (Chronicles 21:5 passage) men were liable for military service, that number could be extrapolated to indicate an overall population of at least five million. De Vaux’s contention is that such a population within the limited confines of the territory of Palestine would mean nearly twice as many people to the square mile as the most thickly populated countries of Europe. The restricted agricultural yield, a product of

geographical phenomenon and technological limitations, would simply not support such a population in IA IIa.

By allowing for copyist errors when dealing with '*lp*' which in some instances means the number 1000 and in other instances is simply referring to an armed man, the revised census of David points to a total of 120 000 men of military age, together with about 100 professional soldiers. From this military potential it can be induced that Israel's total population, by generalised extension, would have been in the vicinity of half a million people. This accords a lot better when placed in context with all the other cultural components of the day and other indicators in the biblical text. This figure of half a million also helps establish the important human resource component of Israel's overall war potential (Church Educational System. Old Testament Student Manual, Rel.302, 1981:194).

CHAPTER 4. THE NATURE OF MILITARY FORCE IN SYRO-PALSTINE DURING IRON AGE IIa

Each scientific discipline employs its own customised jargon and terminology. Thus polemology must inform military archaeology if the latter is to have any scientific credibility. Military force is an esoteric term and its values should be broadly outlined before proceeding. Likewise, the ‘nature’ of something is its fundamental or essential qualities (*Collins English Dictionary...2001*, s.v. ‘nature’). Military force embraces the sum of a political entities war potential, its military potential, its technological capacity and all the logistical factors that have bearing on that political entities ability to pursue its political objectives by military statecraft. These core polemological concepts amount to the essence of strategy. To recap, strategy is an instrument of politics - it is a means to a political goal. In abstract language, strategy seeks to create an untenable situation for an opponent. Clausewitz’s outstanding contribution to military philosophy was to clarify that war is a political instrument. This then, is the first principle of military statecraft; to produce a political decision that diplomacy, or other more benign forms of statecraft, failed to deliver (Beaufre, 1965:149). Beaufre defines strategy as “the art of the dialectic of two opposing wills using force to resolve their dispute”. Dialect here refers to the initiatory actions and the counters to them taken by the contestants until a decision is reached and the will of one is forced upon the other (Fourie, 1996: 50). By extrapolation war tells us much of the political universe and the values of the common man in whatever age and place it occurs.

Further fine-tuning of the term strategy helps one to understand its practical operation. Strategy operates or works at three levels. Modern studies have gone a long way in

clarifying former vague and inaccurate applications of terms associated with strategy. These sharper social science tools now allow for a more sophisticated analysis of warfare. Warfare in the world of the ancients can now be pursued with greater scientific objectivity and sophistication than ever before.

4.1. War Potential and Total Strategy.

This is a comprehensive combination of ways and the sum of various means that contribute to a political entities coercive power, even when not directly engaged in conflict. The employment of all available resource aims to ‘create the untenable situation for its opponents and oblige them to accede to the position of the victor. This may be achieved with or without warfare taking place. Besides earlier principalities and kingdoms, the rise of empires from the time of Sargon of Akkad (2334 – 2279 B.C.E.) onwards allows for the appropriate use of this concept. As political entities grew in size and capacity for political action so did the level of political sophistry increase. Total strategy entails the complete subordination of all a political entities resources, including civil resources, to the realisation of the desired political goal. In modern nation states, such a strategy is conceived and directed at the executive level (cabinet) of political leadership.

4.2. Military Potential and General Strategy.

There are various means of coercion for a government to choose from, such as economic, diplomatic, psychological, and military. Each of these types of coercion includes general methods of application suited to the government’s total strategy. General strategy in this instance refers to both the character of the means and to the broad method of coercion chosen to create and exploit situations at the expense of an

opponent. For example, lacking the means necessary to permanently remove the Philistine military threat once he had ascended the throne of the re-united Israelite monarchy, David initially opted for a general strategy that was military in character, and the method employed may be described as 'containment'. Israel's still ambivalent loyalties to the institution of monarchy in general, to the House of David in particular, and their still largely technical inferiority produced Israel's successor king to develop a general strategy for the long term that allowed for such political inhibitions to be compensated for. In modern military settings general strategies are associated with campaign theatres and tend to span longer time frames. Often several battles are fought to produce a given campaign's outcome. It is theoretically possible for general strategies to achieve an outcome without overt warfare taking place. The demand for 'earth and water' (symbols of submission) from the Greek city states by Xerxes' envoys is a case in point. The Greek city states of Boeotia and Thessaly, including powerful Thebes, acceded to Persian political pressure in 480 BCE.

4.3. Technological Aspects of Military Force at the Level of Operational Strategy.

Technological aspects of the foundations of military force are of great significance to studies in military archaeology for any age. Herein lay the clues for the superiority of one political entity's war potential and military potential over another's. The adage "*history turns on small hinges*" has direct relevance here in that often the *hinges* of history can often be traced to technological aspects.

Technological aspects of the foundations of military force are multifaceted in nature. It entails on the one hand the evolution of devices, appliances, implements, weaponry, armour, and contraptions with application value in the field of warfare. On the other

hand technological capacity also involves materially intangible factors such as the deft, sophisticated or technically skilled employment of weapon systems in circumstances of terrain and several other tactical factors with great adroitness. Attempts at technical competency are essentially the methodology labelled warfare which is manifest primarily at the operational and tactical levels.

Each level of strategy has a complimentary level of methodology. At the level of operational strategy the aim of methodology is to optimise three key tactical concepts for successful combat between opposing deployed forces: security, mobility, and offensive capacity. When collectively referring to such technical devices and their efficient employment in combinations the term 'weapon systems' has significance, even in antiquity. Military experience in the many era of history has repeatedly pointed to the superiority of a tactical synthesis of combined arms when effectively employed in concert.

Sometimes the most effective way to teach a principle or to clarify a concept is to give examples of the concept from real life. For an example of devices and contraptions, the development of true cavalry came about as a result of sophisticated horse breeding among the Hurrians which produced animals capable of not only pulling loads (chariots) but of bearing armed riders into combat. Subsequently the innovation of stirrups, bits and other equestrian devices rendered cavalry even more efficient. True cavalry added significantly to the military potential of the political entities that possessed them. Similarly, the Assyrians showed great propensity for field engineering and siegecraft in the campaigns of the first millennium BCE, raising in their wake the benchmark of the application of technology to military purposes and

the scope of operational strategy. The technological innovations of the Germans following the bloody stalemates of World War One trench warfare produced the concept of 'blitzkrieg' which was a watershed development in operational strategy – the interwar developments in engineering science made such concepts of warfare feasible. As a general strategy blitzkrieg was a novel combined air-land strategy used to great effect by the German army and air force in its invasions of Poland, the Low Countries, France and Russia (Fourie, 1996:21).

Operational strategy is the lowest of the three levels at which the concept of strategy operates. Operational strategy is where conception and execution meet. At this level commanders co-ordinate the collective units of weapons systems placed at their disposal. Ideally this takes place in concert with all other units of weapon systems to force an untenable situation upon their opponent or opponents. The bulk of biblical and non-biblical accounts, literary and non-literary, that describe or otherwise shed light on military action reflect strategy mainly at the operational level. Strategic insights at other levels have to be induced in most instances.

A tentative description of operational strategy, or 'grand tactics' as certain scholars loosely refer to it (i.e. Archer Jones), states it is the way in which a military force, specifically allocated to a particular military operation, is employed to create a military situation that is untenable for the enemy and most advantageous for the force using the operational strategy. Operational strategy comprises the operations and manoeuvres by means of which opposing forces are brought within striking range of each other in the most favourable way for creating conditions necessary either to overcome resistance or to achieve victory in battle (Fourie, 1996:13-25).

Operational strategy can be further explained by classifying such strategy according to certain characteristics that are present. The use of raids was a common operational strategy in the ancient world. Raids were temporary intrusions into enemy territory. The aims of raids varied from purely economical to political. Invasions into hostile territory, or the threat of such invasions sometimes sought political concessions such as the Philistine raids into Israelite territory soon after David assumed the title of King of Israel. By this action David publicly set aside any Philistine vassal status he may have acquired while his Adullam Band served as a mercenary war band for King Achish of Gath. The Bedouin of the Arabian Peninsula, the Midianites, the Amalekites, and such nomadic peoples are prime examples of groups and peoples who employed raids to garner economic benefit. Standing armies of the day also employed raiding operational strategies in the pursuit of political objectives; the Assyrians employed raids on a huge scale, denuding whole territories of human and material resources in the form of war booty. These large scale raids also aimed at reducing the enemy's war potential; *inter alia* the dislocation of the enemy's economy, break up of its social cohesiveness, creation of subjugated, favourable regimes etc. Nebuchadnezzar the Neo-Babylonian king of the seventh century B.C.E. enforced his political objectives by a series of raids against Jerusalem between 606 and 587 B.C.E. Israel's subjugation was thus enforced by such large scale raids. The hallmark feature of raiding strategies was their transitory nature.

Another observable form of operational strategy evident in the ancient Near East was invasion with the intent of occupying and assuming permanent control of a territory and its values and resources. The Israelite occupation of Canaanite territory was not

transitory in its aims. Archer Jones labels this as a persisting strategy (1987:57-59). Unlike the Egyptians, Philistines, Assyrians, Neo-Babylonians, and nomadic tribesmen who sought to remove the values of a foreign territory as war booty for their own use in their own territory, a persisting operational strategy was informed by a different set of warfare dynamics. The outcome was occupation with political goals aimed at permanently changing the political landscape. Thus Jones' concept of 'a persisting strategy' identifies the nature of such an operational strategy. The ratio of force (military potential) to space (invaded territory) changes in a persisting strategy. Unless the ratio of force to space favours the invader, the invader may win battles along the way, but will ultimately succumb when his war potential is exhausted (Jones, 1987: 54 – 55). Twentieth century examples include the Japanese campaign in Manchuria, beginning 1931 and the German invasion of the Soviet Union, beginning ten years later. The invasions of the Sea Peoples at the end of the Late Bronze Age also fall into the category of a persisting strategy.

4.4. Technological Aspects of Military Force at the Level of Tactics.

'The concept of fighting' is tactics (Fourie, 1996:13). Too often the novice or the careless writer makes little distinction between the concepts of strategy at the various levels and tactics. The general distinction between the strategy and tactics is that tactics is entirely about fighting, whereas strategy – even at the level of operations, need not necessarily entail fighting. Indeed, the ideal strategy is to force an unfavourable situation upon an enemy, usually by manoeuvre, that he yields without offering battle (e.g. Napoleon at Ulm, 1805 against the Austrians). The word tactics derives its current meaning from its Greek root *taktika*. Tactics describes the arrangement of troops on the battlefield and their function in relation to one another.

The overall effectiveness of these combined formations is reflected in the outcome of the battle. Tactics also must take into account enemy troops, their weapon systems and their formations (i.e. the enemy's battlefield 'arrangement'). The material remains and the texts that provide data for ancient warfare in Syro-Palestine also supply valuable details and commentary on ancient battlefield tactics.

4.4.1. Tactical Factors in Antiquity.

Tactical factors in the ancient setting may be organised under two broad headings; the *melee* tactical factors (see p.65) and *ballistic* tactical factors (see p.72). Such lists of factors are not to be confused with the concept of luck - the so-called random factor. The latter is indeed a *bona fide* issue in the concept of fighting but it is supplemental to tactical factors at the level of tactics. Experienced practitioners of warfare will seldom discount the concept of luck. The random factor is sufficient to impact decisively on the final outcome of the engagement or battle. But luck is elusive, and generally inconsistent. It is ethereal and not controllable but capable tacticians may take steps to ameliorate its worst effects on the outcome of the fight. Luck does not lend itself to scientific enquiry and will thus not receive more attention in this discussion on tactical factors. By contrast, tactical factors lend themselves very well to empirical studies. With the assistance of scientifically researched combat behavioural models, carefully based on historical prototypes, simulated wargames (or '*kriegspiel*' as the German General Staff named such modular simulated warfare) may afford us useful insights on the interplay between melee and ballistic tactical factors, the effects of disorder on fighting formations and how tactical situations may cause disorder on the fighting arrangements of units in combat. From such understanding, it will become apparent that fighting and shooting capacity can indeed be diminished or

enhanced by skilful exploitation of the battlefield. Phenomenon such as the weather, time of day, season, and the interaction of such at the time and place of the engagement of the belligerents all combine to colour the resultant outcome. The wargames model of warfare to be used in this exercise is '*War Games Rules, 3000 BC to 1485 AD* [sic] (*6th Edition*), published by Phil Barker (ed.) of the Wargames Research Group.

The term 'art of war' is amply demonstrated at the tactical level. The *art* aspect lies in the *creation* of a set of combat circumstances wherein the 'arrangement' of own forces, in conjunction with the tactical characteristics of their weapon systems strives for a combat outcome such as the neutralisation or even destruction of the enemy. Destruction of the enemy may be either the physical destruction or the psychological destruction of the enemy's will to fight on or even to fight at all. Whatever the case, the tactical situation must become untenable for the enemy in order to gain the tactical victory. This outcome is sought while minimising such effects on ones own forces. Failure to minimise psychological or physical attrition may produce only marginal net gains in the campaign as history recalls of King Pyrrhus of Epirus. His military adventure campaign of 280 – 276 B.C.E. against the armies of Republican Rome precipitated the military idiom 'Pyrrhic Victory' – a concept denoting expensive tactical victories too often result in overall political or strategic failure.

Having recapped the aim of warfare in general, and at the tactical level in particular, careful consideration must be given to the tactical factors that influence this. The following is offered as a sampling of tactical factors. These factors are relevant to the

Iron Age and even to subsequent ancient archaeological periods such as Hellenistic, Roman, and Byzantine. Each factor's dynamic is lightly expounded upon.

4.4.1.1. Melee Tactical Factors. Listed under this sub-heading are some of the more common melee tactical factors relevant to warfare at the tactical level in antiquity:

- *Charging into enemy units rather than standing to receive such attacks.*

Many of the weapons employed in antiquity relied on impetus for their effectiveness. The hard swing or thrust of a bronze or iron sword, battleaxe, spear-point or mace against an opponent's protective armour or shield increased the weapons destructive efficiency. Moreover, charging usually won the initiative for the attacker, placing the defender at the disadvantage in the fight. The momentum of the charge tended to disorganise the defensive line when the said charges crashed into it, compromising the effectiveness of the defenders fighting formation. This encouraged charging units to engage the enemy en mass and with speed, even impetuously. In time charging formations ('arrangements') were devised, such as the 'wedge' that would exploit this tactical factor to its fullest.

- *Mounted troops in good order attacking disordered foot.*

Mounted troops were primarily in the form of charioteers in the early stages of IA IIa. Midianite and Amalekite camel-riding raiders had also been encountered by Israel in the south and again in a major raid into the Jezreel Valley in the period of the Judges (see Judges 6: 1-6, and 6: 33 respectively). As such, camel-born troops may also be categorised as mounted troops even though the camel was inferior to the horse as a war animal. By King David's reign cavalry, on sufficiently strong war-horses, were starting to appear more and more on the battlefields of Syro-Palestine. Infantry were especially vulnerable to cavalry attack when they were disordered and in such

instances could only offer a disorganised defensive formation or no defensive formation at all. The trend was for cavalry to increase in fighting strength over the ensuing centuries until the introduction of efficient handguns in large numbers finally dislodged them from their millennia long place of primacy on the battlefield. In open terrain well-developed and trained cavalry could function optimally and posed a deadly threat to the more slowly moving infantry. The best chance infantry had against cavalry was to arrange themselves in close formation behind a wall of shields etc, or to take shelter in rough terrain where cavalry speed over steep, rocky or broken ground would inflict leg or hoof damage to the mounts. Generally, it was dangerous for infantry to be caught by cavalry in the open and doubly so if the foot soldiers were not 'arranged' in formation or 'good order'. In fourth-century Greece, a popular proverb among the classical Greeks stated that to challenge Socrates to argument was akin 'to infantry challenging cavalry on the open plain' (Spence, 1993: 48). It was considered extremely rash and usually ended in defeat – for Socrates' opponent and likewise, for the infantry.

Chariotry was the principal mounted weapon system during IA IIa. It was no coincidence that when Israel met the Philistines with their well developed chariot arm, in terrain suitable for the effective use of such chariots, the unarmoured Israelite foot soldiers were roundly defeated. An example that stands out is King Saul's final battle in c.1010 B.C.E. at Mt. Gilboa (the Jezreel Valley area is gentle, rolling terrain). Indeed, throughout antiquity and on into the Middle Ages, the superior destructive ability of mounted weapon systems in the charge earmarked them as premium shock troops.

- *Pursuit*

The casualty reports from recorded ancient battles often give the impression that the victors were nearly invincible and vanquished were of little consequence in terms of their fighting prowess. Such ideas miss the mark by large margins. The greatest numbers of casualties were inflicted when one side broke and routed. In the process of disengaging the enemy and routing the defeated side offered no further arranged defence and in their attempts to break away exposed themselves to the attacks of their pursuers. The number of casualties inflicted at this point in the fight on the routers increased exponentially.

- *Advancing or retreating in the fight*

Effective employment of several hand-to-hand weapons in the ancient melee depended upon maintaining fighting formations. The hoplites of the Philistine city states for example, arranged as they were in serried ranks of spearmen, had a tendency to incline leftwards to further protect their defensive 'shield side' while wielding their weapons in their right hands. Controlling these rigid spear-armed infantry formations was easier on the advance than in reverse. This generally held true for all melee formations whatever their particular weaponry. Chariotry were especially incapable of retiring from the melee and cavalry were likewise vulnerable to becoming disordered when attempting to do so.

- *Type and quality of weapons*

The profiles of melee weapons that were common to IA IIa will be dealt with in detail in chapter six of this dissertation. The design of a weapon and its intended battlefield function imbued it with certain characteristics and qualities that afforded the soldiers

who employed it specific advantages or disadvantages in the fight. For instance, the first strike ability of long spears and pikes were well suited for defence against charging cavalry, but the same long spears and pikes were inferior against the first strike ability of infantry-born weighted javelins such as the legionnaire's *pilum*. A two-handed weighty battle-axe or heavy sword on the other hand had greater destructive capacity in general but rendered its user more vulnerable in defence because both hands were employed in wielding the weapon and thus discounted the use of shields. Lightly armoured infantry with light javelins or ballistic weapons could exploit broken terrain without compromising their loose or open fighting formation. In such situations they gained the tactical advantage over the heavier less flexible heavy infantry. Thus in certain situations particular weapons and weapons systems afforded advantages while in other circumstances these self-same weapons and weapon systems imposed tactical disadvantages. The Israelites were at a disadvantage to the Philistines because they lacked the technological skill to work iron and had to contend against the Philistines with inferior quality weaponry. Similarly, Celtic swords were notorious for their lack of tempering and the blades would reportedly bend, buckle and quickly lose their keenness (sharpness of the blade) in the fight.

- *Height advantage*

This is a consistent factor from antiquity to modernity, notwithstanding the march of technology. Commenting on the effects of geography upon military operations in general, Clausewitz observed that the nature of the ground impacted tactics in three principle ways: as an obstacle to the approach, as an impediment to visibility, and as cover from fire (Clausewitz, 1976:348). Dealing specifically with height advantage, Clausewitz noted “physical force is always harder to exert in an upward direction than

in a downward direction, and this must hold true of an engagement". Clausewitz goes on to cite three obvious reasons why height advantage is such a leading tactical factor in the engagement. Firstly, the high ground inhibits the enemies approach, secondly (and this belongs more properly to shooting tactical factors but inasmuch as these factors often occur interactively and simultaneously, I will give it here), shooting downward, considering all the geometrical relations involved, is perceptibly more accurate than shooting upward. And thirdly, heights command a wider view (Clausewitz, 1976:354).

It has thus always been of great importance for defenders to arrange their defence on high ground. Throughout antiquity Jerusalem has demonstrated the value of defence from high ground. The concept of a citadel entailed fortification of the highest point in the city. Launching attacks from higher ground against enemy troops below afforded the troops fighting downhill greater tactical advantages for reasons already given. It is easier to move down a slope than up a slope, particularly if one is encumbered about with armour and fighting equipment. Additionally, the overall impression of troops occupying higher ground is greater to the mind than the circumstances that actually accrue to height advantage warrant. Simply stated, another important advantage of occupying the high ground in an engagement is psychological. Troops deployed on the high ground can thus withstand significantly larger or even better quality or better equipped enemy forces than themselves, or a combination of all three. Consider the extreme example of the Jewish defenders at Masada in C.E 73 against which no less than 7000 legionaries and auxiliaries were deployed. Masada tied up more than a standard Roman legion for a period exceeding six months.

- *Shields and defensive armour*

The development of personal armour and other such protective equipment has constantly shadowed the evolution of more effective and sophisticated weapon systems. This pattern of tactical countering has continued uninterrupted throughout the ages and still characterises the weapons industry today (i.e.) the ICBM and the proposed 'Star Wars' anti-ballistic missile defence system. More relevant to this dissertation's time period, the technological skills for iron working in IA IIa were being diffused throughout the region, steadily eroding the tactical advantages of the peoples like the Philistines who had once monopolised them. More details of the technical aspects of this protective equipment will be discussed in chapter six.

The ancient melee was typically carried out at close quarters. In such desperate fighting the use of shields and body armour conferred upon the combatants' greater staying power in the fight. Consequently the morale of well armoured troops tended to be more robust. Psychologically speaking, armoured troops generally had greater confidence of surviving the fight. With fewer troops falling to the enemy's deadly blows and thrusts the better-armoured troops had the advantage of maintaining not only their impetus in the fight, but importantly, such also better maintained the fighting formation in which they were arranged. Armour and shields helped produce a positive ratio of wounds inflicted than received in the fight. To illustrate, even the wild fanaticism of the naked fighting Celts was successfully countered by the steadiness of Rome's well-armoured legions. The latter held sway on the battlefields of the ancient Mediterranean world in no small measure due to the excellent balance between good defensive equipment and good offensive shock weaponry. When these

qualities were blended together in excellent tactical formations, such factors combined to make them the most steadfast and articulate foot soldiers of antiquity, their millennium-long primacy in battle bearing witness to the fact.

- *Heavy casualties from ballistic weaponry prior to or in conjunction with the melee.*

When used in concert with melee tactical factors, missile weapons - with their own unique ballistic tactical factors, produce a synergistic result that realises the optimum destruction of enemy forces or erodes their will to fight on. In military parlance, ‘softening up the enemy’ with missile fire immediately before engaging them with shock-troops can make a significant impact on the targeted formation’s fighting capacity. This may be viewed in terms of a crude formula: the higher the casualties from missile troops immediately prior to hand-to-hand combat, the lower the effective fighting power of the targeted unit in the ensuing melee. Psychology or troop morale is likewise affected and may be decisive in the ensuing engagement. Generally, it is a combat characteristic of larger units that they can ‘soak up’ more damage than smaller units before their actual fighting power is diminished or impaired. This also holds true for veteran troops or elite troops, but the psychology aspect will be discussed more fully in *4.4.3. The Effects of Psychology on Tactics*.

- *The order of the fighting unit’s combat arrangement or formation*

Simply stated in a question format, is this unit’s fighting formation properly ordained or is it in a state of disorder when engaged by the enemy? Such disorder reduces the fighting power of a unit, its cohesiveness, and its morale. A fighting unit is negatively affected when this concept is compromised. The concept will be discussed further in section *4.4.2. The Effects of Disorder on Melee and Shooting*.

- *Fighting to cross defended obstacles*

Artificial obstacles include man-made structures or modifications to the terrain in which the engagement takes place. Defences such as Jerusalem's walls, defendable gate complexes, palisades of felled trees, pits dug in front of the fighting unit's position, caltrops (anti cavalry spiked devices that followed in later archaeological periods), sharpened stakes embedded into the ground at angles to intercept enemy assaulting units like spears projecting out the ground and so on. All these and several others are examples of man-made obstacles that would undermine the fighting power of a unit of troops trying to engage enemy troops deployed behind such obstacles.

Natural obstacles can achieve the same results in warfare. Wiley commanders seek out such circumstances and exploit their influence in battle. Streams, boggy or deep mud, steep rocky hillsides, hedges, or cultivated fields such as olive or vine plantations are examples of natural obstacles. Such obstacles similarly increase the defensibility of positions and increase the difficulty factor of engaging enemy deployed in defence of them.

- *Troop and unit confidence.*

This matter will be dealt with more substantially in 4.4.3. *The Effects of Psychology on Tactics*. Let us pause here though to observe that when a fighting unit that has lost its nerve, its confidence or more correctly its morale, it is fragile and weak in terms of its will power and resolve to engage the enemy in combat. Because of this psychological debilitation such an afflicted unit has diminished fighting power and is vulnerable in combat until its morale is restored. It fights poorly and is prone to being beaten. In the brutal experience of the melee a shaken unit was grist for the grim reapers mill.

4.4.1.2. Ballistic Tactical Factors. Fewer factors obtain here. Listed below are the principal tactical factors that would have impacted on the effectiveness of missile armed units in Iron Age IIa. Such factors remained relevant in the archaeological periods that followed until the advent of rudimentary gunpowder weapons in the late medieval period.

In the tactical environment of shooting some factors have bearing on the target being shot at while other factors are derived from the act of discharging the missile weapon itself. The note in the parentheses indicates whether the factor applies to the targeted unit (*T*) being shot at or if the factor applies to the act of shooting itself (*S*).

- (*T*) *Shieldless infantry with little to no protective armour.*

Defensive armour was manufactured from a variety of materials such as the tough leather of animal hides, thick cloth studded with pieces of animal horn, or reinforced with metal scales or rings such as copper, brass, and even iron studs. The sophisticated metal-working skills of the Philistines and some other artificers and armourers even produced metallic body armour, leg greaves, and helmets. The shield played a particularly valuable security role on the battlefield. It could be moved and positioned to ward off enemy weapons from most directions. Where shields were lacking, especially among densely arranged *close formation* troops, such warriors presented easy targets for enemy missile armed troops. Certain units were arranged in *loose formation* which was less dense than a phalanx of spearmen but still arranged to fight in fairly close proximity to each other. These formations were less rigid to facilitate moving and fighting on broken ground or past obstacles. All the Syro-Palestinian armies of IA IIa featured troop formations of these kinds. When no

defensive armour, and in particular no shield, was to be had among such infantry formations, the damage done by missile fire was much more grievous.

- (T) *Shieldless troops with protective armour, moving fast, or in a dispersed formation.*

Mounted units like chariotry and the steadily increasing numbers of cavalry of this period may have had little protective armour. They could offset their vulnerability to shooting by their speed on the battlefield. Similarly, skirmishing infantry lightly armed with javelins, or bows, or slings etc. were usually arranged in a *dispersed formation* that presented a diluted target for shooters. Dispersed troops had little rigidity in the formation and could avail themselves of whatever natural cover or protection was at hand, generally scurrying around without the constraints of a tight fighting or shooting 'arrangement' (formation). Densely packed infantry formations with protective armour had some means of protection against hostile missile fire. However, the absence of shields for each of the above troop types would have resulted in higher casualties notwithstanding their speed, their dispersed formations, or their protective armour. The root problem simply being that when fired upon by a massed formation of missile troops, it is highly unlikely that one's speed, formation, or body armour will afford complete protection.

- (S) *Disordered or shaken.*

If the shooters formation was disrupted for any of the reasons discussed under heading 4.4.3., their capability to inflict damage on enemy troops and formations would be lessened. Shaken units of missile armed troops will also perform poorly; their nerve and confidence have being broken, and their fighting attitude reduced mainly to self defence and survival.

- (T) *Speed of target.*

Slower moving targets would generally include all infantry and mounted troops caught moving slowly when shot at. Even charging infantry moving at their best speeds, encumbered as they are by their equipment, the unevenness of the terrain they move across, and by the overriding necessity to maintain their fighting formation as they move to engage the enemy, cannot run at their fullest speed possible. Infantry arranged in *loose formation* are less constrained by tight unit arrangements but some of the limitations mentioned still apply.

Chariotry had already developed into a type of shock troop weapon system by IA IIa, as compared to the earlier lighter chariots that had served as mobile platforms for missile armed troops, so high speed for ramming into or cutting a swath through enemy formations was a critical characteristic. Equestrian technological developments and careful customised warhorse breeding programs produced increased capacity for speed for such weapon systems within the Syro-Palestinian armies of the Iron Age. Larger and more reliable cavalry arms came into existence during the First Millennium B.C.E., coinciding with increasingly large empires. Unarmoured and ballistic-armed cavalry formations featured prominently in nearly all Near Eastern ancient armies, largely due to the dictates of the terrain which was open and extensive. The trade off of personal security (armour and shields) for speed and manoeuvrability remains a tactical factor even in the technologically rich modern world of armaments. In time horses were sufficiently strong to bear the load of well armoured riders into the rigours of the melee. In general however the speed of mounted troops counted against the shooters as a ballistic tactical factor.

- *(S) Target charged into shooting unit.*

The need to defend one against attackers overrides any other task in battle. If the chargers began their attack some distance away from the shooting unit, the shooting unit would have to fire in haste and then discard ballistic weaponry and equipment for other hand weapons more suited to the impending melee. If the chargers attacked from a closer distance, the ballistic armed unit may not have any opportunity to fire off an effective volley at all.

There were certain weapons however that were hurled at the enemy immediately prior to contact. These should be regarded more as melee weapons rather than ballistic weapons and include weighted javelins and darts, throwing axes, and the like. Such weapons were found more among troops equipped for the melee than among troops organised for ballistic function. The detailed characteristics of these weapons will be more closely examined under Chapter 6. *Artefacts of War from Syro-Palestine during Iron Age IIa.*

- *(T) Target in the open or in cover.*

Walled cities or fortified strongholds provided cover for the defending troops. Conversely, such security was sacrificed in open battle and cover was limited to what the terrain offered. Such cover was limited because battle sites were mostly in the open to facilitate the manoeuvring of units against enemy units. Weaker armies often sought to compensate for their weaknesses by occupying selected terrain features. Hilltops, hedgerows, scrub, woods, or ravines all provided some form of cover from enemy missile fire. Cunning commanders sought to exploit such factors to diminish enemy ballistic strengths. Open terrain, in which little natural cover was available to

the enemy, was the optimum terrain for the effective employment of ballistic armed troops.

- (T) *Target at long range.*

Ballistic weapons have the advantage of being able to inflict casualties on the enemy at a distance. The distance varies according to the ballistic weapon concerned.

Slingshot, arrows, and javelins were the most common ballistic weapons of IA IIa.

They were hurled, flung, or shot by hand or with the assistance of ballistic equipment designed to project the weapons over a distance. The trajectory of these ancient

ballistic weapons described a flat arc and the weapons destructive power was

influenced by several technical factors. A particularly relevant ballistic tactical factor is the matter of range. By definition range, as it applies to weaponry, describes the

maximum *effective distance* of a projectile fired from a weapon (Collins English

Dictionary ... 2001, s.v. 'range'). The flaw in this definition is its incorrect use of the

word weapon; the projectile is the weapon, not the means by which it propelled

towards the target, notwithstanding it be a crude torsion-powered catapult, a

composite bow or a submarine launched rocket propelled nuclear missile of the space

age. The weapon is the destructive device; i.e. the flying rock, the bronze tipped

arrow, or the 30 megaton nuclear warhead.

Range has always been a compelling factor in the evolution of ballistic weaponry. In

antiquity, the range varied according to several factors: strength of the slinger, type of

bow being used to fire the arrow, the accuracy and technical proficiency of the

'shooter' and so forth. The 'maximum effective distance' referred to in the above

definition is not the total possible distance of the weapon, but rather the distance at

which optimum destructive capacity is attained. Beyond this distance the destructive

capacity graph spirals downward on a steep tangent to negligible results. Generally, archery fire was over a greater range than slingshot and javelins. The latter two were employed only at a shorter range. All the various bows and their accompanying catalogue of weapons (arrows) had in common the greater range at which they could be employed. Targets at long range were nevertheless still more challenging targets and as this tactical factor notes, shooting at targets over long range was tenuous when compared to shooting at them at close range.

- *(S) Size of shooting unit.*

This is generally a plus factor but under certain conditions, including ambush or a battlefield of limited space, negative situations associated with the size of a shooting unit may arise. A large or oversized number of lightly armoured missile troops may prove a hindrance to the close combat units of the army. An example to illustrate the problem of space and time on the battlefield is the classic example of the Battle of Marathon, some 500 years after IA IIa. The battle was between the Greeks and the Persian's punitive expedition, led by the able Persian commander Mardonius. The Persian army had landed near Marathon, intent on marching on unwallled Athens. The Athenians counted by marching swiftly northward, and blocked the path of the Persian advance. Both sides then deployed for battle; Herodotus, admittedly untrustworthy for accurate numbers, give the army sizes as approximately 20 000 Persians and 10 000 Greeks, of whom the greater majority were Athenian hoplites (armoured close order spearmen). Typical of Near Eastern armies, Mardonius' force was surfeited with a large proportion of unarmoured foot archers, better suited to their native terrain that was more open and ideal for ballistic weaponry. Mardonius' principal combat units were armoured cavalry, tasked to attack once the Greek forces had been 'softened up' by archery fire. The terrain better suited the smaller Greek

force than it did the numerous Persians; steep hillsides and the beach squeezed the flanks leaving little room for the cavalry on the Persian right wing to manoeuvre. The Great Marsh obstructed free movement away from the Greek forces and the exchanging of lighter units with the heavier melee units that would have deployed behind the units of archers. Effectively, the terrain bottled the Persian forces in. To reduce the Persian advantage in missile power and overall numbers once the battle had commenced, the Greek close order hoplites promptly closed with the Persian foot. The more lightly armoured Persian infantry were poorly equipped to deal with such enemy troop types and the Persian centre was cut to pieces in quick order, especially after their wings had been routed and the Greeks on the flanks enveloped the Persian centre. During the Battle of Marathon, the massed ballistic firepower of the Persians had little influence on the outcome of the battle. The Persians were denied the space and time necessary for their superior archer units to make an impact on the battle (Bury and Meiggs, 1991:158 – 160).

Saturating the target generally increases the ratio of success, even if the targeted enemy has the advantages of cover. But in the torsion and muscle powered world of IA IIa weapon technology, the range factor of the weapons must be taken into account too. The 'self- bow' (i.e. a bow made of one type of wood rather than the combination of materials such as the 'composite bow') could not project its weapons as far as the 'composite bow'. The superior composite bow could project its weapon a maximum effective range of up to 250 -275 meters. 'Effective' is of course a combination of personal skill in hitting the target and the weapons penetrative power. To the untrained eye or inexperienced mind such distances are hard to relate to. To anyone with a modicum of musketry training, hitting the target at even 100 meters in

the calm, relaxed setting of a modern shooting range can be a challenge. The modern infantry assault rifle has a muzzle velocity of between 760 meters per second and 980 meters per second, depending upon the specific weapon, and can be employed effectively up to 300 meters with sights adjusted to suit the optical specifications of the shooter. The best prospect for ancient ballistic weaponry was to fire in massed volleys. Such collective efforts resulted in large missile armed units that occupied space on the battlefield.

Mounted archers developed over time and reflected the huge open tracts of land such as found in the steppes of Asia and the vast open terrain of the ancient Near East – particularly in northern and southern Mesopotamia. Space remains a cardinal factor in tactics and operational strategy even today and certainly had to be taken carefully into account in antiquity as well. The crude levels of command and control dictated the need for careful ‘deployment’ i.e. the arrangement of units of troops on the battlefield according to space needed for the effective employment of their weapons and fighting formations. Once underway, the commander’s control over troop movements and counter movements were very limited. A great premium had to be placed on careful deployment in set-piece battles. The units of missile armed troops had a specialised role to play but ultimately, and especially in most instances of the IA IIa period, it was in the melee that the issue was finalised. Missile armed units most often played a moderating role rather than a decisive role, neutralising or weakening the fighting power of enemy combat units. The size of the missile unit, in appropriate settings, influenced the degree to which missile fire could affect the fighting capacity of enemy units.

To illustrate the scope of ballistic weaponry's influence on the hard core melee units in a battle, one need not look further than the experience of the Roman expeditionary force under Crassus in 53 B.C.E. in a poorly conceived campaign against the Parthians. The Parthian kingdom was a loosely compacted monarchy and something of a feudal prototype; the baronial elite was extremely heavily armoured cavalry type known as cataphracts. Both rider and horse were well covered by mail armour. The rider couched an extremely heavy lance named a *kontos*. These nobles combined into units of shock troops capable of knocking out even units of solid legionary heavy infantry. The many retainers of these cataphract nobles were arranged into fast moving units of horse archers, and were excellent archers using the composite bow with incredible capacity for armour penetration.

Crassus marched against the Parthian king with 35 000 men, the majority legionaries; close order heavily armoured infantry with some auxiliary support in the form of Gallic horsemen. The Parthians, 10 000 strong but all mounted and unencumbered by slow moving infantry, chose their battlefield well; open terrain with gentle rolling hills well suited to cavalry manoeuvres in the vicinity of Carrhae. The horse archers selected the optimum range for the bows and steadily fired volley after massed volley into the hapless Roman infantry whose only cover was their personal armour and their shields. Trapped under the blazing desert sun the Romans were at the complete mercy of the Parthians once the Persian cataphracts had wiped out the Roman's supporting Gallic cavalry contingent. Unable to close with the swift Parthian horsemen and unable to retreat, the Romans were completely destroyed as a fighting force. Merely a third of the original Roman force, about 10 000 troops, were able to regain the Roman frontier in Syria. The tactical insight is easily culled: in the correct

terrain, with competent leadership and ballistic skill, massed archery could cripple melee units in terms of their morale and their fighting power (Cary and Scullard, 1991:255 - 257).

- *(S) Attempting to shoot over or past friendly unit or front ranks of own unit*

This again alludes to space as a factor in warfare. A high premium was placed on concentrated firepower as illustrated in the above Battle of Carrhae. The fairly crude ballistic qualities of ancient missile weaponry were compensated for by massed firepower on the battlefield. It was dangerous, unsettling for friendly units involved, and prone to accident to attempt to shoot over or through gaps at enemy units. Generally ballistic firepower ceased once melee units closed with each other.

4.4.2. The Effects of Disorder on Melee and Shooting.

Repeatedly the discussion on tactics returns to the original meaning of the word *taktika*: the arrangements and deployments adopted by forces *in battle* by which to gain the maximum 'advantage' from their weapons, regardless of time period, era, or geographical location (Fourie, 1996:12). Shrewd commanders sought tactical advantage not only in technological aspects of weaponry or in troop quality, numbers or disposition, but also by engaging enemy forces in combat while that enemy's arrangement of troops was disordered and operating below its usual capability. Optimum advantage of weapon factors and unit organisation also depended on the several so-called 'tactical factors' outlined above, and commanders laid their plans with these tactical factors in mind. It is thus apparent that fighting and shooting capacity can indeed be diminished by skilful manipulation of tactical factors on the battlefield.

Original advantages derived mainly from technology and innovative troop arrangements diminished in time due to the effects of diffusion and other mechanisms of cultural exchange. For instance, Indo-Europeans such as the Hatti (Hittites), the Hurrians, and to a lesser extent the Urartians north of Assyria lost their advantage of having chariotry and then cavalry while other cultural groups did not; the Philistines in time lost their technological lead in iron working skills and so forth. The effects of communication played a major role in disseminating what were once monopolies and cultural advantages – and the rate of acculturation increased according to frequency of contact, duration of contact, and scale of contact. Thus, where technological and troop arrangements had once accorded advantages, such tactical advantages were only temporary, not permanent.

Ongoing tactical advantage thus had to be sought in battle according to skilful troop arrangement, referring in particular to deployment and manoeuvre. Such troop articulation was produced in regular armies by the impact of training under drill masters and other aspects of military professionalism. In the case of irregular tribal warriors, battle advantage was sought by the native attributes of strength, fierceness, courage, stamina and cunning leadership. Further, correctness of deployment for battle in the given circumstances, *inter alia* terrain, weather, time of day and season, troop morale, collective temperament, exploitation of terrain, battlefield manoeuvring, and leadership were and remain relevant to all warfare and battlefield prowess.

Clear advantages were to be had by compelling the enemy to fight in disadvantageous circumstances. Such circumstances may include attacking the enemy in terrain unsuited to the troop types of that army, such as David's ambush of Philistine close

order formation heavy infantry spearman in the broken terrain of the valley of Rephaim (2 Samuel 5: 17 – 25). After the Philistines had regrouped, they advanced again through the valley of Rephaim and this time David again forced them to fight in a disordered arrangement by attacking their rear by means of a concealed march through a balsam forest. Notwithstanding their superiority in arms and armour the Philistines were again roundly defeated. In both instances David, compelled them to fight in disadvantageous circumstances that disrupted their shooting and fighting arrangements. Disorder reduced the shooting or fighting capacity of the Philistines.

Troop combat and movement formations were disrupted temporarily or for longer durations, depending upon the nature of the disruption. More serious disruptions which extended over longer periods of time incrementally retarded the units fighting capacity, rendering it more and more vulnerable to enemy attack. The nature of battlefield disorder thus varied in scale and scope. Tactical disorder could degrade the tactical situation into tactical fiasco. This apogee of hell incarnate was all too often the lot of the common soldier through the ages rather than some clinical equation of force and motion that characterises the ‘drum and bugle’ type writings of some military historians before the onset of polemology proper. Typical causes for these disorders at the tactical level of battle and combat, as it pertained to ancient warfare are recounted below.

- *When troops in close formation attempt to maintain formation or change formation while moving, fighting, shooting or crossing difficult terrain. David’s ambush of the Philistine forces in Nahal Rephaim illustrates this point. In the deep ravines and such difficult terrain as found in the Hill Country of Judah, the close-*

formation foot of the Philistines lost much of their fighting power when forced to change formation to meet David's ambushes from an unexpected direction. Having to do this while fighting and in difficult terrain reduced the Philistines original tactical strength to below that of the lightly armoured loose formation Israelites. The Philistines experienced this twice in short succession, leaving little doubt as to the impact of such disordering factors on the fighting power of otherwise strong melee forces.

- Following deployment, units manoeuvre on the battlefield for tactical advantage. Depending upon their formation, the ratio of units to space, and the type of terrain involved, such manoeuvring may be difficult. For instance, troops armed with missile weapons may plan to fall back through their supporting melee units, but if attacked before completing such *interpenetrating manoeuvres* it will result in severe disorder for both units. Some of the most disastrous battles of antiquity include such episodes, such as the Roman disaster at Cannae (216 B.C.E.) and the Persian disaster at Marathon (490 B.C.E.). Wily commanders actively sought advantage in the terrain factors when fighting against numerically superior forces – forcing enemy units to be crowded in upon each other, thus creating disorder in their shooting and fighting formations. When a unit's '*fighting spirit*' (expounded upon under heading 4.4.3. below) was destroyed the unit would flee from the enemy unit or even from the *threat* of enemy units. Often in their haste to flee the routing unit would attempt to force a passage to safety, sometimes through their own friendly units, bringing confusion and disorder in their wake for all units so interfered with. One may refer to the inglorious, helter-skelter flight of the Philistine army after David had killed their champion Goliath in the dual recorded in 1 Samuel 17.

- In the gradual process by which true cavalry eventually developed, its own unique vulnerabilities became apparent. These bear discussion in that cavalry as a fighting arm was becoming more important during IA IIa. Instead of one brain at work, cavalry forces had to contend with the fact that two brains were at work; that of the rider and the horse. The horse itself had instincts for self-preservation and was apt to bolt or behave skittishly when faced with threatening situations. Such *mounted units had additional liabilities for disorder* in combat. Besides outright flight from the battlefield, every cavalryman had a moving mount from which he had to fight, in essence - an unstable fighting platform. Thus cavalry tended to be arranged in looser formations than foot. In the case of bow armed 'horse-archers', epitomised so well by the Parthians of Mesopotamia and other Asiatic horse riders from the great steppes, the shooting formations were very open. The latter formations facilitated their loose, speedy individualised fighting style. Such equestrian formations or arrangements were suited to the problems unique to cavalry units and influenced by the terrain from which they originated.

Horses, comparatively speaking, have poor eyesight. Their sense of smell is much keener. It was only a matter of time before cunning commanders sought to exploit this fact. *Camels, elephants and even 'dummy elephants'* (i.e. camels to which a large collection of wicker baskets and the like were fixed so as to create the impression of a large bulky elephant-like creature) *were deployed in some ancient armies for the express purpose of disordering enemy cavalry units.* The affects of camels as used by Midianites and other desert nomadic groups such as the

Amalekites, as mounts for battle in their raids was to disorder enemy cavalry in the melee.

- Unit formations are arranged and trained to fight to their front. If the unit was *charged in its flank or in its rear the resulting disorder was chaotic* and severely affected the shooting or fighting capacity of the unit attacked in this way. Even Hannibal's renowned veteran heavy infantry succumbed to the Roman forces when the Roman cavalry attacked them in their rear after having first chased off the Punic cavalry from the battlefield during the Battle of Zama in 202 B.C.E.
- Foot soldiers were the predominant troop type during IA IIa. Such infantry formations, terrain permitting, approximated each others rate of movement and could maintain their fighting arrangements under normal circumstances. The speed of chariotry and the increase of even faster moving cavalry units in the battles of this period created new liabilities for field commanders. Mounted troops manoeuvred at greater speed and could turn the flank of unsupported infantry units owing to their greater speed and mobility. Herein lay the true advantages of cavalry; its reasonable fighting ability combined with its capacity to outmanoeuvre the slower infantry and the more cumbersome chariotry units in battle. The superior manoeuvring ability of cavalry allowed it to attack the slower moving infantry units before they could adequately arrange or rearrange their defensive formations. *Foot thus caught while moving would be compelled to fight back in a disordered arrangement.*
- Units that have *experienced panic and consequently have fled the battle become*

disordered and 'disarranged'. Also, troops who have evaded the enemy's charge by abandoning their position on the battlefield, or whose own charge has failed to reach the enemy unit because the enemy fled in panic or successfully skirmished out of charge reach have ended their movement in disarray. When a charging unit failed to make contact with the enemy, such failure tended to disrupt the charging units fighting formation. The troops in such a unit need to set about reorganising their formation by falling in again around the unit officers or standard bearers. Such action takes time and when attempted in the heat of battle may often impact negatively on the commander's tactical plans and compromise his prospects victory.

- The lethality index of certain *shock weapon systems at the point of impact*, such as the ferocious charge of lance wielding armoured cavalry. The physical impetus of a chariot or a cavalry charge into stationary troops does not demand extravagant explanations to outline the havoc it would inflict on the stationary unit's formation and fighting capacity.
- Similarly, certain *shock weapon systems wrought terror* among their opponents and challenged such troop's ability to cope psychologically with these awful weapon systems. Noteworthy amongst these for IA IIa would have been chariots, residuum of the Late Bronze Age (c.1500 – 1000 B.C.E.). With metal wheel hubs screeching on ungreased metal shafts, the rumbling of metal-rimmed wheels - sometimes fitted with slashing scythes, the thundering of horses hooves, the whole clattering, careening contraption hurtling across the battlefield with the singular intent to smash a bloody path through the unit in which soldiers stood with only a light wooden or wicker shield for protection, it is not difficult to imagine the battlefield stress arising among

the troops so targeted. Fear of the anticipated impact was often enough to send more than just the untrained or unseasoned troops into a blind panic and to abandon their formation.

- Attempting *formation changes while charging, counter-charging or pursuing* an enemy unit. Changing formation in the heat of a battle is already difficult enough. Attempting to do it while the unit is moving quickly in the circumstances described above was a sure-fire recipe for disordering the unit's fighting or shooting formation.

It is useful to observe in conclusion that the 'disordering' of a typical ancient shooting or fighting formation does not necessarily imply that the fighting spirit of that unit has suffered. It means that there has been some physical interference with the unit's arrangement or formation and consequently the shooting or fighting ability of the unit has been reduced in its overall effectiveness.

4.4.3. The Effects of Psychology on Tactics.

This phenomenon of warfare is generally referred to as *morale*. It exists at a variety of levels, ranging from the national level, the large scale armed forces level, right down to the smallest tactical units. *Morale*, the target of psychological warfare or *moralische kraft* as Von Clausewitz (1976:184) labelled the concept, is some kind of psychological index of willingness to sacrifice personal safety and the suppression of instincts for personal survival for what is perceived as the greater good of the majority or the political cause to which the majority is committed. When morale fails it is because the instinct for survival is expressed more strongly than the soldier, military force, or nation's determination to fight on. In layman's terms morale may be called

‘fighting spirit’. When lacking or broken down in the lower military echelons, usually by enemy action, it results in troops breaking ranks and fleeing the harrowing experience of battle. Conversely when present, soldiers fight on with grim determination - even when logic suggests it is futile to do so and that death or injury will result.

Although the concept is intangible, its impact and influence is clearly evident and discernible by its operation among soldiers in warfare. It is commonly held in all ages, including IA IIa that morale can be and must be built. It is, inter alia, the product of training, comradeship, leadership, and discipline. David’s Adullam band exhibited this quality of fighting spirit. In time the Adullam Band formed the nucleus of King David’s trusted household troops. Unit morale is cumulative in nature, in both the positive and negative sense, and is more decisive a factor to local and ultimate victory in battle than any of the above-discussed melee or shooting tactical factors. Morale ranks so highly in the military equation of warfare that it has been set apart by astute military commanders and philosophers as *the decisive factor in all warfare*, regardless of time and place. Napoleon, the most celebrated European general of all time (bearing in mind that he fought and won more battles than Hannibal, Scipio Africanus, and Julius Caesar combined), observed that the morale factor is to the physical factor as three to one when comparing decisive factors of warfare. From his own military experience and consistent with his incisive philosophical writings on war, Clausewitz taught that the physical and morale components of war may be compared to the parts of a sword; “One might say that the physical seems little more than the wooden hilt, while the moral factors are the precious metal, the real weapon, the finely honed blade” (Clausewitz, 1976:185).

Troops whose morale has completely failed them in battle are deemed to be 'broken' and cannot be counted upon to continue fighting. Such troops seize the earliest opportunity to flee the battlefield. Similarly, but not yet broken are troops whose morale may be described as 'shaken'. The fighting spirit of shaken troops is brittle, not requiring much for them to break down completely. They fight tentatively and without confidence of winning. In such a state their fighting and shooting ability is adversely affected.

The causes of shaken morale are several:

- When fighting units receive disproportionately heavy casualties in combat.
- As a result of various unfavourable circumstances or occurrences in the engagement. David's defeat of the Philistine champion Goliath, or the death of Saul and his sons at the Battle of Mt. Gilboa are obvious examples.
- A unit's confidence is destroyed when it breaks in combat or when a friendly unit breaks and consequently disrupts the given unit's formation or 'tactical arrangement'.

Such is the scope for the grim art of tactics. The net results of melee and shooting tactical factors, the effects of disorder, morale and the breakdown of it, all combine to produce the tactical power and proficiency of troops in battle. To conclude with Field Marshal Lord Wavell's useful definition: tactics is the 'art of handling troops on the battlefield' (Fourie, 1996: 12). The above discussion has provided some substance to Wavell's seemingly innocuous phrase - the 'handling' of troops in battle.

4.4.4. The Effect of Psychology on Strategy.

Psychological factors which obtain at the lower levels of strategy affect the outcome of the skirmish or the battle. When psychological factors operate at the national level, they affect policy-making and strategy selection which impact on general and total strategy choices and ultimately, the outcome of the campaign or the war. The will to fight and how to engage the enemy is a policy matter, and policy ought to dictate strategy. When Saul chose to attack the twin Philistines bases at Gibbeah - Michmash after his coronation, this was a policy matter that was tied to a general strategy. The Philistine decision to counter by a combination of military action and technological sanction or embargo (1 Samuel 13: 19 – 20) was likewise a political decision encapsulated in policy with a concomitant strategy.

A modern scholar, highly experienced as a practitioner in military methodology, General d'Armee Andre' Beaufre, writing about the effects of psychology on warfare at the higher levels of strategy observed: “Consider only the *outcome which is desired* to achieve ... to force the enemy to accept the terms we wish to impose on him – *a decision is achieved when a certain psychological effect has been produced on the enemy* If the problem is looked at from the right angle, *that of the enemy's psychological reaction*, a correct appreciation can be made of what the decisive factors are - ... *the decision is obtained by creating and then exploiting a situation resulting in sufficient moral disintegration of the enemy to cause him to accept the conditions it is desired to impose on him*” (Beaufre in Fourie, 1996:49–50). This suggests that the political context for the skirmishes, battles and campaigns of antiquity are vital in order to assess accurately and make sense of the warfare that

took place in particular times and places and its effects upon the life-world of the common man of Syro-Palestine, IA IIa.

4.5. Logistics as the Final Component for Military Force.

Repeatedly and throughout the long course of political history an improper understanding of and a poor grasp on logistics has precipitated military ruin and political failure. Logistics is the fourth fundamental of military force and a crucial component to all successful military statecraft. Fourie cites as a prime example of logistical failure the German's much vaunted Schlieffen Plan in 1914 which ultimately failed because of logistical problems, i.e. that the German army could not move any faster than the speed of a walking infantryman (Fourie, 1996: 71). More than two millennia earlier the tiny confederate Greek city-state forces, hugely inferior to both the military and the war potential of the Persian Empire in 480 B.C.E., effectively put paid to King Xerxes' political ambitions on the Greek peninsula by destroying his fleet, and in essence his logistical capacity for the invasion of Greece at the Battle of Salamis (September 480 B.C.E.). The upshot of this was that without a superior fleet to protect his coastal lines of communication the Great King was not assured of his ability to supply his massive invasion force. The invasion force, even when setting aside Herodotus' exaggerated numbers of 5 000 000 and accepting the moderated number of 180 000 soldiers, would 'wither like the early morning mist against the rising summer sun' if the supply ships could not consistently provide the supplies. Events proved this assertion true after the naval defeat at Salamis. The Great King Xerxes delegated the task of invasion to his trusted and capable commander Mardonius while the Great King himself lost no time in returning to Persia to forestall any temptations of political rebellion in the empire's hinterland.

Mardonius promptly withdrew the still massive Persian invasion force to northern Greece to see out the winter while waiting for the new campaigning season to begin. Logistical considerations again had the final say in the strategic planning and performance of a significant military force on the stage of world history. A more modern example was the destruction of the German Sixth Army at Stalingrad (November 1942 – January 1943) when German re-supply capacity failed.

Master scholars on the art of warfare, including Jomini, explain logistics as the ‘practical art of moving armies’. This includes considerations of ‘providing for the successive arrival of convoys and supplies’ and ‘establishing and organising lines of supplies’. Van Creveld builds upon Jomini’s definition by observing that if a soldier’s calorific intake amounts to less than 3000 calories per day, such troops *will soon cease to be of any use as soldiers* (Van Crefeld, 1977:1). Likewise, the absence of ‘all weather’ roads is problematic and it helps little if a fighting force is not in the right place at the right time. Even in antiquity the existence of good roads was recognised as a strategic factor. The development and maintenance of such roads was very highly regarded as a strategic imperative by the Assyrians, the Persians and the Romans, each in their turn respectively. Huge expenditure was authorised for such purposes. The key word here is ‘*communications*’, [note the plural] which in the context of logistics, is understood as ‘the means of travelling or sending messages’ (*Collins English Dictionary... 2001*, s.v. ‘communication’). Too often military historians err by giving only lip service to the logistical aspect of military force in their studies. The anthropological bias of *new archaeology* demands that due attention be given to the lot of the common soldier, directly affected by logistics as he

was and thus contributing in a relevant way to the scholastic merits of military archaeology.

In Van Creveld's (1977:1) opinion, logistics does not demand any "great strategic genius, but only plain hard work and cold calculation". Indeed, some of the biblical redaction may yield additional insights, even helpful corrections, by applying logistical calculations to the sometimes-fanciful claims of the Old Testament chroniclers. Hans Delbruck achieved this when he applied logistical calculations against some of the fantastic claims of ancient historians like Herodotus and Josephus. He found for instance that the asserted mustering of troops, let alone their manoeuvring in units, was physically impossible on the surface area of some battle sites. The veracity of ancient texts is also subject to correction when the supplies needed to sustain such huge armies in the field are appraised.

In retrospect, it is significant to note that more military campaigns have come to ruin because of the logistical factor than because of any enemy action. King Gustavus Adolphus of the 17th century, much celebrated for his military acumen, admitted that it was food and forage, not he, which commanded the army (Van Creveld, 1977:17). In the campaigns of antiquity, none were exempt from the shackles of logistics. What systems of supply are in evidence? What of the foodstuffs, their seasonal harvests, the calorific values of the available foods and the volumes of food vis a vis the mustering of military personnel and animals? What of the water sources in Syro-Palestine? What of soil types and fertility, plant genus and the category of land in terms of suitable farming methods i.e. winter land, dry land, wetland, etc. What about the road networks and the lie of the land? Moreover, how did the scale, intensity, and duration

of the conflict affect the outcome of the conflict *vis a vis* logistics? Can these issues be reconciled with the primary and secondary historical records of the ancient Near East? An essentially inductive approach will be used to find relevant answers to these questions within the timeframe of IA IIa.

4.5.1. Food and Seasons in Syro-Palestine.

It is insufficient to list only the foods and seasons such as they existed in ancient Syro-Palestine. Such data needs to be interpreted so that its significance yields a greater understanding of the issues belonging to logistics. After looking at food and seasons, attention must also be paid to basic concepts of nutrition to make the data intelligible. Logistics must concern itself with supplies and physical sustenance, which in turn leads to a brief look at the energy values of foodstuffs and volumes needed. Subsequently, where texts supply data on the size of the opposing forces, this will invite some inductive reasoning as to what volumes of foodstuffs would be needed to sustain such military potentials, and the collective energy requirements for such feats as were claimed for them. Obviously the cereal grasses of the day would have supplied the bulk of nutritional needs. Similarly, water supply and road networks also play important roles in the realm of logistics and each will be looked at in turn.

The Hebrew calendar, as an example of an ancient Near Eastern calendar, was based on the lunar months until about 100 B.C.E. This was the Babylonian practice as well. The months of this lunar calendar coincided more accurately with the agricultural seasons than the modern Gregorian calendar. Some of the Hebrew calendar month names, such as *Abib* (meaning ‘the ripening of the corn’) reflect the agricultural basis

of their lifeworld and how their day to day activities were arranged to compliment the season of the year. The table below shows the progress of the year, its seasons, and the associated harvests and other major agricultural activities associated with that particular month. Logistical planning for the campaigning season took very careful account of the data offered in calendars such as example outlined below.

THE HEBREW CALENDAR

Hebrew Months	Modern Months	Seasons & Climate	Agricultural Activities (biblical references)
1. Nisan (<i>New Year</i>)	c. 16 March to 15 April	Late spring rains.	• Barley harvest begins
2. Iyyar	c. 16 April to 15 May	Dry summer season begins	• Barley harvest (Ruth 1: 22)
3. Sivan	c. 16 May to 15 June	Dry summer season	• Winter wheat harvest • Early figs ripen
4. Tammuz	c. 16 June to 15 July	Dry summer season	• Winter wheat harvest • Grape harvest
5. Ab	c. 16 July to 15 August	Dry summer season	• Olive, grape, fig, walnut harvest. Vintage begins. (Numbers 13: 20)
6. Elul	c. 16 August to 15 Sept.	Dry summer season closes	• Dates, vegetable, cotton, pomegranate, summer figs, and other grains harvest. • General vintage. (Isaiah 32: 10)
7. Tishri	c. 16 Sept. to 15 October	Early autumn rains	(<i>ploughing and sowing - no harvests</i>)
8. Marchesvan	c. 16 October to 15 Nov.	Autumn / early winter	• Rice harvest (<i>winter wheat and barley planting</i>)
9. Chislev or Kislev	c. 16 Nov. to 15 December	Winter	(<i>Sowing of other cereal grasses</i>)
10. Tebeth	c. 16 Dec. to 15 January	Winter rains and snow on high ground	(<i>no harvests</i>)
11. Shebat	c. 16 January to 15 February	Late winter	• Almonds blossom • Winter figs and citrus harvest
12. Adar (<i>Year End</i>)	c. 16 February to 15 March	Early spring	• Harvest citrus fruit • Flax pulling

(Data from Bimson *et al*, p.64 and from Church Education System Old Testament Student Manual

[Religion 301] p.18).

Very relevant too to this discussion of food supply is the question of agricultural yield per hectare of agricultural land. Various climatic regions in Syro-Palestine would have produced different yields of grain per hectare. Using a generalised approach, let's assume for arguments sake that the food being produced is the staple wheat. Let's assume further that the ancient method of farming is fairly crude and labour intensive, and that iron implements are very scarce to non-existent, impacting negatively on final crop yields. Dry land farming techniques were applied, relying on the previous rain season for the soil's moisture content. The genus of wheat was not one of the modern cultivars familiar to us but probably something such as I-corn, an ancient but local variant related to modern wheat. In contrast to modern agricultural yields of approximately three to four and a half tons per hectare, ancient wheat growers operating under typical circumstances outlined above would average about *a half ton per hectare*. Exceptional rainfall at the correct time and assuming everything else goes well could see optimum yields reaching approximately the one ton mark. Without the benefits of modern fertilisers, further compounded by their system of continuous planting in the same fields every season, the resultant crops produced an ever-diminishing yield.

4.5.1.1. Some Basic Concepts of Nutrition. Unhealthy soldiers are counter productive to the prospects of successful military-statecraft. They cannot perform their functions well or in some instances even at all and become either redundant or a severe liability until their health and vitality is restored. It is an important function of military practitioners at all levels to concern themselves with the health of their military charges. This, among other things such as clothing and billets, means nutrition. Common wisdom dictates that the "basic raw material of good nutrition is

good food” (Davis, 1981:5). Nutrition is taken to mean the process of taking in and absorbing nutrients, and the process of being nourished. To nourish is ‘to provide with the food necessary for life and growth” (*Collins English Dictionary ... 2001*, s.v. ‘nutrition’ and ‘nourish’).

Food is energy – but it is also much more than that; food supplies the material for the growth and repair of every part of our body. Energy is however the principle focus here and is explained as the capacity for intense activity and vigour (*Collins English Dictionary ... 2001*, s.v. ‘Energy’). The relevance of energy is self evident in the context of this discussion on logistics. The sources of energy or *the fuel* for the human body are fats, carbohydrates, and proteins. The body in effect ‘burns’ these fuels to produce and to store energy, and to repair or grow body tissue. In broad terms, when foods containing these sources of energy are digested energy is derived from them to be used and stored in the body. The total energy produced when the body burns up food can be scientifically measured using the measurement term *calorie*. The calorific value of any fuel, including non-foodstuffs, is determined by the amount of heat that fuel produces in the burning process. A calorie is thus the amount of heat needed to *raise one gram of water through one degree Celsius* indicated by the lower case letter ‘c’. When dealing with foodstuffs however, the energy value of foods is calculated by the amount of heat needed to *raise one kilogram of water through one degree Celsius*. The term of measurement in this case is a kilocalorie (kcal) though it has become common and accepted practice to use the higher case ‘C’, as Calorie. Logistical planning has had certain constants to work with from antiquity to the present time, including the basic fact that the average adult

needs between *2000 and 3000 calories per day* to have energy sufficient for activity and the maintenance of good health (Davis, 1981:7, 80–83).

Foods occur in nature as a combination of proteins, fats, and carbohydrates, each component serving a particular nutritional need. Fats and carbohydrates are used mainly for the production and storage of energy and heat while protein is used for building and repair. The body needs carbohydrates for the energy and sugar they supply. Typically carbohydrates are found in cereals, fruit, and vegetables, all of which were cultivated in the Near East in antiquity and which constituted the staple diet of the peoples of the region. Regarding sugar, plants are nature's sugar manufacturers; their green leaves using the radiant energy of the sun to produce simple sugars which are then stored in the form of starch in the seeds and tubers. Starch in the form of all cereals, beans, peas, potatoes, and other roots and tubers, is the principle source of energy. The successful cultivation of cereal grasses, including wheat and to a lesser extent barley, were significant to ancient food security and played key roles in the transition from nomadic to sedentary lifestyles. It becomes obvious that the dictates of all levels of strategy and operational strategy in particular, are shackled to food and fodder supplies.

Likewise, fats are a major energy source for the body. Fats exist in two basic categories; animal fats and so-called vegetable fats. The table below firstly alerts us to what are the principle sources of fats and *secondly to the ready availability of these items to people who lived in ancient Palestine.

PRINCIPAL SOURCES OF FATS

ANIMAL	VEGETABLE
*BUTTER	*ALMONDS

*CHEESE	BRAZIL NUTS
*EGGS	FILBERTS (a kind of a hazel nut. Walnuts and almonds were the nuts more common to ancient Palestine)
*CREAM	PEANUTS
*BACON	COCONUTS
*PORK	AVOCADO
*FISH LIVER OIL	VEGETABLE OILS (*sunflower, safflower, *sesame, *olive, corn, *cottonseed)
*MEAT FATS (lard, mutton fat, etc.)	
FATTY FISH (herrings)	*OLIVES

(Data from Davis, 1981:57–58).

At least two major vegetables and many of the listed animal sources of fats were readily available in the ancient Near East. Good health requires that we take in more vegetable than animal fats in our diets. Sugars provide instant sources of energy while fats tend to give a longer, more constant source of energy. In cold climates and winter months, or when hard physical labour increases, there is an increased need for fat in the diet (Davis, 1981:chapters 1, 2, 8 and 9).

Suffice it to say on the matter of protein that water aside, protein makes up the largest proportion of the human body. It is impossible for human life to exist without protein. A constant supply of it is needed at all times to sustain life. A protein deficiency in the diet is characterised by anaemia, lack of muscle tone, fatigue, and poor resistance to infectious diseases. There is a lot of evidence, past and present, which shows a lowering of resistance to infection after times of hardship and starvation. Such epidemics of serious disease tend to follow disasters, wars, and other causes of famine (Davis, 1981:chapter 11).

4.5.1.2. Energy Values of Syro-Palestinian Foodstuffs. Let it be assumed that the modern nutritionist and the paleo-botonist and –zoologist are agreed upon the energy values of the following foodstuffs, and that the passage of time has not affected the energy values of these genetically unmodified foods in any significant way. The foods listed below are common, if not a comprehensive, to the region and the period of this dissertation. The table shows the relationship between the components (how many grams of protein, grams of fat and grams of carbohydrates) in a 100g portion of that foodstuff and how much energy it makes available to the human body when consumed. The foods are ranked according to their energy-providing values. A backslash symbol (/) represents only a minor trace of that component in that foodstuff, too small to be measured. Heat affects the energy value of food. The effects are indicated and the cooking method has been shown in parenthesis. All other foodstuffs entered on this table reflect values of such food in the uncooked state.

NUTRITIONAL DATA OF FOODSTUFFS COMMON TO THE NEAR EAST

Food Type (100 gram portion)	Energy (kcal)	Protein G	Fat G	Carbo - Hydrates G
1. Sunflower-seed oil	899	/	99.9	0
2. Lard; soft white pig fat	891	/	99.0	0
3. Olive oil	884	0	100	0
4. Butter	740	0.4	82.0	/
5. Almonds, (shelled)	598	18.6	54.2	4.3
6. Sunflower seeds	560	24.0	47.3	19.9
7. Cheese, Cheddar	406	26.0	33.5	/
8. Oatmeal, raw	401	12.4	8.7	72.8
9. Egg yolk	339	16.1	30.5	/
10. Flour, rye	327	16.3	2.6	68.1
11. Wheat, shredded	324	10.6	3.0	67.0
12. Flour, whole-wheat	318	13.2	2.0	65.8
13. Pork, roast	286	26.9	19.8	0
14. Lamb chops, (grilled)	277	18.3	22.6	0
15. Liver, calf (fried)	254	26.9	13.2	7.3
16. Dates	248	2.0	/	63.9
17. Raisins	246	1.1	/	64.4
18. Bread, rye	243	9.1	1.1	52.1
19. Currents, dried	243	1.7	/	63.1

20. Bread, whole-wheat	216	8.8	2.7	41.8
21. Figs, dried	213	3.6	/	52.9
22. Peaches, dried	212	3.4	/	53.0
23. Wheat husks	206	14.1	5.5	26.8
24. Fish, Kipper (baked)	205	25.5	11.4	0
25. Beef (roast)	192	27.6	9.1	0
26. Olives, ripe, black	184	1.2	20.1	3.2
27. Chicken, (roast)	148	24.8	5.4	0
28. Eggs, (boiled)	147	12.3	10.9	/
29. Turkey, (roast)	140	28.8	2.7	0
30. Barley, pearl (boiled)	120	2.7	0.6	27.3
31. Olives, green	116	1.41	12.7	1.3
32. Potatoes, (baked)	105	2.6	0.1	25.0
33. Lentils, (boiled)	99	7.6	0.5	17.0
34. Potatoes, (boiled)	80	1.4	0.1	19.7
35. Milk, goat's	71	3.3	4.5	4.6
36. Milk, cow's	65	3.3	3.8	4.7
37. Grapes	61	0.6	/	15.5
38. Apples	56	0.2	0.3	13.9
39. Peas, (boiled)	52	5.0	0.4	7.7
40. Apricots	51	1.0	0.2	12.8
41. Cherries	47	0.6	/	11.9
42. Beetroot, (boiled)	44	1.8	/	9.9
43. Figs	41	1.3	/	9.5
44. Kale; a type of cabbage)	39	4.5	0.7	6.1
45. Orange juice	38	0.6	/	9.4
46. Plums	38	0.6	/	9.6
47. Peaches	37	0.6	/	9.1
48. Buttermilk	36	3.6	0.1	5.1
49. Egg white	36	9.0	/	/
50. Oranges (peeled)	35	0.8	/	8.5
51. Spinach (cooked)	30	5.1	0.5	1.4
52. Melon, cantaloupe	24	0.6	/	5.3
53. Carrots	23	0.7	/	5.4
54. Grapefruit	22	0.6	/	5.3
55. Peppers, green	22	1.2	0.2	4.8
56. Beans, string green	19	1.9	0.2	2.7
57. Artichokes, Jerusalem (boiled)	18	1.6	/	3.2
58. Cabbage, white	15	1.7	/	2.3
59. Pumpkin	15	0.6	/	3.4
60. Onions (boiled)	13	0.6	/	2.7
61. Lettuce	12	1.6	0.4	1.2
62. Cucumber	10	0.6	0.1	1.8
63. Celery	8	0.9	/	1.3
64. Lemon juice	7	0.3	/	1.6
65. Celery (boiled)	5	0.6	/	0.7

(Data from Davis, 1981:338 – 348).

With the above data at our disposal we gain some idea of the volumes of food needed to sustain units of warriors in the field. The mustering of sizeable military forces for the pursuit of political goals by means of military statecraft present huge logistical challenges. Most often offensive operations had to be planned to coincide with the harvest seasons of the principle cereal grasses. Defensive operations had to contend with the difficulties of siegecraft. When logistics broke down or proved inadequate, offensive operations had to be suspended or the defenders had to capitulate. Little wonder that plagues and famine came in the train of warfare. Some rudimentary calculations can be made to determine what volumes of typical foodstuffs, in their due harvest seasons, would be necessary to sustain those forces in the field. The manpower claims of the texts become measurable and assist scholastic efforts to reconcile texts with cultural remains and the geography of the region concerned.

4.5.1.3. Energy Requirements for Relative Activities.

The *basal metabolic rate* (henceforth BMR) is a measurement of how much energy the human body consumes to perform its basic functions such as muscle tension to keep balance, pumping action of the heart, breathing actions of the lungs, and the like. The average BMR over a 24 hour period is given as 1500 calories. It does not include work, exercise or other forms of activity. Besides supplying the 1500 calories for the BMR, sufficient food must be supplied for various military activities. Differences in calories needed are produced by climate (the colder the season or climate, the more calories are needed), gender (females need fewer calories than men; Davis gives 2 200 calories as the standard requirement for women) or age. Older humans require fewer calories due to a slowing down of physical activity etc. Most fighting and military campaigning occurred in the summer seasons, most warriors and conscripts were

men, and the latter tended to be in their early period of manhood. These generalisations are deemed appropriate and sufficient for the topic at hand.

The table below gives a sampling of typical physical activities and proposes approximate military equivalents. The calories needed for one person to perform one such activity for the period of an hour is given alongside. With these values to hand, all that remains for calculating the victuals aspect of logistics is to consider how many soldiers were present and the duration of the activity, the accuracy of the calculation depending on the accuracy of the data in the textual records.

ACTIVITIES AND ENERGY SUPPLY

Normal Activity	Approximate Military Equivalent	Calories (per hour)
Digging	Preparing fortified defensive works such as walls, parapets and earthworks, or undermining them.	600
Running	Storming enemy units or positions	570
Jogging	Manoeuvring at speed under weight of combat equipment	500
Playing squash	Hand to hand fighting during the tactical melee	480
Exercising	Porting military equipment and supplies	360
Walking fast	Route marching such as during strategic operations	350
Horseback riding	Movement of cavalry and chariotry units	350
Bowling (10 pin)	Drawing of archery weapons and hurling of light spears, javelins, and slingshot and other ballistic missiles.	250
Walking	Marching.	180
Sitting	Passively occupying defences or an interval before resuming the march.	100

(Adapted from Davis, 1981:87)

These generalised laboratory findings provide at least a basis for logistical insight. It should be clear to even the military novice that such fine cataloguing of energy consumption does not reflect with precision upon empirical reality. Combinations of several of the above activities can take place for any amount of time, thus compounding the calculation of energy consumption. Scholars in the field of strategic studies such as Martin van Creveld, when evaluating the victuals (food and water)

aspects of logistics, tend to work with the rounded off generalisation of 3000 calories per person per day (Van Creveld, 1977:1). The fictitious example that follows will serve both to illustrate the food supply aspect of logistics in the ancient Near East as well as to provide a simplified rule of thumb gage for calculating volumes needed for military forces in the field per day. The logistics for a mustering of 3000 warrior strong force required the following considerations;

(a) Food

3000 kj (kilojoules) per warrior per day. (*Roughly double the normal calorie intake for adult males per day due to increased physical activity associated with combat plus BMR*).

= 3000 kj x 3000 warriors

= **9 000 000 kJ** (minimum) needed from foodstuffs.

Bread remained the staple foodstuff for all peoples throughout the ancient Near East.

This would have been typically supplemented by seasonal fruits, nuts, and olives (Matthews, 1995. pp. 19 – 20). The food consumed before or during the day by 3000 warriors may have included the following conjectured volumes to achieve the minimal energy and nutritional values per warrior:

FOODSTUFFS	ENERGY CALORIES Kcals / 100g	QUANTITY PER WARRIOR	ENERGY VALUE
* WHEAT BREAD	216	8 x 100g SERVINGS	1728 kj
* BLACK OLIVES	184	1 x 100 g SERVING	184 kj
DRIED FIGS	213	1 x 100g SERVING	213 kj
DATES	248	1 x 100g SERVING	248 kj
ALMONDS	598	1 x 100g SERVING	598 kj
GOAT'S MILK	71	2 x 100g SERVING	142 kj
TOTAL / WARRIOR			3113 kj

The required energy / nutritional value: **3000 warriors x 3113 kJ = 9 330 000kJ.**

*A standard modern loaf of bread is approximately 800g in mass. A supermarket standard sachet of olives, drained of brine, is 100g. This may be helpful in visualising the quantities of food involved to meet the daily nutritional requirements of the ancient warrior, and by extension, the unending challenges of supplying those needs.

To supply a force of 3000 warriors *for one day*, the following volumes are required:

- Wheat Bread: $800\text{g} \times 3000 = 2\,400\,000\text{g}$ or **2 400 kg of bread**
- Black Olives: $100\text{g} \times 3000 = 300\,000\text{g}$ or **300 kg of olives**
- Dried Figs: $100\text{g} \times 3000 = 300\,000$ or **300 kg of dried figs**
- Dates: $100\text{g} \times 3000 = 300\,000$ or **300 kg of dates**
- Almonds: $100\text{g} \times 3000 = 300\,000$ or **300 kg of almonds**
- Goat's Milk: $200\text{g} \times 3000 = 600\,000$ or **600 kg of goat's milk**

Assuming the ideal logistical situation, where these or suitable seasonal equivalent foodstuffs were available, the total daily volume of food for a force of 3000 warriors would have been *approximately 4 200 kg, or 4,2 metric ton's*. Using this as a rough gage, the general formula of **1,4 tons suitable food per 1000 warriors** (or 140 kg's of food per 100 warriors, or 1,4 kg's per warrior) has some merit.

(b) Water.

Minimum water intake per day / warrior: 500 ml. This must be increased according to activity levels and local climatic conditions.

Thus;

3000 warriors x 1 litre each = 3000 litres.

To state this in a formula: **1 litre per warrior per day (minimum).**

4.5.2. Water Sources in Syro-Palestine, as Typical of the Fertile Crescent at Large.

The second part of the victual aspect of logistics is water supply. The human body is composed largely of water: more than two-thirds of its make up is water. This large volume of water is distributed among the cells, the tissue fluids that surround them, and the blood plasma. Davis asserts that for the kidneys to function properly as the body's dedicated fluid filtering organs, the average person must have a daily intake of approximately one pint (where a pint = 474 ml.) of water (1981: p.199). Round off to a half litre (500 ml) for practical purposes. This intake provides for the obligatory water loss in the filtering and excretion of wastes. It is possible under 'survival' conditions to get by with less, as long as there is sufficient liquid to remove toxins and other body wastes. Climate and activity also influence water loss and adequate replacement must be supplied to assure continued health and vitality. Not to be overlooked is water that is also supplied to the body from foodstuffs, as outlined from the following table of sample foods. This however is obviously inadequate to meet the minimum demands of health and nutrition as discussed above.

PERCENTAGE OF WATER COMPONENT IN FOODS

FOODS	PERCENTAGE OF WATER
Vegetables	75 – 95%
Fruits	75 – 90%
Milk (whole)	88%
Fish	50 – 80%
Cottage cheese	79%
Meats	50 – 70%
Cereal's	10%
Nuts	5 – 8%

(Data from Davis, 1981:199).

Water supply and replenishment are key aspects of successful logistical planning.

Careful consideration must be given to the availability of water; the dryer the environment, the effects of climate, access to local infrastructure, density of

population, and the consistency of weather patterns - all the greater the need for painstaking logistical planning. Neither offensive operations nor defensive actions are viable if the volume of water supply is an irreconcilable problem. Natural and artificial supplies are thus crucially important to military operations and cognition must be taken of water supply volumes in all its various forms in order to gauge the scope for strategic operations. It should be obvious that water supply would vary according to region and season. Water supply has prompted extravagant engineering works such as Hezekiah's Tunnel, Babylonian canals and the renowned Roman aqueducts. The circumstance of the common man is our point of departure here. We must look for answers regarding water supply *en masse*, at least sufficient for sustaining large concentrations of warriors. For purposes of inductive reasoning, it is noteworthy in ecological terms to mention an observation by Bimson *et al* that overall climate patterns have not altered radically since antiquity in the Near East. The author observes: "Accepting that fluctuations can and do occur, there is no archaeological evidence for significant change. Near the Gulf of Aqabah, for example, excavated Roman gutters still fit the springs for which they were constructed" (Bimson *et al*, 1992:14).

A brief review of water sources including modern measurements of mean annual rainfall and annual dew amounts may be instructive for a background to the water aspect of logistical studies in the region. Such a review will open to our minds the several hard and uncompromising factors which ancient strategists had to take cognition of in their forward planning for operations in this region.

4.5.2.1. Springs, Wells, Streams and Rivers. The Jordan River in Israel, the Litani or Leontes in Lebanon and the Orontes which flows through Lebanon, Turkey, and Syria are the perennial streams and rivers in the Levant (Craffert, 1995:16). Perennial streams are quite rare with only the *Far 'a* and the *Malih* remaining active to the present day in Israel itself. Further east and southwest lay the major rivers Tigris and Euphrates of Mesopotamia and the Nile of Egypt. Many *wadi's* (Arabic for dry riverbeds), which contain water for short periods, criss-cross the landscape and are seasonal. Springs (or '*ain*' in Arabic) are defined as a source of a permanent stream of water. Biblical texts use the word '*ayin*' to describe them. The common well is an artificial water source, dug into the water table, and ought to be regarded as a relatively poor water supply for logistical planning purposes (Zertal, 1988: 342–343).

Man is inclined to settle as close to a perennial water supply as possible. As a general rule of thumb, demographic patterns – particularly in terms of density, serve as an indicator of existing water supply. This pattern was affected by the diffusion of technology in water supply and storage. During the Late Bronze Age, large collar-rim pithoi, with an approximate capacity of 150 – 200 litres (this is comparable to a 48-gallon drum that holds about 181 litres) served as water storage apparatus. Water was transported from distant sites by the householder's donkey and gathered into these large collar-rim jars.

Zertal's study of the water factor in settlement patterns shows the gradual disappearance of the collar-rim pithoi with a corresponding increase of plastered

cisterns over the same period. At the site Izbet Sartah a statistical analysis of pottery types was carried out; the pithos represented 27% of all jars found in the 12th century strata, while pithos in the early 11th and late 11th century strata represented 19% and 17% respectively of all pottery at that site. Very few rock-hewn cisterns were found in the region during the 12th century, but by the 10th century the plastered cistern had become a common household apparatus (Zertal, 1988:351) - a very relevant observation for IA IIa apropos the steady increase in Israel's manpower component of her war potential.

Zertal's study was made in the vicinity of Dothan, which lies in the 'Mediterranean' climatic zone of Palestine and may be taken as a reflection of the diffusion of hydro-technology throughout the ancient Near East by IA II, particularly in comparable climatic conditions. The increase of plastered cisterns was attributable to the increasing amounts of iron tools then in circulation among the general population, and the technical know-how to successfully work the hard limestone rock. Standard household bell-shaped cisterns could hold nearly 30 cubic meters of water. This quantity is more meaningful when considered in a domestic context. In a normal civilian lifestyle (non-military), the average daily quantity of water consumption is about 20 litres per person per day (excluding bathing). That calculates out to 7 cubic meters *per year*. For livestock provision, the following table has been taken from Zertal's paper and gives some helpful guidelines (Zertal, 1988:346).

ANNUAL WATER CONSUMPTION BY DOMESTIC ANIMALS

Animal (per head)	Water <i>per year</i> (cubic meters)
Sheep	3 – 4

Cattle	9
Donkey	4
Horse, mule, camel	8

(Data from Shmueli in Zertal, 1988:346)

The *average* agrarian Iron Age 1 household would typically have included say 5 persons, 2 donkeys, 4 cows and oxen, and 20 sheep. Total domestic average requirement for such a household per year would be 160 cubic meters. The household cistern could thus supply basic water requirements and would need to be refilled over five times in the course of the year. Alternatively, the household would need additional cisterns if water supply for refilling were limited. The net result was a change in earlier settlement patterns. It was possible for people to settle further and further away from principal water sources (Zertal, 1988:350). The changing demography began to also change lifestyle patterns in the region. Concerning the Iron Age in general, the two major preoccupations were agriculture and defence (Bimson *et al*, 1992:54) – and water supply was a key factor to both. These developments had significantly begun to alter the war potentials of the states and political entities throughout the region.

4.5.2.2. Dew. The highest measurements of annual dew are recorded along the coast with its moist air currents and in the high lying places of the Mediterranean climate zone of Palestine. This would hold true for other regions under similar climatic conditions in the ancient Near East (Bimson *et al*, 1992:15). The dew factor has a more direct bearing upon agriculture and war potential than upon operational strategy and military potential. Its value is most evident in the hot and drier summer months.

Such dew is sufficient to sustain dry farming in the absence of rain, giving assistance to the vine harvest and some relief to dry pastures in times of drought (Bimson *et al*, 1992:14).

(Data from Bimson *et al*, 1992:15)

4.5.2.3. Rainfall Seasons and Water Catchment. The chart of climatic zones are most instructive for recording precipitation. Rainfall is seasonal, and closely associated with the cool season. The early rains in Palestine result from misty sea air encountering the hot, dry air from the land. Thus toward the end of the dry summer months, the months of *Tishri* to *Marchesvan* (mid-September to mid-October), thunderstorms and irregular rainfall occurs. The more regular rains, colloquially referred to as the ‘former rains’ follow thereafter. Occasionally because of drought the former rains only arrive in the month of *Tebeth* (late December to early January). These former rains are eagerly awaited as they bring relief from heat and produce bright clear skies. The ‘latter rains’ come toward the end of the cool season, normally around the month *Nisan* (mid-March to mid-April). The mean annual rainfall is illustrated in the map below;

(Data from Bimson *et al*, 1992:15)

The importance of rain is not limited only to the victuals aspect of water supply and replenishment throughout the region, but it also bears upon that aspect of logistics to do with the mustering of troops and ‘communications’ i.e. movements of military forces. Modern all-weather roads did not exist so the movement of numerous personnel and animals along dirt roads and tracks in inclement weather soon reduced the same to mire and bog. Strategic operations and tactics were adversely affected under such conditions. Operating in unit formations was a salient characteristic of warfare in the ancient world and was quickly reduced to chaos under wet conditions. Mounted troops were severely inhibited under inclement conditions. Thus knowledge of the wet and dry seasons is largely commensurate with knowledge of the viable campaign season as well – a general factor that is helpful in fleshing out the cultural backdrop to the ancient textual records. The map below illustrates the regional similarities between Palestine and the remainder of the Near East.

(place Fertile Crescent / Isotope map here)

The Ancient Near East’s Fertile Crescent.

(picture from Miller and Hayes, 1986:32)

4.5.3. Road Networks and General Topography: Aspects of Communications

When the ancient Near East is considered in its geographical entirety Palestine stands out as the most important strategic junction. It is variously described, even as a 'land-bridge' between the three continents of the ancient Near East. Indeed, the macro-geographic view identifies Palestine as the outstanding isthmus of planet earth, connecting as it does the world-island of Europe, Asia and Africa. Accordingly, keen logistical attention will be paid to the communications aspect of Palestine. The road network played a vital cultural role, affecting in its wake the course of world history. Sea-born communications between the Indies and the Mediterranean converged on Palestine, as did the transcontinental east-west land-routes. The east-west high mountain chains from Asia Minor to Kurdistan, in concert with the deserts to the south and east, combined to concentrate the routeways of the Fertile Crescent.

4.5.3.1. Highways, Main Routes, and Secondary Roads. In Palestine itself three great trade routes have for millennia-long traversed the region. Firstly, the so-called '*Way of the Sea*' which runs along the low coast from Egypt to the Valley of Esdraelon, east of Mt. Carmel (Esdraelon is the Greek name for its Hebrew equivalent 'Jezreel'). This trunk road then turns inland toward the Sea of Galilee. There it turns northward, skirting along the western shore, through the Syrian Gate and central depression to Damascus. At Damascus the road turns eastward where it joins the caravan trails to Mesopotamia.

The second great trunk road is remembered to us as the '*King's Highway*'. It follows the edge of the Transjordan plateau from the Gulf of Aqabah toward Damascus. The King's Highway marks a zone of increased rainfall, an important factor in logistical

studies. It is also noteworthy that it was along this route that the host of emancipated Israel migrated from Egypt to Canaan. Several settlements were established along this route.

The third major trunk road is the shortest; it is located between Sinai and Canaan and connects a series of important wells in the northern Negeb. This highway keeps west of the forbidding, barren depressions of the eastern Negeb. Besides the strategically important wells, the road also links historically important sites from Kadesh-barnea and Beersheba to Hebron, Jerusalem, Shechem and Megiddo. This major road like the two mentioned above was on a north-south orientation. The central trunk road traced the watershed of central Palestine. All these highways were heavily travelled from the Middle Bronze Age onwards and endowed the communities who settled along their course with rich trade and culture contacts. Only for small periods of her history was Israel able to exercise control over these principal travel routes without upsetting the strategic interests of the great regional powers that dominated the terminals of these routes. “Even in Solomon’s day the coastal highway was too tightly controlled by the sea powers to warrant interference there (1Kings 9: 11 and 10: 22), while Edom was Israel’s long time deadly enemy because it dominated the routes from the Gulf of Aqabah where Israel obtained its copper”.

Several minor transverse routes connected these parallel-running highways. Their significance to the logistical infrastructure needs to be noted. Much of the movement of military forces within Palestine took place between Israel and her enemies along these highways and byways. The important byways included the *Gaza – Beersheba – Petra* route, Ashkelon - Gath – Helvan, Joppa – Bethel – Jericho, Joppa – Shechem –

Adam – Gilead and the Vale of Esdraelon – Megiddo – Gilead route (*The New Bible Dictionary* ... 1974, s.v. 'Palestine').

4.5.3.2. General Topography. Five geographical zones are used to describe the topography of Palestine. The seaboard of the Eastern Mediterranean is referred to as the Littoral, the western mountain chain i.e. the Judean-Galilaeen Highlands extending to include Lebanon and the Ansariya mountains, and thirdly the rift valleys which include Arabah, Jordan valley, Biqa and Ghor. The fourth and fifth geographic zones of Palestine are the eastern mountains i.e. the highlands of Transjordan, Mt. Hermon, and Anti-lebanon, and the deserts of Negeb, Arabia, and Syria.

Beyond Palestine, but exerting great cultural pressure on her, lay Egypt and Mesopotamia, the cultural powerhouses of the ancient Near East. For regional topographical context however, a few geographical observations are made here. Unlike the modern state of Egypt, which comprises some 386 200 square miles of territory, Egypt of antiquity was the land reached by the Nile river – effectively about 4% of the territory mentioned above, the rest being uninhabitable desert. Even in modern times, upon the current summit of millennia-long technological evolution, some 99% of Egypt's population still only live within the 4% of habitable territory alongside the Nile River.

Mesopotamia was the other principal hydraulic culture of the ancient Near East. Mesopotamia is an artificial name used to describe the whole Tigris-Euphrates valley. Babylonia, the southern portion, was a flat area of about 8000 square miles. The Arabian desert separated it from Palestine to its east, Assyria lay to its north, and the

broken terrain of Elam made up its western border. The Persian Gulf was Mesopotamia's southern boundary. Assyria was located in the upper Mesopotamian plain, bounded on the west by the Syrian desert, to the south by Babylonia, to the north and east by the Urartian and Persian hills. Even more so than Babylonia, Assyria enjoyed no significant natural defences. The meridian of both Egypt and Mesopotamia's vast war potentials belong to other archaeological periods, but their power in terms of their cultural influence was still a major factor and bore heavily upon the conglomerate cultures of Palestine during the IA IIa period.

4.5.4. Logistical Supply Systems in Iron Age IIa.

Van Creveld (1977:231) observes that logistics "is nothing but an endless series of difficulties succeeding each other". His assertion is probably timeless, the degree of 'difficulties' only varying according to scale of operation and to technological sophistication of the peoples involved. In the agrarian based economy of IA IIa, scale of operation and technological evolution were rudimentary rather than advanced in comparison to the huge empires that were still to follow in the first millennium B.C.E.

Well-devised systems are an effective way of dealing with difficult and recurring problems and challenges. What *movement* and *supply* systems obtained, if any, in the ancient Near East IA IIa period? While technology, one of the four basic components of the foundations of military force, constantly imposed changes upon logistical supply systems, the rate of change was at best minor and only at a very gradual rate. There are certain fundamentals that were and still are reliably consistent. These include the average range and marching speed of foot or mounted warriors, water consumption and the amount of calories needed to sustain vigour and health for both

man and beast. Also, the topography and nature of terrain and the general consistency of regional weather patterns and seasons. Working within the given spatial and time frame of IA IIa Near East, these constant factors invite empirical based research.

Movement was mainly on foot and the logistics for most operational strategy was reckoned in terms of infantry route marches. Most operations in IA IIa Palestine and the surrounding region was carried out within a 400 km radius from Jerusalem. This spatial band included within its range the Nile delta, the Lebanon, Edom, Moab, Ammon, Gulf of Aqabah, and Cyprus. Twice that range reached Mesopotamia. Drawing from my personal experience as an infantry platoon sergeant in a modern army, the average marching range, with kit weighing up to 70 pounds (or 31 kg's) is about 20 km in fairly good terrain. This marching range would be reduced if heavily laden troops had to negotiate their way through difficult terrain or across country in the absence of roads and increased to about 30 km's per day when such exigencies warrant the strain. Operating closer to home allowed the troops to reduce their campaign gear and consequently their total encumbrance.

For applied logistical calculations, movement as an aspect of logistics will be assumed as an average of 20 km's per day. Highly disciplined armies such as the armies of Republican Rome were toughened-up so as to march an average of 30 km's day under normal conditions, still leaving sufficient time at the end of the day to build a camp covering approximately 80 square meters. Connolly asserts that the Roman army could force-march up to 50 km's a day if hard pressed to do so (Connolly, 1975: 52). A group of warriors would move at the speed of the slower majority, the crude

units of the yet-developing cavalry still being an ancillary component of most armies during this period. The infantry remained the main fighting arm of the IA IIa period.

The table below is based upon the above mentioned rate of march factors and serves both to illustrate and provide a generalised data table for the movement component of logistics. The selection of places is based on general trade nodes for the region.

Operational strategy within the Near East during the IA IIa period would have traversed the geographical points listed below;

MOVEMENT ASPECT OF LOGISTICS

Nation – State / King	Principle Base(s) of Operations	Operational Destinations in the Region (places)	Distances between Places <i>(as the crow flies)</i>	Infantry Marching Rate @ 3.5 km / h	Minimum Campaign Days needed for Movement
United Israel					
• Saul	Gibeah	1. Jabesh in Gilead (Ammonites)	72 km's	20, 5 hours	2 days and a morning
		2. Berothai (Zobah, Aram)	260 km's	74, 3 hours	9 days hard marching
• David	1. Gath (<i>Tell es-Safi</i> option)	Kadesh-barnea (Amalekites)	93 km's	26, 6 hours	3 days and a morning
	2. Adullam	Keilah	4,5 km's	1, 3 hour	1 morning
	3. Wilderness of Ziph.	En-gedi	24 km's	6, 8 hours	1 day
	4. Ziklag	Kadesh-barnea (Amalekites)	88 km's	25,1 hours	3 days hard marching
	5. Hebron	Jerusalem	30.6 km's	8,7 hours	1 day's hard march
	6. Jerusalem	Helam	150 km's	42,9 hours	At least 5 days hard marching
	7. Mahanaheim	Jerusalem	61 km's	17,4 hours	2 days march
• Solomon	Jerusalem	1. Hazor	142 km's	40,8 hours	At least 5 days march
		2. Megiddo	89 km's	25,4 hours	3 days march
		3. Gezer	33 km's	9,4 hours	1 day's march
		4. Ezion-Geber	260 km's	74,3 hours	At least 9 days hard march
		5. Tarsus (Que/Cilicia)	730 km's	209 hours	About 26 to 30 days march

Philistia					
• Gath	Gath	1. Gibea	50 km's	14,3 hours	2 days march
		2. Jerusalem	48 km's	13,7 hours	2 days march
• Gaza	Gaza	1. Ezion-geber	228 km's	65,1 hours	8 days march
		2. Kadesh-Barnea	101 km's	28,9 hours	About 3,5 days march
		3. Tanis – Zoan	244 km's	69,7 hours	About 9 days march
• Ashkelon	Ashkelon	1. Jerusalem	66 km's	18,9 hours	2,5 day march
		2. Tyre	188 km's	53, 7 hours	6,7 day march
		3. Thebes	810 km's	232 hours	29 - 35 days march at least.
• Ashdod	Ashdod	1. Hebron	50 km's	14,3 hours	2 days march
		2. Nineveh	835 km's	239 hours	30 – 35 days march at least
		3. Rabbah	124 km's	35, 4 hours	4,5 days march
• Ekron	Ekron	1. Acco	152 km's	43 hours	5,5 days march
		2. Ugarit	394 km's	112,6 hours	14 days march
		3. Dor	84 km's	24 hours	3 days march

Aramaean states	Principle Base(s) of Operations	Operational Destinations in the Region (places)	Distances between Places (as the crow flies)	Infantry Marching Rate @ 3.5 km/h	Minimum Campaign Days needed for Movement
• Aram	Damascus	1. Sidon	86 km's	24,6 hours	3 day's march
		2. Kadesh (in Galilee)	87 km's	24,8 hours	3 day's march
		3. Hazor	85 km's	24,5 hours	3 day's march
		4. Jerusalem	220 km's	62,9 hours	8 day's march
• Zobah	Hamath	1. Ugarit	90 km's	26 hours	3,3 day's march
		2. Gozan (in Beth-Eden)	390 km's	112 hours	14 day's hard march
		3. Qarqar	78 km's	22,3 hours	2,8 day's march
		4. Jerusalem	209 km's	59,7 hours	7,5 day's hard march
• Gozan	Gozan	1. Nineveh	240 km's	68,6 hours	8,6 day's march
		2. Aleppo	268 km's	76,6 hours	9,6 day's march
		3. Mari	262 km's	74,9 hours	9,4 day's march
		4. Haran	82 km's	23,4 hours	3 day's march

Phoenician city –states					
• Arvad	Arvad	1. Ugarit	95 km's	27 hours	3,4 day's march
		2. Simyra	18 km's	5 hours	Half day's march
• Byblos	Byblos	1. Berytus	46 km's	13 hours	1,6 day's march
		2. Hazor	125 km's	35,7 hours	4,5 day's march
• Sidon	Sidon	1. Dor	107 km's	30,6 hours	3,8 day's march
		2. Tanis / Zoan (Egypt)	534 km's	153 hours	20 day's march

• Tyre	Tyre	1. Jerusalem	166 km's	47,4 hours	6 day's march
		2. Tarsus (Cilicia)	529 km's	151 hours	19 day's march

Transjordan States	Principle Base(s) of Operations	Operational Destinations in the Region (places)	Distances between Places <i>(as the crow flies)</i>	Infantry Marching Rate @ 3.5 km / h	Minimum Campaign Days needed for Movement
• Ammon	Rabbath-ammon	1. Medeba	29 km's	8,3 hours	1 day march
		2. Jerusalem	44 km's	12,5 hours	1,5 day's march
		3. Damascus	177 km's	50,8 hours	15,8 day's march
• Edom	Sela (Petra)	1. Rabbath-ammon	187 km's	53,4 hours	6,7 day's march
		2. Hebron	136 km's	38,9 hours	4,9 day's march
		3. Memphis / Noph	416 km's	119 hours	14,9 day's march
• Moab	Dibon	1. Aroer	5 km's	1,4 hours	Half morning march
		2. Jerusalem	70 km's	20 hours	2,5 day's march
		3. Heshbon	30 km's	8,6 hours	One day's hard march

Mesopotamia					
• Babylonia	Babylon	1. Nineveh	440 km's	126 hours	16 days march
		2. Memphis / Noph	1516 km's	433 hours	54 day's march
		3. Jerusalem	1070 km's	305,7 hours	38,2 day's march
• Assyria	1. Assur	1. Mari	266 km's	76 hours	9,5 day's march
		2. Carchemish	516 km's	147,4 hours	18,4 day's march
		3. Tyre	772 km's	220,6 hours	27,6 days march
	2. Nineveh	1. Lachish	978 km's	279 hours	35 day's march
		2. Tarsus (Cilicia)	726 km's	207,4 hours	30 day's march
		3. Megiddo	868 km's	248 hours	32 day's march
	3. Calah (Kalhu)	1. Samaria	916 km's	262 hour's	33 day's march
		2. Ecbatana	521 km's	149 hours	18,6 day's march
		3. Damascus	731 km's	208,9 hours	26 day's march

Africa Connection	Principle Base(s) of Operations	Operational Destinations in the Region (places)	Distances between Places <i>(as the crow flies)</i>	Infantry Marching Rate @ 3.5 km / h	Minimum Campaign Days needed for Movement
• Egypt	1. Thebes	1. Megiddo	938 km's	268 hours	33,5 day's march
		2. Hazor	1000 km's	286 hours	36 day's march
	2. Memphis	1. Jerusalem	560 km's	160 hours	20 day's march
2. Sais (Delta)		136 km's	39 hours	5 day's march	
3. Ur		1100 km's	314 hours	40 day's march	
• Libya	Cyrene	1. Tyre	1550 km's	443 hours	55 day's march
		2. Thebes	1400 km's	400 hours	50 day's march

• Nubia (Cush)	Napata (near Nile's 4 th cataract)	1. Memphis	1980 km's	566 hours	70 day's march
		2. Thebes	1260 km's	360 hours	45 day's march

(Distances calculated on maps from Bimson *et al*, 1992).

One final logistical supply system needs to be considered. Maritime travel and trade was already a well established fact in the ancient Near East. Such travel is in many ways easier than overland travel (Ap –Thomas in DJ Wiseman, 1973: 262). The arrival of the confederated Sea Peoples had already reshaped the political landscape of the East Mediterranean during the Late Bronze Age. The Phoenicians and the Egyptians had extensive networks of maritime trade, their vessels plying their trade across the sea routes of the Mediterranean and beyond by the onset of IA IIa. By this time period sea travel and maritime logistics were already at an advanced stage in the region. King Hiram of Tyre and Solomon established a merchant fleet at the port of Enzion-geber (Elath) wherewith to trade up and down the Red Sea.

Regarding maritime enterprise and maritime travel's bearing on logistics, several factors interact at sea interact to determine a vessel's sailing speed, such as wind speed and direction, design and displacement of vessel, proficiency of captain and crew, tides and currents. Ships fell into one of two possible categories, armed vessels suited for maritime combat and the very 'beamish' merchant vessels that functioned as transporters. Such vessels are variously described as a floating walnut or as a deep bowl. These merchant vessels had a carrying capacity of about 100 to 150 tons, and were dependent upon a single square sail for their propulsion.

For at least some kind of orientation to nautical travel constraints, one rudimentary example is provided below;

- Maritime travel from Crete to Alexandria, Egypt.

Distance (*as the crow flies*): 483 km

Approximate time in hours for an average, small sized sailing vessel (*assuming a favourable breeze*): 50 hours or approximately two days steady sailing.

4.6. The Early Beginnings of Maritime Power in the Eastern Mediterranean.

The coast of Palestine, as far north as Dor near Carmel, is exposed to sedimentation from the Nile. The problem of silting, combined with the smooth coastline of the Plain of Philistia and the Plain of Sharon has challenged the development of enduring ports. Joppa (*modern Jaffa*) to the south-west endured better than most but its longevity owed more to its proximity to Jerusalem. During IA IIa Joppa was a place of importance; it served as Solomon's principal port for economic liaisons in the Eastern Mediterranean (see 2 Chronicles 2: 16). Sea power was never a high priority component of Israel's war potential. This is born out by the fact that Israel never pursued her own maritime development, opting rather to contract the services of the Sidonians and other Phoenicians who had a predisposition for maritime operations. The population makeup of coastal towns was such that gentiles were nearly always the predominant cultural group. In New Testament times only Joppa, as a coastal town, had a majority Jewish population.

Economics as a core issue of public interest lies not coincidentally at the heart of politics as well. To trace the beginnings of maritime power in the Eastern Mediterranean in IA IIa one need look no further than maritime trade. Naval power which reflects military potential at sea owes its *raison d'être* to the practical expediency of protecting the political power's interests, particularly the sphere of

economic interests. During the first millennium B.C.E., naval power evolved to become keen instruments of imperial power.

4.6.1. Early Maritime Vessels.

For purposes of clarity in maritime power it is important to distinguish between maritime vessels and the functions for which they were built. Mesopotamians negotiated the Tigris river on tiny wicker framed vessels, covered in animal skins. These small boats were called *Guffa's*. These coracles were sealed with bitumen. Such small boats were modes of local transportation. Technological progress is also important here; the easiest way to transport things to markets beyond ones own locality was by water. Agricultural surpluses made possible by increasingly sophisticated irrigation systems were transported on the principal waterways of the ancient Near East, the Tigris, and Euphrates, Nile, the Mediterranean and other neighbouring seas. These were the great freight highways of the day.

Egypt's hot and dry climate was not conducive to cultivation of large trees, so the innovative natives fashioned reed-boats by tying bundles of dried reeds together. Successful trade and maritime experience and technical progress moved them on to building boats from whatever wood they could obtain, mostly acacias. In contrast to Egypt's vegetation, the city-states of Phoenicia had large reserves of tall trees in the Lebanon and Syria to draw upon. Their stronger vessels included proper keels and were more seaworthy. Tall masts from such timber allowed for the development of sophisticated masts and rigging. Greater efficiency at sea resulted in greater volumes of trade and commerce, and consequently, the capacity for a greater war potential.

4.6.2. Early Maritime Powers in the Eastern Mediterranean, IA IIa

Three political powers exerted a leading influence upon the development of maritime power in the Eastern Mediterranean during IA IIa. Egypt, the Phoenician city-states (principally Tyre and Sidon), and the Greeks. The Greeks are peripheral to this study; at the time of King Saul they were entering into a dark-age in consequence of the Dorian invasions. Later, under Athenian leadership, they become the leading maritime nation throughout the Eastern Mediterranean.

The earliest sea-going vessels were built in Egypt, but these were technically inferior to the Phoenician vessels because the Egyptians lacked the raw materials wherewith to make keels – the backbone of a ship. The Egyptian's early sea-going vessels were larger versions of the river reed-boats. They were curved in shape, rising high out of the water at each end. To support these ends, a strong rope was fastened between them, and suspended for the length of the ship above the deck. Thirty or more slaves drove the ship with oars. In time this was supplemented by a crude sail and rigging arrangement. Egyptian maritime history predates IA IIa by more than two millennia. In 3000 B.C.E. Egypt's maritime trade routes stretched nearly 1300 km's down the Nile and by canal to the Red Sea. By this date, Egyptian traders were sailing across the Mediterranean Sea to Crete and to the shores of Phoenicia.

The Phoenicians for their part were quick to learn of how profitable it was to trade by sea. Two excellent principal seaports, Tyre and Sidon, lay beyond the silting problem of the Nile. Phoenicia's economy was largely based upon her maritime trading

activities. The close ties between maritime trade and naval power to guard such interests was manifest in Phoenician naval architecture; with access to large and suitable hardwood in their homeland, Phoenician ships included extended keels. The extended keel projected forward, making a ram for attacking enemy vessels. The Greeks began to sail in the Mediterranean from about 1300 B.C.E. The Mycenaean culture was the late Bronze Age (c.1600 – 1100 B.C.E.) culture of Greece. By 1200 B.C.E. the Mycenaean Greek influence had reached Egypt, the Cyclades, the Levant, Cyprus, and western Asia Minor.

These Bronze-Age vessels endured for several centuries, ferrying tin and various other cargoes of value across the Mediterranean and neighbouring seas. Such primitive sea-going vessels were oar-driven, and in most instances further supplemented by a set square sail. Ships were generally categorised by the system of oars that propelled it. The oars were arranged in banks one above the other. Thus ships were classed as *bireme* (two banks of oars), *trireme* (three banks), *quadreme* (four banks), and *quinreme* (five banks). During the Iron-Age, the all-purpose Phoenician-type vessel was eventually replaced by customised vessels; the sleek warship and the bulkier cargo carrying vessel. The warship of the Iron-Age was a shallow, open *galley*, fitted with a sail and oars. Its main armament was its centreline ram. Ancient naval tactics for engaging enemy vessels entailed mainly ramming. The sail was furled during combat and the galley's oarsmen powered it into battle. Logistics for these ancient warships dictated that they could only remain at sea for a limited period of time. A warship of 200 crew had a minimum requirement of 280 kg's of food (140kg / 100 crew) and 200 litres of water per day. The warships were designed to minimise weight and bulk so as to increase the all-important speed and

quickness of the vessel – its primary combat tactic being that of a sea-born ramming contraption. Everything was secondary to that. Like land based armies, ancient warships were equally tethered to the dictates of logistics (Jones, 1987:52).

A large merchant ship could carry about 400 tons, the same load as 4000 pack animals. Such vessels had a minute fraction of the logistical needs of such a large herd of pack animals. Merchant ships had no ram extending from their keels and were broader in the beam (width). The latter rose higher out of the water and were powered only by a single sail. Oarsmen would have taken up cargo space.

The logistical value of ships and boats was not lost on the political powers of antiquity. Indeed, that it was easier and quicker to load and transport goods on local rafts and barges soon became applicable to international trade in antiquity as well. A good-sized raft or a well-laden vessel had greater transport capacity than many pack animals – and did not require quantities of fodder and water to sustain it. Thus early in his history man had gained the valuable insight of rivers being key trade routes and that the seas were highways of significant value (Coggins, 1967: 8).

NOTE: The Greek name for a warship of the classical period was a *trieres* (plural '*trieries*'). The Romans called it a *triremis* and English scholars have traditionally followed the Romans and called it a 'trireme'.

CHAPTER 5. THE CHRONICAL OF ISRAEL'S CONFLICT IN SYRO-PALESTINE, ca.1045 – 931 / 930 B.C.E.

The lion's share of conflicts for this period available for scholarly research is recorded in the biblical texts, redaction and other problems notwithstanding. Other textual and non-textual sources of information include evidence of warfare in IA IIa but even when such cultural material remains are found *in situ*, the data they provide is at best only partially intelligible. This section of the dissertation will survey various available records of Israel's warfare for IA IIa in Syro-Palestine and evaluate the continuous evolution of Israel's foundations of military force.

Within this context, the political dialogue or interaction between nations is a struggle for power to control and allocate given values. Clausewitz (Howard and Paret, 1976:7) brought clarity to political philosophy by asserting that war was the continuation of politics by other means, and that war was the ultimate arbitrating form of political dialogue. 'Power politics' is the modern phrase that refers to authoritative relations between state actors. From the present, the summit of all ages past, scholars can look back across time with a whole battery of sophisticated time-evolved scholarly concepts from the empirical and analytical domains of science and trace and interpret therewith the trends and occurrences with greater confidence and accuracy. Bearing the dynamic nature of science in mind, unanimity still eludes the scientific community in many areas of polemological enquiry. For instance, there is little scholastic agreement among modern political scholars (Fourie, 1996:4) regarding the idea of universal 'principles of warfare' based upon maxims and prescriptive absolute guidelines. Thus no attempt will be made to use any such dubious (and sometimes subjective) yardsticks in this chronicle of IA IIa conflicts. What will serve to light the

way for this study of conflict in antiquity however is Andre Beaufre's assertion that warfare is about the "acquisition and maintenance of freedom of action" (Fourie, 1996:73). Political actors in this defined archaeological period increased or decreased in their 'freedom of action' by means of statecraft. Frequently military statecraft was the selected policy instrument. What bearing this had on the lot of the common man in the ancient Near East at this time are findings for the conclusion of this dissertation.

Political power is measurable in absolute and in relative terms, and is not properly assessed by means of a 'bean count' of military hardware alone. To this end, *military force* is a salient concept; it is a measurement of four phenomena: (1) military potential, (2) war potential, (3) technological capacity, and (4) logistics. The political actors of the ancient Near East for this period will be studied in terms of their military force as they engaged in 'political dialogue' with Israel, as resources permit.

5.1. The Reign of King Saul, ca. 1045 – 1011 / 1010 B.C.E.

Policy-making and policy-implementation for the loosely confederated tribes of ancient Israel was entering uncharted waters in the period IA IIa. A new regime was introduced which, over time, would change Israel's political landscape and bear upon the political world of the ancient Near East. The introduction of the monarchy was also the introduction of a new war potential for Israel. The monarch was tasked with Israel's security. It was now a secular prerogative rather than a sacral one to determine policy that would secure Israel's political interests. An important component in the crafting of realistic (achievable) policy is the availability of means and expertise to realize it. The rudimentary taxation that was introduced in the time of Saul was now formalised in the reign of King David. The effects of taxation

proved a two edged sword to United Israel's war potential. On the positive side Israel's military potential increased to strengths hitherto never before reached. Taxation had been paid in the form of gifts to the king's court until David's reign. David initiated a census to establish the tax system on a more formal and efficient footing (2 Samuel 24: 1 ff). War booty, tribute paid by conquered peoples, and local revenues paid to the royal court describe the kinds of taxation - the means for the pursuit of political objectives. Such revenue strengthened Israel's still modest war potential, setting it on a sounder organisational base and on a permanent footing.

The negative aspect is evidenced by the burgeoning tax load placed on the shoulders of the commoner. Taxation was constantly increased, even to the extent of introducing a rotational system of corvee (1 Kings 9: 20 – 21) in the latter part of IA IIa. Eventually the weight of the expanded tax system led to the irreparable political rupture of the United Monarchy. This was a critical blow to both the war and military potentials of Israel and Judah.

Similar to the Roman Republican era to follow later in the Western Mediterranean, the increasing scale of military potential needed for the pursuit of political power by IA IIa Israel placed correspondingly greater burdens on the lot of the Israelite commoner. This was compounded by economic damage to the interests of the Israelite yeomanry as they struggled to maintain themselves in their difficult agrarian circumstances. Israel was in fact wrestling the same increasingly difficult political crises that changed Republican Rome to Imperial Rome. The Israelite experience reached the decisive point quicker though, and was not drawn out incrementally by degrees over centuries. 1 Samuel 8 succinctly lists the abrupt transition to the new

political dispensation of monarchy. After the pattern of other monarch's the Israelite king would ostensibly provide for Israel's security with a small standing army supported by a complimentary cadre system for expansion of the military potential to meet any crises arising. The yeomanry would now be largely left to their pursuits of economic stability and prosperity, only to be mustered in times of national crises.

Ironically, the political transition to the regime of monarchy, undergirded by taxation which supplied the means for a professional core of soldiers and secular functionaries, was also the root cause of the outbreak of bitter civil war. Other critical problems in hindsight were the absence of principles of succession. The common practise among contemporary neighbours was hereditary succession. This principle was assumed by the house of Saul. Furthermore, unlike their Egyptian, Canaanite and Mesopotamian counterparts, Israelite kings were subjected to explicit public criticism in their secular roles if they strayed from or compromised any aspects of pure Yahwistic worship beliefs and practises. In some extreme instances the prophets promoted regicide. It was never to be forgotten among the Israelites that in "the religious prescriptions of the covenant there was no mention of kingship, and for the relation between the Israelites and their God, mortal kingship was irrelevant and a foreign custom" (Vogel and Van Oosten, 1983:97-98).

When the tribes united under Saul to fight the Philistines they numbered approximately 33 000 warriors in total. In line with royal practise of the period and throughout the greater region, Saul established a 'royal bodyguard' of 3000 men. More modest in both size and finery than future Persia's Immortals (ten thousand strong and arrayed in lavish ceremonial dress), or the Hittite royal guard several

thousand strong, or the Sherden bodyguard (from the Sea Peoples) recruited in large numbers, Saul's bodyguard nevertheless still served a similar purpose; they constituted an elite and permanent fighting force. They came under the direct command of the king and the crown prince Jonathan who served as a sub-general. The Israelite bodyguard was divided into three companies of 1000 warriors each. Saul commanded the first and second and Jonathan the third (Wise in Windrow, 1981:29). Even the secular texts are vague regarding details describing the organisation of the tribal levies of Israel.

5.2. King Saul and the Expulsion of the Philistines at Gibeah-Michmash: a General Strategy is Revealed [1045 B.C.E].

At the commencement of Saul's reign the Philistine's political domination of western Israelite territory was underwritten by strategically-sited strongholds. Important amongst them was the stronghold at Gibeah-Michmash. From this twin village location astride the Wadi Suweinit in Benjamite tribal land, some five kilometres north of Jerusalem (the latter also still a Canaanite stronghold at this time), the Philistines could monitor and control traffic flowing eastwards towards Jericho and beyond. Furthermore, the Gibeah-Michmash twin garrisons formed a debilitating wedge between Israel's northern tribes and those in the south. Any economic advantage associated with these east-west arteries accrued to the Philistines and their war potential rather than to the Israelite latecomers.

A general strategy was formulated by Israel's newly coroneted king - one that would evolve and become more discernible by its operation. At the core of Saul's general strategy lay the first order political goal of establishing Israel's sovereignty. Saul had

to formulate policy and implement a strategy that would accomplish the desired outcome. This political objective had to be tailored to suit the military potential at the king's disposal. Given the parochial nature of the confederated tribes, Israel's full military potential was still largely unrealised. Success in the military undertaking at Gibeah-Michmash would rally the northern tribes to his royal standard and thereby increase the military potential at his disposal. Greater political goals lay ahead that required significantly greater military potential relative to the balance of power in the region. Saul had to increase his 'freedom for action' from the Philistine yoke and moreover, had to get the attention of and bring the still recalcitrant northern tribes under his nominal kingship. Without the northern tribes Israel's full war potential would never be harnessed. At the level of operational strategy Saul's goal was the removal of the Philistine garrisons in their key location at Gibeah-Michmash. To offset his still very limited military potential Saul had to find the appropriate operational strategy. Thus Saul's choice of a dual surprise attack.

5.2.1. Military Potential of King Saul's Assault Forces.

Some 3000 warriors were mustered for the attack on the Philistine twin stronghold. Saul commanded the larger 2000 strong division and his son Jonathan the 1000 strong division. The divisions comprised units of slingers, javelins and light spearmen shielded and unshielded. These may have been further supplemented by various peasant implements. Most of the troops would have been Benjamites from the surrounding precincts. Benjamite tribesmen were renowned for their fleetness of foot and their proficiency with missile weapons, all of which points to loose formation foot, supported by ancillary light troops. Side arms of various types would have been bronze daggers and the like. Iron weaponry would have still been rare amongst the

Israelite yeomanry. The beginnings of Saul's small standing army would have been no more than a personal tribal retinue. Such would have been better equipped than the tribal yeomanry including some iron weapons and various oddments of body armour. No mounted troops such as cavalry and chariotry were available to Israel at this time and Saul planned his operational strategy without them. The terrain at Gibeah-Michmash would have precluded such weapon systems from having a role in this engagement anyway (1 Samuel 13: 2).

5.2.2. Military Potential of the Two Philistine Garrisons at Gibeah-Michmash.

The garrison sizes are not specified in the text. The basic military rule of thumb in the modern era for attacking fortified positions or strongholds with reasonable prospects for success is to attack with a numerical superiority of at least 3:1. If this generalisation may be used, and if the rounded-off biblical number of Israelite attackers is taken at face value at 3000 warriors, inductive reasoning would place the combined Philistine garrisons at an approximate strength not exceeding 1000. The twin strongholds, again using inductive logic, were not equally strong or equally well manned. Jonathan's division at 1000 strong was 50% the size of King Saul's. The reasoning here arrives at the induced conclusion that Jonathan's target stronghold numbered about 300 defenders and that King Saul's approximately 700 strong.

These well-sited Philistine military strongholds were in the local villages of Gibeah and Michmash, located on the northern high ground and on the southern high ground respectively. Philistine forces of the period were typical IA IIa infantry with superior defensive armour and suitably armed for the period with light spear and shield. These troops were deployed in garrison or stronghold duty. Tactical formations were not a

primary issue unless they sallied forth from their fortified positions to attack enemy troops beyond the village's defensive walls. In the field the more heavily armoured foot may have been arranged in close-order formations, supported by loose formation auxiliary troops (Miller and Hayes, 1986:136).

5.2.3. Technological Aspects: Operational Strategy and Tactical Factors.

Of great tactical importance was the broken terrain around Gibeah-Michmash. On such terrain the movement of Philistine close-formation armoured foot would have been impeded and the effectiveness of their spear-armed phalanxes reduced. When seeking reasons for Saul's tactical success against these strongholds, one must be careful to distinguish between the melee tactical factors, such as height advantage, that pertain to the actual fight, and operational strategic factors that stand independent of tactical factors. In operational strategy, not all aspects of mountain warfare accrue to the defenders advantage. Clausewitz points out (Howard and Paret, 1976:17) that defensive mountain warfare, in terms of operational strategy, may be categorised as relative or absolute; that is, for the duration of an engagement (relative) or as part of a permanent static defence (absolute). The Philistine camps at Gibeah and Michmash fall into the disadvantageous category of absolute mountain warfare and the whole episode occurs within this operational strategic context. The increased tactical defence value such high strongholds enjoyed were offset by the downsides at the level of operational strategy. Some of the main disadvantages include 'the decisively passive character' of such defence works. The tactical initiative is yielded totally to the attacking enemy. In any attempt to gain or regain the initiative some of the tactical advantages had to be sacrificed; either the advantage of prepared defences or the loss of mobility upon which pointed and edged weapons depended for their effectiveness (Clausewitz in Howard and Paret, 1976:418-420).

Saul's tactical advantages included the element of surprise and probably greater numbers, both of which would have offset any height advantages the static Philistine defence may have initially enjoyed. Michmash and Gibeah were both in the Benjamite tribal land so Saul would have been able to rally many loyal followers to his standard. Regarding numerical superiority both in tactics and in operational strategy, this factor alone is the most common element in victory. The surprise factor is allied to the numerical superiority factor and when used effectively and in conjunction with each other these factors would have more than offset the disadvantages of attacking an improved defensive position on high ground. By means of surprise tactical superiority can be delivered at the decisive point. In addition, the tactical effect of surprise is also experienced psychologically, impacting severely upon the enemies fighting spirit (Clausewitz in Howard and Paret, 1976:198).

Reasons for the successful outcome of Saul and Jonathan's simultaneous attacks on the twin Philistine garrisons at Gibeah-Michmash lie within the explanations provided above. Victory in battle is most often secured even before the opening volleys are fired. This brings us to consider the logistical factors at Gibeah-Michmash.

5.2.4. Logistical Factors: Seasons, Distances, Mustering and Volumes.

The season is not specified in 1 Samuel 13. The redaction of this passage was sacral rather than profane and aimed at emphasising the inspired role of the prophet Samuel in the selection of Israel's early kings, with especial emphasis on the house of David (Miller and Hayes, 1986:138). The limited scale and nature of the conflict, and its short duration however allow for its occurrence at most times of the year.

The logistics for a mustering of 3000 Israelite warriors required the following;

(a) Food

1,4 tons of food / 1000 warriors required. (For details of this generalised formula, see section 4.5)

Thus, Israelite forces of 3000 total: $1,4 \times 3 = 4,2$ tons of food supply / day.

(b) Water

1 litre of water / warrior required.

Thus, Israelite forces of 3000 total: $1\text{ltr} \times 3000 = 3000$ litres of water / day.

Interpreting the above military related data invites the following deductive questioning and inductive reasoning:

- Could the tribal lands of this force of predominantly Benjamite warriors produce such quantities of food? (Consider soil fertility in Benjamite tribal lands and efficiency of the agricultural methods of the day).
- How developed was terrace farming methods by IA IIa and had the Bejamites occupied their tribal land long enough to develop such labour intensive projects?
- Were there adequate crop surpluses to allow for raids of this kind?

5.2.5. Political Aftermath and Strategic Dialectics.

Having won this strategic site from the Philistines, Saul chose to establish the twin hilltop villages as his own base of operations. The victory did not persuade all the Israelite tribes of Saul's prowess as a military leader (1 Samuel 10:27) and some refused to acknowledge his claims to suzerain authority. Religious institutions, like agrarian societies, are generally conservative in nature and the concept of kingship was not universally welcomed throughout the land. Nevertheless, the Philistine grip

on the central hill country had been pried lose. If this situation was maintained the Israelite institution of monarchy could be more effectively developed throughout the territory of the confederated Israelite tribes. Saul's status, and with it his claim to regal authority, had been elevated beyond the parochial boundaries of the tribe of Benjamin. The prospects for a centralised regime had increased and in turn would significantly increase Israel's war potential. An increased war potential would in turn improve her military potential and correspondingly, her capacity for further military statecraft in the region.

Geba, the pass across Wadi Suweinit to Michmash.

(photograph from *Bible Lands*, 1986: Southern Samaria, F2-3).

5.3. King Saul and Raising the Siege at Jabesh – Gilead [c.1045 / 1040 B.C.E.].

Still early in the opening years of King Saul's reign and prior to the political consolidation of all the tribes under his authority, another conflagration arose for Saul to function in his political capacity as military leader. The conflict presented him with a further opportunity to rally the northern tribes to his military standard and win their fealty. An Ammonite force under their monarch King Nahash was besieging Israelite settlers of the tribe of Manasseh at Jabesh-Gilead, east of the Jordan, and in territory considered by the Ammonites to be within their sphere of political control. Distinct and exactly demarcated territory such as characterises modern states did not exist in ancient Near East (Miller and Heyes, 1986:141). The Manassen settlers appealed to Saul for assistance. Saul took full advantage of the situation, using it to rally the tribal-minded yeomanry to his monarchical standard.

5.3.1. Military Potential of King Saul's Relief Force.

1 Samuel 11: 1 – 11 records that some 300 000 warriors responded to Saul's call to arm's. This generously rounded-off number, 10% of which the redacted text is at pains to point out were Judean, points to the headway Saul had begun to make among the Israelite tribes. Yet a significant number still withheld their support, provoking feelings of political retribution among the victorious warriors against the Israelite detractors (1 Samuel 11: 12 – 13). Saul's large force engaged the Ammonite siege force in three divisions of infantry. The terrain on which the battle was fought is described as rich pasture land, on rolling hills and suited for livestock. Such terrain favoured loose formation troops, although material evidence suggests more lightly armoured troops, as was the case for Israel in these early days of the monarchy. This

engagement occurred prior to mounted forces becoming a substantial part of the armies of the ancient Near East.

5.3.2. Military Potential of the Besieging Force of King Nahash of Ammon.

The number Ammonite soldiers besieging the Israelite settlers at Jabesh-Gilead were not specified in the biblical text. Chariotry are not mentioned but would have added little tactical value anyway to the task of laying siege. There are indicators that the Ammonite force was substantial; The battle endured from the ‘morning watch’ until ‘the heat of day’ – it took several hours before the large Israelite army could force a decision. (*The ‘morning watch’ ended at sunrise and the ‘heat of day’ suggests sometime past midday.*) This together with the fact that Saul had attempted to muster warriors from all of Israel and that King Nahash was himself present at the battle and took an active role in the engagement indicates to some extent the scale of the Ammonite besieging force.

5.3.3. Technological Aspects: Operational Strategy and Tactical Factors.

A besieging force is itself vulnerable to attack by a relief force. The cordon of the besiegers is designed for breaking through the defences of the besieged facing them. The besiegers would be dispersed around their objective, according to the strengths and weaknesses of the town or city defences. Such a force, especially when surprised by another enemy force from an unexpected quarter, can only offer an uncoordinated defence. Moreover the besieging force is still vulnerable to the besieged enemy sallying out to attack them when the besiegers turn to engage the relief force. Clausewitz is emphatic that the tactical advantage accrues to the relief force when engaging besiegers in their positions and those positions are easily pieced (Clausewitz

in Howard and Peret, 1976:540). The terrain around Jabash-Gilead offers little by way of natural defence, being described as pasture-land. It was less hilly and wooded in contrast to that portion of the Gilead further north toward the Yarmak River where the terrain is more difficult.

Ammonite arms and armour would have been reminiscent of the Late Bronze Age armies of the region. The Israelite soldiery relied on their tactical advantages including numbers, the surprise factor, and the advantage of the initiative. The average Israelite yeoman would not have been as well equipped as his Ammonite counterpart. That the battle began at first light suggests that the Israelites force-marched into their deployment positions during the night and engaged the Ammonites before they could organise a properly prepared defence. The comprehensiveness of Israel's victory over the Ammonites is alluded to in the biblical account: "... they which remained were scattered, so that two of them were not left together" (1 Samuel 11: 11). It was customary for the victors to strip the dead of weapons and equipment following the battle. The large size of the encounter and the decisive victory that followed would have yielded a large amount of war material to the Israelites.

(Picture from Reader's Digest *Atlas of the Bible*, 1981:91)

5.3.4. Logistical Factors: Seasons, Distances, Mustering and Volumes.

No season is indicated in the text. The mustering of such a huge number of warriors for this engagement, even if only 10% of the given force size actually took part, required considerable logistical resources, organisational skills and control factors.

The logistical factors for such a military undertaking would have approximated the following:

- (a) Food for 3000 warriors over a period of three days (*assuming that the Israelites mustered and force-marched with all speed, and that the army dispersed at the earliest opportunity after the battle*).

3000 warriors x 1,4 metric tons of food supplies / 1000 warriors

= 4,2 tons of food supplies x three days (at least)

= 12, 6 tons of food for the Israelite relief forces.

- (b) Water supply; this would be affected by the force march, heat of day, and intensity of activity. The minimum intake of 0,5 to one litre would be wholly inadequate - a more likely estimate would be at least three to four litres per warrior. Most of the Israelite warriors would have had to cross the Jordan River and several perennial streams and brooks exist in the vicinity, so replenishment was possible depending upon the time of year.

Thus, 3000 warriors x 5 litres of water = 15 000 litres x 3 days

= 45 000 litres of water for the Israelite force for the Jabash-Gilead battle.

- (c) Regarding victuals for the Ammonites, the assumption is that their force was substantial in size. Any army that remains stationary runs into huge logistical problems. Supplying adequate provisions to a besieging army is an esoteric matter

often glossed over by the novice yet a keen point of interest to both a quartermaster-general or to a mind trained in the practical aspects of logistics. It provides for empirical investigation. Traditionally, the Gilead was rich and well developed in agriculture. Archaeological surveys show settlement in the Gilead as early as 24 –23 centuries B.C.E. If the Ammonites besieged the people of the tribe of Manasseh at Jabesh-Gilead at the end of the growing season, then food supplies in the region would have been at their most plentiful. Logically, and assuming a standard yield of cultivated local foodstuffs, if the ratio of Ammonite besiegers / soldiers to the Israelite besieged settlers was one to one, then there would be an adequate supply of food at Jabesh-Gilead. If the food yield was a year's supply, then there would be sufficient for the siege to last a year, assuming the besieged could last that long. If the annual food yield was sufficient for a local population numbering about 50% of the Ammonite besiegers, then the Ammonite besieging force would be able to maintain the siege for about six months. As it turned out, the siege was of limited duration, ending in defeat for the Ammonites.

5.3.5. Political Aftermath and Strategic Dialectics.

Lifting the siege and driving off the Ammonites was a watershed event for Saul's political career. His sphere of authority was extended to the extreme boundaries of Israel's tribal territory. Neighbouring kingdoms, principedoms, and peoples could no longer ignore the reality of the Kingdom of Israel as it established itself in the region. All the tribes now stood unanimously united behind their king. Saul's political leadership had been fully tested on this occasion. His ensuing success was a

convincing argument in his favour for those parochial tribalists - still ambivalent (1 Samuel 10: 27) about his credentials to serve as Israel's political leader.

The belligerent Ammonites yielded their claims over what was territory originally within their sphere of political and economic interest. King Nahash survived the battle but was obligated thereafter to follow a more subversive policy toward Israel. The Ammonite King gave moral and practical support to the enemies of King Saul, including the future renegade David. Nevertheless, Ammon had been effectively neutralised and accepted the differences between the Ammonite and Israelite military potentials. The Ammonites no longer posed an explicit threat to Israel for the remainder of Saul's reign.

5.4. King Saul's Defence Against Philistine Retaliatory Attacks.

The institution of the monarchy provided for enduring political actions that would realise long-term goals. Saul's general strategy was to establish Israel as a sovereign state and operational strategies were pursued to this end. Within this ambit, Jonathan, the eldest son of Saul and a ranking officer within the king's retinue, launched a raid against the Philistine stronghold at Geba, north-east of Jerusalem. The scale of the Philistine response was not anticipated; Jonathan's raid provoked a major retaliatory attack. King Saul's general strategy had miscalculated the political will of the confederated city-states of Philistine and placed Israel in a desperate position.

Notwithstanding Saul's skill at optimising Israel's defence, the biblical record (1 Samuel 13) makes clear that the scale of the pan-Philistine attack was huge and that many Israelites fled to Gilgal for refuge. Gilgal lay in the broken terrain of the Jordan

Valley. Those courageous enough to stand by the king's standard did so fearing the worst. At Gilgal Saul awaited the arrival of the prophet Samuel who, by performing sacrificial rites of the priesthood, would invoke Yahweh's favour on the Israelite army. Samuel's delay and the desperate nature of the political situation led Saul to overstep the bounds of his kingly prerogatives and assume ecclesiastical authority which he did not have. His compromise under pressure precipitated divine rejection. This was the first instance – but would not be the last time that an Israelite monarch would be rejected on grounds of compromising the Abrahamic covenant and the Mosaic code which proscribed performance of priestly ordinances by none save those who held the appropriate office in the priesthood to officiate in those ordinances.

5.4.1. Military Potential of King Saul's Army.

Approximately 600 foot soldiers of Saul's 2000 strong division were with him at this time (1 Samuel 13: 2 and 1 Samuel 14: 2). These soldiers comprised Saul's small standing army. This nucleus, together with Jonathan's division of 1000 warriors, some 3000 in total (1 Samuel 13: 2), represented the professional core of Israelite soldiers, the beginnings of Israel's standing army. Their arms and armour would have been the best in Israel, having first choice of captured arms and armour from the ongoing skirmishes with Israel's enemies and having accumulated significant quantities of war materiel from their outstanding victory over the Ammonites at Jabesh-Gilead in c. 1040 / 1045 B.C.E. The arms and armour would have been mostly Bronze-Age equipment, with a small amount of the still rare but greatly esteemed crude iron equipment.

The terrain chosen by Saul suited his defensive operational strategy. Unlike the Philistines permanent defensive posture at Gibeah - Michmash, which Clausewitz (Howard and Paret, 1976:360-362) characterised as absolute, i.e. permanent and thus disadvantageous to operational strategy. Saul's choice of broken ground for a temporary defensive action was relative in character. The advantage now accrued to the defender, forcing the enemy to attack against specific prepared and alert defences with no element of surprise to unbalance the defence.

5.4.2. Military Potential of the Philistine Force.

1 Samuel 13: 5 employs a redactive chronicling device to generalise the hugely superior numbers of the Philistines on this occasion. The record alludes to 30 000 chariots, 6 000 cavalry, and 'innumerable' infantry. One could be excused for thinking the biblical record was describing, in exaggerated terms, the main field army of the Late Assyrian war machine of Tiglath-Pileser III in 745 B.C.E., rather than a relatively large and much earlier period Philistine coalition expeditionary force. Such large numbers of chariots and cavalry at the time of IA IIa is an anachronism serving to highlight the dire situation Israel was in to a later audience on the occasion described in 1 Samuel 13.

5.4.3. Technological Aspects: Operational Strategy and Tactical Factors.

With only the small standing army and time desperately needed to muster the tribal yeomanry, Saul was obliged to stage a holding action, employing what later became known among Roman commanders as a '*Fabian strategy*'. By this operational strategy Saul sought to delay the engagement of enemy forces until he could swell the numbers of his army and gain more favourable circumstances than those prevailing.

As part of this operational strategy Saul left his base of operations at Gibeah and occupied a position further to the east of Gilgal, north-east of Jericho. Something of Saul's military acumen is in evidence here; firstly a Fabian operational strategy is about delaying the engagement, which is achieved to some extent by drawing the Philistines further eastwards and away from their city-states on the Levant. Secondly, the difficult terrain that Saul occupied largely negated the huge numerical superiority of the Philistines. Terrain is considered to be the great 'leveller' between opposing combat forces of disparate size and quality. A living memory example for modern scholars is the Pacific Campaign of World War Two between the outnumbered and outgunned Japanese defenders and the superior attacking American marines with their huge accompaniment of naval and aerial support. The terrain factor, inter alia, called forth a huge effort on the part of the Allied forces to overcome the determined but significantly outnumbered and relatively under equipped Japanese defenders. Thirdly, by drawing the Philistine force eastwards, Saul rendered them more vulnerable to the still mustering Israelite yeomanry. Once mustered, the latter could threaten the Philistine's line of communication, and threaten envelopment. By such measures, Saul sought to undermine the larger Philistine force.

The climatically harsher terrain of the Jordan Valley would have complicated the lines of communication for the already 'innumerable' Philistine force and rendered the Philistine's principal strike force of chariots useless, whatever their true number. Although the Philistine's chariots were excellent shock weapons, at this stage of military technology the effective use of such required flat terrain. Saul was too experienced to afford them such an opportunity. If the Philistines failed to force a

decisive victory quickly, the effects of logistics would precipitate the deterioration of their sizeable army and the advantage would swing to the Israelites.

For their part, the Philistines had dislodged the Israelite standing army under King Saul from their permanent base of operations at the strategically important site of Gibeah - Michmash. Having thus secured this favoured site, and confident that their 'stolen march' had bottled up Israel's standing army in Transjordan, the Philistines divided their forces into three divisions and set about ravaging Israelite territory. 1 Samuel 13: 6 - 10 notes the 'strait' Israel was in, that many fled and sought safety away from the Philistine force. Saul's Fabian strategy was in serious danger of going awry as they awaited the arrival of Samuel to invoke the favour of Yahweh. Some of the men's nerve failed them and they began to desert Saul (verse 8). Even the Athenian leaders in the example of the Peloponnesian War found the application of a belatedly named 'Fabian strategy' a challenging and an unpopular strategy. Under such pressures, Saul made a serious blunder and exercised ecclesiastical authority that he did not have. Samuel came upon him in the very act and forthwith declared Yahweh's rejection of Saul as king of Israel for his inappropriate sacrificial offering, and immediately returned to Gibeah.

The Philistines were content to accomplish the objective of their punitive expedition, i.e. to reduce or destroy the Israelite's war potential, without necessarily engaging Saul in his eastern fastness. The strategic dialectics of the campaign thus far had produced a situation favourable to the Philistines who had organised their force into three divisions which set about plundering and devastating Israelite settlements, agricultural installations, and other economic interests. Saul's son Jonathan initiated

another response in the military dialogue of this engagement. With the help of his armour bearer Jonathan attacked the main Philistine force which had regained the former Philistine garrison at Michmash. Jonathan's boldness resulted in the rally of the Israelite warrior's morale and to the unexpected general route of the Philistine army from Israelite territory (1 Samuel 14: 1-23).

(Picture from Reader's Digest *Atlas of the Bible*, 1981:91)

5.4.4. Logistical Factors: Season, Distances, Mustering and Volumes.

The season was not relevant to the theme of the redactors but one may surmise that the Philistines, with the aim of crippling Israel's war potential, began plundering their crops and installations. The Philistines would have chosen the timing of their

punitive expedition carefully. The principal grain crop, wheat, was harvested some weeks following the harvest of barley, which had a shorter growing season. The lower altitude areas such as the Jordan Valley ripened first and were followed by the areas of higher altitude, finishing in the terraces of the highlands. Barley was harvested during the month of April and May, and followed by the wheat harvest. By timing the expedition to coincide with harvest time, the Philistine army would use the Israelite crops for their own provisioning, deny the enemy the food needed to sustain themselves during the coming year, and would still have had their own crops to return to after the expedition. Food shortages in the year ahead would have a lasting weakening and negative impact on Israel's war potential.

The logistics for the soldiers mustered would have theoretically required at least the following;

(a) Food

1,4 tons of food / 1000 warriors.

Thus, the Israelite force of approximately 600 under Saul's command at Gilgal:

Where 1,4 tons of provisions supplies 1000 warriors per day

0,84 tons of provisions will supply 600 warriors per day multiplied by the amount days needed for the 'decision' to be reached.

(b) Water

Gilgal was in close proximity to the River Jordan so the 1 litre per person per day was easily maintained.

(c) Communications.

The late spring rains would be largely over by now and the onset of the dry season would have been imminent. The dry roads and countryside would have facilitated the march of Philistine expeditionary force.

5.4.5. Political Aftermath and Strategic Dialectics.

The ravaging of Israelite lands by the Philistine forces is reminiscent to modern readers of Sparta's tactics against Athenian land forces during the Peloponnesian War (431 – 404 B.C.E.). Rather than engaging the superior Spartan land forces, the Athenians sought instead to improve their tactical position against Sparta by taking up their defences behind Athens' long walls. The ravaging of an opponent's territory was, besides provocative and demoralising for the passive defenders, an effective blow against the war potential of that opponent. The consumption of the forthcoming year's crops and provisions and the destruction of agricultural installations in an agrarian economy was the ancient equivalent of strategic bombing of industrial installations by bomber forces during World War Two. Such operational strategy diminished the materials and supplies, and diverted available yeomanry manpower to emergency food production that could otherwise have served the military statecraft policy. Thus the enemy war potential for the pursuit of such policy was undermined, including the population's will to fight. The Philistines set out to diminish the growing political threat that Israel now posed under King Saul by destroying components of the latter's war potential. The invader could achieve this even if the enemy's deployed armed forces were not engaged and reduced during such an operation. When Saul declined battle the Philistines continued to pursue a political conclusion by attacking social and economic installations that contributed to Israel's war potential.

The eventual and positive outcome of this engagement produced various results for Israel. For their very competent king, it became a watershed event in his personal career as Yahweh's chief political appointee. For the Israelites collectively, it was a key milestone in demonstrating the military potential of the new regime of monarchy. For the Philistines on the other hand, the erstwhile confederate power of the region Canaan during IA 1, it pointed to the start of their political decline. Yet acceptance of shifts in war potential and factors leading to those trends are not easily discerned. It is an esoteric political yardstick. Differences in perceptions of own and rival political power have and will continue to lead to eruptions of warfare between political opponents. Warfare serves as the functional arbiter in the contradictory claims to political power between the political belligerents. With such a low lethality index for the weapon systems of this archaeological period, resolving the dispute regarding their respective war potentials would still take many years.

5.5. King Saul's Military Statecraft and Political Consolidation [1039 to 1011

B.C.E.]

1 Samuel 14: 47 – 52 scantily summarises the many years of campaigning Saul undertook to establish the political Kingdom of Israel. During this period Saul carved out Israel's territorial boundaries and her political sphere of influence.

5.5.1. Military Potential of King Saul's Campaign Forces.

Saul's military forces, primarily his royal bodyguard, would have carried out the raids against the Edomites (southeast), Moabites (east), Ammonites (east), Zobahites (north) and the Amalekites (south). This growing nucleus of seasoned soldiers was the principal core of Israel's standing army. The vagueness of 1 Samuel 14: 52

supplies few clues as to the specific details of the forces involved. Attrition required that Saul continued to actively recruit military personnel from among the Israelites. The spoils of such campaigning would have added to the levels of battle experience, combat and general military proficiency and war material. Throughout this period Israel steadily increased her military potential. What data can be gathered in this regard has to be gleaned from secular sources. Saul's military potential for this campaign would have been the royal bodyguard of 3000 warriors.

5.5.2. Military Potentials of the Ammonites, Edomites, Moabites, Zobahites and Amalekites.

The smaller military potentials of each of the above was a reflection of the limited war potential possessed by these enemies of Israel. The Ammonites, Moabites, and Edomites had settled into the Transjordan region around the beginning of the 13th century B.C.E. and were regarded by the Israelites as closely connected by a common, collective ancestral heritage (Bartlett in Wiseman (editor), 1973:230). The intrusions of the Israelite tribes into Canaan occurred around the same time period, only marginally later. Political rivalry between these earlier settlers and Israel for the values of the region punctuated their interrelated history. All of these early kingdoms gained political purchase during the peculiar and coincidental political nadir that beset the traditional great powers of the ancient Near East during IA IIa. These fledgling minor states had little war potential to speak of. Their subsequent political histories describe their eventual absorption by the resurgent larger political entities.

Sometimes they amalgamated and at other times they were reduced to provincial status. All these later political outcomes point to the tenuous nature of the political assertions made by these IA IIa petty kingdoms. Even during this early period of their

histories political dialogue with United Monarchy Israel often resulted in political reverses and periods of political vassalage.

Saul's Campaigns of Political Consolidation from 1039 to 1011 B.C.E.

(Map from Miller and Hayes, 1986: 140)

The agrarian economy of these Transjordan states was never adequate to sustain the manpower necessary to engage other political units in the region on the basis of parity, let alone superiority. The Transjordan states were precariously located on the narrow 30 km strip between the Jordan River valley and the borders of the of the

Syrian and Arabian deserts. The northern region of the Transjordan was the best of the three states in terms of climatic conditions suited for agriculture, which suggests why the tribes Reuben and Gad were allocated Transjordan territory there. Even so, this narrow belt on the western edge of the Fertile Crescent was relatively densely populated and full advantage was taken of the north-south principal trade and communication route, the 'Kings Highway' which traversed all three territories. The topography of the Transjordan is hilly in the north, rising into the broken mountains of Edom in the south. This terrain provided additional defence value against attacks from aggressors like Israel, and compensated to some degree for their limited war potentials. "Their situation on the heights above the Rift Valley meant that none of them was an easy object of attack from the west, and only rarely could Israel hope to subdue Ammon, Moab, and Edom" (Bimson *et al*, 1992:23). The Edomites were culturally aligned with the Amalekites and the Arabs. By the onset of the Iron Age however, they had tribal chiefs and even kings as their rulers, indicative of their transition to an agrarian lifestyle. Subjugation by Israel when it did occur was temporary. Thus Israel often opted for a 'raiding' type of operational strategy against these enemies.

The Zobahites were an Aramaean people located in the north beyond Damascus. Zoba was a prosperous kingdom that flourished during the early Hebrew monarchy, during the aforementioned political vacuum caused by the internal problems of the traditional great powers of the ancient Near East. Accordingly the great powers pursued very little by way of foreign policy objectives. As Saul sought to expand Israel's sphere of political interest in all directions it was inevitable that this would affect the Aramaean kingdoms to the north. Zoba was a leading but nevertheless still

a minor kingdom, typical of the city-states of Aramaea (Syria), wherein political power constantly ebbed and flowed. Both Saul and David subdued Zoba in turn.

The Amalekites in the northern Sinai and the Negev were nomadic. Against these raiders 1 Samuel 14: 48 records that Saul ‘raised the host of Israel’. The Amalekites did not necessarily possess greater war and military potentials than Israel’s other enemies, but to counter the Amalekites raiding operational strategy required greater manpower than Saul’s small standing army could muster. Of all the named peoples the Amalekites probably had the smallest war potential. Their military potential would have varied over time. Saul’s campaign against them did however curtail their capacity to launch raids against Israel’s southern regions for a period of time.

5.5.3. Technological Aspects: Operational Strategy and Tactical Factors.

It would be an anachronism to imagine Saul engaging a modern type Israeli military force in a modern military operation against neighbouring Arab states or PLO guerrilla forces. The kingdom of Saul was not the modern nation-state that has evolved through the ages. These conflicts are best understood as “frontier skirmishes for the most part or temporary eruptions of violence resulting from plundering raids”. This was not fully mobilised warfare in the modern sense between firmly established states with clearly defined territorial boundaries (Miller and Hayes, 1986: 142).

Technically, a raiding strategy *a propos* operational strategies in general was commonly employed to achieve political ends among these newly emergent kingdoms. In contrast to what Jones calls a ‘persisting strategy’ the merits of a raiding strategy are evident when seen in the context of the period. Raids were

temporary intrusions into hostile territory. As a function of politics, such an operational strategy had objectives that were at once economic (booty), military (defeat of enemy forces), and political (diminishing of enemies war potential) in nature. IA IIa was also the period in which true cavalry as a weapon system began to augment the composition of Near Eastern armies which for a long time had comprised a preponderance of foot soldiers. This increased the capacity for raiding operations. Mounted raiders in earlier periods had typically been camel-born warriors such as the Midianites of the Judges era (see Judges 8). But these were more mounted infantry than cavalry. Midianite mounted warriors often fought dismounted as loose formation foot. The diffusion of numbers of larger and stronger bred horses, specially bred as weapon systems, made raiding strategies even more effective. Before the advent of sizeable forces of mounted warriors, the primacy of retreat over pursuit was already well established. Now mounted raiders could carry out deeper raids into hostile territory and avoid battle nearly at will because of the raiders increased mobility. Moreover, raiding strategies lay well within the technical scope of the political entities under discussion. The military potential of these states comprised primarily militias who were generally poorly equipped and insufficiently articulate to cope with more sophisticated 'persisting strategies' (i.e. large scale invasion and indefinite occupation of enemy territory), as practised by the greater powers such as Egypt and the various Mesopotamian powers.

5.5.4. Logistical Factors: Season, Distances, Mustering and Volumes.

The nature of a raiding operational strategy is such that it is practical in any season. It was most effective against the typically agricultural economies of the day when launched just before harvest time. Some writers have described such an operational

strategy as a 'logistic strategy' (Jones A, 1987:57-59). The forces of King Saul would have been mainly foot soldiers. From Gibeah to Zobah was about 260 km as the crow flies, about nine or ten days of hard marching for a group of foot warriors. The Ammonite capital, Rabbah, lay some 68 km's from Saul's base of operations at Gibeah, about two to three days hard march for seasoned warriors. The paucity of the biblical record dealing with Saul's raiding strategy against his neighbours discourages serious research of the supplies aspect of the logistics involved. The raiders aimed at sustaining themselves at the expense of the people or territory they raided.

The anti-Saulide redaction of the Books of Samuel gives little credit to Israel's first king for his use of military statecraft in establishing the secular kingdom of Israel. Such political achievements did not sit well with their prevailing religious conservatism. A closer look at the logistics of Saul's political achievements is helpful at this point. During these approximately thirty years of hard campaigning the Israelite army's military potential grew substantially, numbering about 33 000 in a general mustering. Saul was the first to establish and maintain a 'royal bodyguard'. They formed the professional nucleus around which the tribal levies could muster. The royal bodyguard numbered about 3000 soldiers and were divided into three companies. This division was the standard formation of the Israelite army. As seen at Geba, King Saul commanded two such divisions of foot soldiers while Jonathan the crown prince commanded the other, each company or division numbering 1000 foot soldiers. Details regarding the mustering and organisation of the levies are unclear (Windrow, 1981:29).

5.5.5. Political Aftermath and Strategic Dialectics.

The raiding operational strategy employed by Saul was well suited to realising the political goals of the newly founded Israelite monarchy. Saul's general strategy was to expand Israel's sphere of political influence and to diminish the war potential of his enemies. These raids were carried out mostly by Saul and his retainers. Their success was in proportion to their own limited but steadily growing military potential. While damaging to the political interests of Israel's opponents, these raids did not have the capacity to do more than that. The Transjordan states could not be dislodged from or be completely subjugated in their highly defensible home territories. Israel would have to increase both her war and her military potential to accomplish such extensive political goals. This was achieved by the Assyrians, drawing upon their remarkable military potential for campaigns in the region.

Well-established regional powers such as Zobah of Aram inevitably clashed with the aspirant political goals of King Saul. While Saul gained the advantage at this time, the war potential of this strong political opponent dictated that she would remain a political problem into the future. Similarly, the Amalekites as a nomadic foe, could be hurt, but Israel's military potential was still insufficient to eliminate them entirely. By the end of Saul's reign Israel was politically positioned to emerge as the dominant regional power. Saul's nascent administration would have added to the war potential of Israel, the benefits being largely enjoyed by his successors.

5.6. David as Renegade Warband Leader and Raids on Canaanites

During the course of Saul's campaigns discord arose between the king and David, an outstanding officer within the former's inner military circle. David eventually fled the

king's court and sought refuge in his tribal territory of Judah. After placing his parents in Moab for their own safety, beyond the immediate reach of Saul, David secured himself at Adullam in the Shephelah. Over time other political outcasts, malcontents, and opponents of King Saul joined David there and a substantial band of renegade warriors assembled under David's political leadership. Saul's determination to capture David required that David be constantly on the move. The political allegiance of the local population to King Saul denied David any opportunity for respite. In due course it became necessary for David and his band to move beyond Saul's sphere of political authority. Thus David removed himself for security reasons to the Philistines and placed himself under the political authority of King Achish of Gath. King Achish employed David and his band as raiders against Saul's Israelite kingdom. To this end they were assigned the Philistine village of Ziklag that lay between Philistia proper and the southern hill country of Israel.

5.6.1. Military Potential of David's Adullam Band.

A cursory reading of 1 Samuel 23: 13 suggests that David's small army had grown to about 600 strong at the time of the Keilah incident. When Saul discovered David's whereabouts he set about planning to entrap David with a besieging force. Unsure of the trustworthiness of the residents of the town, David abandoned the town and led his men into the Wilderness of Ziph. It is improbable that this band of warriors, numbering around 600 on the face value of the biblical text, could have supported themselves in the arid circumstances of the Wilderness of Ziff.

Ziklag, some 20 km's east-south-east of Achish, became David's base of operations. From here he launched raids – allegedly against Israelite interests but in fact against

various persisting Canaanite settlements and strongholds further south. False reports were fed to Achish who believed David had alienated himself from the Israelite population. 1 Samuel 30 contrarily observes that David in fact operated with his own general strategy in mind, the aim of which was in fact to foster loyalty to himself among the southern tribes. Thereby David fostered a support base for his future claim to the Israelite throne. This was accomplished operationally by providing protection to the southern tribes of Israel and to share with them the spoils of his raids against the Canaanites and Amalekites. The political experience gained, together with the spoils of war, provided a steady increase to the war potential of David's warband.

Wilderness Region of Ziff and Ziklag

(Map from Bimson *et al*, 1992: 35)

5.6.2. Military Potential of the Geshurites, Gezrites, and Amalekites.

Like the Amalekites of the southern deserts, the Geshurites and the Gezrites of Syria in the north-east were nomadic peoples. They moved around the fringes of the settled areas, occasionally raiding and plundering the local populations that they passed through. Their military potential varied over the years and seasons. That such nomadic raiders persisted throughout the history of the biblical lands points to their longevity as political entities. Most times the status of all these nomadic groups was that of political irritant, at other times under unusual circumstances, they grew into a serious political menace such as the camel mounted Midianites that raided in large numbers during the period of the Judges (Gideon, c.1169 – 1129 B.C.E.).

5.6.3. Technological Aspects: Operational Strategy and Tactical Factors.

A signal advantage of a raiding operational strategy is that it allows smaller forces to concentrate against selected targets of opponents, even against opponents with larger war and potentials. Exploiting the advantages of surprise and possessing the initiative, this is achievable because the raiders are not compelled to fight against forces of equal or superior strengths. Thus the common practise of raiding strategies among the nomads and renegade groups such as David's Adullam Band. According to Clausewitz, there is no simpler nor higher law of strategy than that of keeping one's forces concentrated (Clausewitz in Howard and Paret: 1976: 204). The concentration of strength at the 'decisive point' is basic to success in warfare. In the context of the raid, the decisive point is the village or settlement being plundered. If the raider's military potential is greater than the defences of the settlement, it generally follows that the raid will be successful, especially when combined with the tactical element of surprise. Targets are thus carefully selected according to the military potential of the

raiders. David's band of 600 warriors would have been able to launch successful raids against most or all nomadic temporary settlements.

5.6.4. Logistical Factors: Seasons, Distances, Mustering and Volumes.

At Keilah it became clear to David that his safety was not assured as he moved among the towns and villages of the southern tribes. David and his band of marauders were perceived in this instance as a liability rather than an asset in southern Israel. A closer look at the practical aspects of logistics – an ever present reality of military force proper - will contribute to our understanding why this was so, even though David already enjoyed the status of a folk hero among these selfsame southern tribes.

Consequently David was prompted to lead his Adullam Band out of Israel's territory, establishing a new base of operations at Ziklag, ostensibly in the employ of Achish.

David's withdrawal relieved the small Israelite towns and villages of Judah of the increased burden of provisioning their own community needs, and furnishing supplies to the royal house, as well as to David's steadily growing warband.

The many small towns and villages scattered throughout Palestine and the nature of their agricultural limitations were governed by several logistical factors that may be induced here. The growth of the town and later, the walled city was, inter alia, a by-product of the development of surpluses in food production (cereal grasses especially). Secondly, such sedentary patterns are evidence of man's ever-increasing capacity not only to produce but also to artificially manipulate food and water storage. Also significant was the impersonal technology for data capturing and transmission of information in ever-increasing sophisticated writing and numbering systems. Such sophistry was the price demanded for the successful establishment of urban

settlements. During IA IIa however, these critical urban trends were still rudimentary in nature and the logistical capacity of these several small towns and villages was accordingly very limited, hence their characteristic plurality and small size.

In the southern regions of Israel, including the Negev, which includes the so-called Wilderness of Zif, towns and villages were vulnerable to the ravages of drought, disease, and warfare. Here the intemperate climate was unsuitable for food production because of low precipitation levels (about 100 mm's per annum – half the minimum rainfall needed for effective crop production). The margin for short-term recovery from crop failure or political setbacks was very low. Under such trying agricultural circumstances it is easier to understand the local population's ambivalent attitude toward David and the political feud Saul waged upon him and the high risk to anyone who gave support to him. To the itinerant marauding band, and to others who employed operational strategies such as raids, every urban settlement was a magazine for logistical purposes. What Jones points out in general terms regarding logistics for an army in a given region also has bearing on a marauding-band such as David's Adullam Band: "The ability of an army to be furnished with food in a given vicinity depended in part on the season of the year. If a region was self-sufficient in food, an army could acquire by purchase or force what it needed from the stored food supplies. Immediately after a harvest, the army would have access to a year's supply; just before a harvest the army would find the granaries empty; in the winter, halfway between harvests, the granaries would contain a six months' supply" (Jones,1987:46).

Regarding the agricultural capacity (entailing factors such as climate, human and natural resources, and the degree of scientifically developed agricultural methods) and

the actual agricultural yields within the territory concerned, several factors combine to determine total logistical volumes in the region. The presence of soldiers was a dire situation for settlers, especially so in difficult geographic conditions. Jones expounds further: “The ratio of the size of the army to the population of its area of concentration also affected the army’s ability to feed itself. If the ratio were one soldier per civilian, then the soldiers could subsist as long as the civilians, assuming the soldiers deprived the civilians of everything. If there were ten soldiers per civilian, the soldiers could exist one-tenth as long as the civilians” (1987:47). Jones illustrates this with an example; “...if the army reached a region 180 days prior to harvest and it outnumbered the civilians 10 to one, (*bear in mind the smallness of the Syro-Palestinian villages and David’s ever-increasing Adullum band*) it could remain for 18 days before it must move, assuming it found all of the available food, denied any of it to the civilians, and then left them destitute upon departure” (1987:47). The political dynamics that motivated David to remove to Philistine territory are better understood when viewed in the context of logistics outlined above.

5.6.5. Political Aftermath and Strategic Dialectics.

David’s goal of succeeding to Israel’s throne remained his principal ambition and his actions in this episode were geared to achieving that. Besides divine approbation, which Samuel had already confirmed by this stage (1 Samuel 16: 13), the law of common consent or popular acclamation was a key factor that David had to factor into his general political strategy. Rather than provoke a negative reaction and confrontation born of overburdening Israel’s agrarian peasantry, David chose to employ a new stratagem. Under the guise of an anti-Saulide marauding band, David would draw from the logistical resources of the Philistines to sustain his Adullam

band. Furthermore, he would promote his political claim by simultaneously attacking political entities in the region that were hostile to the Israelite settlers, deceiving the still powerful Philistines into believing that the Israelite threat was being dealt with, and by winning the hearts and minds of the Israelites by distributing among them the spoils he gained from his raids.

This period also provided David with the opportunity to gather to him an experienced, capable, and loyal inner-circle of officers who were well tried and tested. The officers of his Adullam warband would in time also become the chief officers and personal retinue of David when he succeeded Saul. These men became David's proven officers and remained loyal to him throughout their lives. Many held senior political offices after David's accession to the throne (Miller and Hayes, 1986:186).

Destructive raids were a substitute for the king's victories in the field of battle. These victories served as David's political credentials in the eyes of the people. David's raids against hostile nomadic forces were clearly part of his general strategy that aimed at winning the minds and hearts of the Israelites. It obviated the danger of raids from these nomads on Israelite settlements and brought material benefits to many of the Israelite settlers as well. This was the de facto preordained task and stewardship of Israel's monarch. Originally, Saul had won support and justification for his claim to the throne at Jabesh in Gilead and through his several battles thereafter. The objective of David's general strategy was not lost on Saul or Israel in general.

5.7. King Saul's Final Battle at Mount Gilboa [1010 B.C.E.].

The pursuit of political dominance in the region brought Israel head to head with yet another large force of the confederated Philistine city-states in 1010 B.C.E. Saul's several military successes allowed the Israelite tribes to spill over into the richer lowland agricultural areas from earlier Canaanite communities. Prized among these was the Jezreel Valley, a region of agrarian wealth into which the Manassites had begun to encroach. The Plain of Jezreel was one of utmost importance to communications between the coast and the countries to the north and east. Its strategic and economic value made it a bone of contention between several rulers - including the traditional great powers of the Near East. The Jezreel Valley below Mount Gilboa became the site of several battles over the ages. It was the granary of Palestine in ancient times (Negev, 1972: 173). The Philistines understood full well the dire consequences to their war potential if the Jezreel Valley slipped from their sphere of influence.

5.7.1. Military Potential of King Saul's Army at Mount Gilboa.

The presence of the king's military retainers, Jonathan the heir apparent and two other princes, and the large mustering of Israel's militia all point to Israel's fullest possible military potential being deployed for battle against their IA IIa arch-enemy the Philistines. Owing to the critical importance of this battle, the Philistine leaders' preferred to not have David and his band present (still a Philistine vassal at this stage) for fear of possible collusion with the Israelite enemy during the forthcoming battle (1 Chronicles 11: 19). It suggests that notwithstanding the Philistines superior military potential the large Israelite host was not to be taken lightly.

5.7.2. Military Potential of the Philistine Force at Mount Gilboa.

The Philistine forces were deployed *en masse*. Large phalanxes of armoured, spear-armed close formation foot comprised the bulk of the Philistine forces. Philistine chariots would have played a key role, probably serving as shock troops in accord with the Philistine battle-plan. The gentle terrain suited the employment of these weapon systems. 2 Samuel 1: 6 mentions Philistine horsemen fighting in conjunction with the chariots. If this passage is correctly rendered such early period cavalry would have played a supporting role to the chariot arm, guarding the vulnerable flanks of the chariots and exploiting confusion amongst the enemy once the chariots broke through the enemy battle-line. The Philistines also employed archers to good effect during the battle. The text reports Saul was badly wounded by Philistine archers and had to withdraw from the battle as a result (1 Samuel 31: 3). While the various troop types are broadly identified and the forces involved were numerous, no specific numbers are given in the books of Samuel or Chronicles.

5.7.3. Technological Aspects: Operational Strategy and Tactical Factors.

Mount Gilboa lies on the southern end of the Plain of Esdraelon as the Greeks later renamed it. This gentle valley is one of the most blood-soaked of all the world's battlefields having witnessed the battles of many of the great powers of the world since early antiquity right through to the modern era. Moving northwards along the 'Way of the Sea', the ancient highway enters the Jezreel valley. At the entrance to the valley stood the flourishing settlement Megiddo, which translated from Hebrew aptly means 'the place of troops' (Church Educational System. Old Testament Student Manual, Rel.302, 1981:291). The superior war potential of the confederate Philistine forces would have been easily deployed here with no inhibiting terrain for their close

formation foot and their chariot corps. The more lightly armoured Israelites would have been hard pressed to withstand the Philistines in such open terrain.

The advantage of tactical surprise, often a feature of Israel's operational strategy against more powerful enemy armies and previously applied to great effect in broken terrain, could not be counted on in the Plain of Esdraelon. The Philistine commanders planned for a direct, heavy frontal assault on the lighter enemy, their forces well suited to such an attack. Philistine archers were present in the open terrain to support the attack. Most of the tactical advantages accrued to the Philistines on the Plain of Esdraelon. Philistine weapon systems, such as archery, close formation foot in spear armed phalanxes, prototype cavalry and chariotry all without exception achieved optimal tactical results in fine weather, which appears to have occurred on the day of battle. The Israelites, assumed inferior in arms and armour, and would thus have fought mainly as loose formation foot. Bad weather and broken terrain would have given the Israelite troop types at least some advantage, but such was not the case.

5.7.4. Logistical Factors: Seasons, Distances, Mustering, and Volumes.

No indication is given of inclement weather that complicated the tactical factors of the battle. The outcome of the battle in favour of the Philistines supports the case for fine and temperate weather on the day. Strong wind would have adversely affected Philistine archery and rain would have severely curtailed the effectiveness of their chariots. Temperate and dry seasons spanned the months from mid April to early September or 'Iyyar' to 'Elul' on the Hebrew calendar (Bimson et al. 1992: 64). The distances to the Plain of Esdraelon from the main Philistine regions, such as Gaza furthest south (approximately 150 km's), and Gath to the north (approximately 90

km's), could not be covered in less than a week to ten days of marching. The mustering of these confederate forces would include their organising into units under local and overall commands. For the Israelites Saul's greatest support base still lay in the south among the tribe of Benjamin. But the scale of the political setback for all of Israel suggests that the mustering extended to all the tribal yeomanry, including the northern tribes. It is not possible to give accurate data on the volumes of food and water needed to support these large forces. The Jezreel valley was significant for its agricultural richness. The timing of the campaign would have considered the availability of food for harvesting which also points to the early summer months. The cereal crops would have been only recently harvested and still available to a large invading army. Such cereal crops could be further supplemented by the early fig and grape harvests. The ensuing Philistine victory would have allowed the victors to further discomfort the vanquished Israelites by denying them their food stocks already harvested or still maturing in the Jezreel Valley. The months of May and June ('Sivan and Tammuz') would be a worthy guess for the Philistine invasion that culminated in the Battle of Mount Gilboa.

5.7.5. Political Aftermath and Political Dialectics.

The fortified city Megiddo was established to protect a key trade route and political lines of communication. Trade caravans from or to Egypt plied their way along this route through Philistia. Aside from the obvious economic advantages regained by the Philistine cities in securing this line of communication, Saul's young Kingdom of Israel was thrown into serious political disarray. The continuance of the Israelite monarchy was not assured after the disaster at Mount Gilboa. All the political and territorial gains that Saul's vigorous campaigning had secured appeared to be lost.

Domestic political anarchy threatened to engulf Israel and to minimise her remaining war potential. David took advantage of the ensuing political turmoil to make his bid for the throne. The newly founded kingdom threatened to cleave along northern and southern tribal lines. Saul's surviving son Ish-Bosheth, spurred on by leading political actors such as Abner, laid claim to kingship over Gilead, the Ashurites, Jezreel, Ephraim, Benjamin and all Israel (2 Samuel 2: 2). Factional fighting between the Saulide supporters and those that supported the house of David was drawn out over a number of years, eroding further the military potential that had served Saul's United Monarchy. Philistine political gains continued in this period of political chaos for Israel, including regained control over the Central Hill Country.

5.8. Civil War between the House of Late King Saul and House of King David [1010 – 1003 BCE].

During the political upheaval in Israel following the Battle of Gilboa David moved to Hebron in the territory of his native tribe Judah. Here he was crowned at the age of 30 by his fellow tribesmen as their king. Hebron became the Adullam Band's base of operations for the next seven years. Ostensibly still in the employ of Achish of Gath, David's removal from Achish to Hebron appeared to consolidate Philistine control over southern Israel. In time David's true political objectives became manifest.

David was exercising direct political control through the Adullam Band over southern Israel in his own name. This was a political balancing act: on the one hand David had to bide his time with the Philistines who in the post-Gilboa period were politically dominant in the region again. On the other hand, he had to deal with the remnants of the house of Saul in the persons of Ish-Bosheth and Abner while avoiding the trap of a political objective beyond the capacity of the military force currently at his disposal.

5.8.1. Military Potential of the House of Saul.

Ish-bosheth largely inherited the political structure and systems established by his father Saul. The negative impact of the Battle of Mount Gilboa had seriously impaired the Israelite kingdom's military potential. The pro-Davidic slant of the Books of Samuel is largely silent in their detailing of the chaos that existed during this seven year interregnum of Israelite Monarchical history, further eroding the military potential of the House of Saul. The seven year long war of attrition with David suggests that neither side had the military potential to force a decisive result. Little information is given of the composition of the opposing forces of King Ish-bosheth and David other than to point out that David's forces grew stronger while Ish-bosheth's forces grew weaker (2 Samuel 3: 1). Little remained of Saul's veteran standing army with its attendant officers. Replacements of a lower calibre and inexperienced officers must have been drafted into Abner's rebuilt army.

5.8.2. Military Potential of the House of David.

David's warband relocated from Ziklag to Hebron. This relocation was only belatedly understood by the Philistines and by then Israel's crippling civil war was over. At the outset of the war between the two contending royal houses, David was still seen by the Philistines as a vassal warlord. This allowed him to operate his growing warband with the advantage of not dividing his military potential between several fronts. David's own seasoned veterans had been spared from the slaughter of the Battle of Mount Gilboa. This tough nucleus of warriors, the original so-called 'Thirty' had grown into the Adullam Band of 600 warriors. It had continued to expand as more and more Israelite became disillusioned with Saul's autocratic

leadership toward the end of his reign. As the civil war drew to a close this band of veterans had evolved into the equivalent of a royal bodyguard of elite warriors.

5.8.3. Technological Aspects: Operational Strategy and Tactical Factors.

Typical of many low intensity wars, a significant amount of ‘behind the scenes politicking’ was taking place. The political struggle manifest itself on the battlefield in the form of low-level skirmishes and raids. For security reasons Ish-bosheth transferred his court from Gibeon in the tribal areas of Ephraim and Benjamin further to the east to beyond the easy reach of their raiding parties. For the remainder of his reign Ish-bosheth administered Saul’s steadily diminishing kingdom from Mahanaim among the Gileadites who were always loyal to his father’s house. That the civil war dragged on for seven years attests to the correctness of this action, though ultimately the war was lost as David grew in favour with the people and the elders of Israel, culminating in his anointing as king over all Israel soon after the assassination of Ish-bosheth in c.1003 BCE.

5.8.4. Logistical Factors: Seasons, Distances, Mustering and Volumes

The only recorded ‘battle’ recorded during this period took place at Gibeon which lies inside the tribal lands of Benjamin, Ish-bosheth’s home territory. The site lay about 53 km north of Hebron. It appears that David’s forces were on the offensive and were maintaining the initiative. The outcome of the battle, even allowing for pro-Davidic redactive influence, reflects a micro incident of the overall trend of the civil war. The many Benjaminites who fell during the battle indicate in a convoluted manner the persisting loyalty of the tribe to their monarch and the direction the civil war was heading.

5.8.5. Political Aftermath and Strategic Dialectics.

The weakening of Ish-bosheth's political position resulted from having to deploy a reduced and damaged military potential on at least two fronts. David's military actions against Ish-bosheth were viewed by the Philistines as a continuation of his warband raids against Israel, a perception they were duped into holding ever since David was based at Ziklag. The Saulide military task lay beyond the scope of resources at hand, it was politically unrealistic and with no prospect of changes in the regional political landscape the seasoned Abner realised sooner than his young naive sovereign that the logical conclusion could only be eventual defeat. The longer the civil war continued, the greater the damage to Israel's total war potential. Israel would still have to face several implacable regional enemies besides the Philistines.

During the civil war Ish-bosheth had to literally fight on multiple fronts; against a powerful Philistine *raiding operational strategy* from the west and north, and against David's undermining forces from the south (2 Samuel 2: 12 – 32). The Transjordan region was also hostile to the house of Saul, recalling how David had left his parents with the Moabites for their protection from Saul. David also politically outmanoeuvred Ish-bosheth by forming an alliance with Saul's old enemy King Nahash of Ammon. In piecemeal fashion, David won over the support base of Saul's house. The battle at Gibeon, if David did indeed have the initiative to choose the battle site, may reflect his general strategy of dislocating the House of Saul from its traditional support base. By the time Abner entered into direct negotiations with David, only a small remnant of Saul's kingdom remained. The civil war was abruptly concluded when both Abner and Ish-bosheth were assassinated (Miller and Hayes, 1986:169).

5.9. The Reign of King David, 1011 / 1010 – 971 / 970 B.C.E.

Diplomacy, military statecraft, and respect for the Abrahamic covenant by which he retained divine approbation and the support of the charismatic prophets were the principle means David employed to consolidate and expand the small kingdom he received from King Saul. The first years of David's reign were a struggle for survival against the Philistines and other hostile Near Eastern contemporary kingdoms. Like other even greater political powers before and after his reign, these wars for survival evolved into wars of foreign conquest that aimed initially at security but in time evolved into campaigns of foreign conquest. At its zenith David's kingdom stretched from the Gulf of Aqabah and the border of Egypt to the upper Euphrates in the land of Aram to the north. Economic security was also a key factor within the scope of David's general strategy, providing depth to Davidic Israel's war potential. David's campaigns had won access to and retained control of important east – west trade routes, bazaars, and commercial centres (Bimson *et al*, 1992: 42).

David's original retainers were known as 'The Thirty'. During his renegade years the 'Thirty' expanded into the Adullam Band, numbering about 600. Following the death of Saul and his move to Hebron in southern Judah, David recruited a second band. These two units formed David's own royal guard. David's top military and his political inner circle were all drawn from his long time comrades of 'The Thirty'. Regulations, promotions, and political appointments were decided upon by this inner circle. Even the field commanders of the tribal militia were drawn from 'The Thirty'. The Israelites of the royal guard formed a regular corps known as the '*gibborim*' or mighty men. Drawing upon his experience and associations as a mercenary

commander in Philistine service while based at Ziklag, King David raised a second regular corps from outside of the United Monarchy. This second corps comprised mostly Philistines from Gath, some 600 'Gittites' in all. This second regular corps also included Cherethites and Pelethites who lived as neighbouring Sea Peoples to the Philistines in the southern Levant. The Cherethites were originally natives of Crete and the Pelethites passed through Crete as part of the Sea People migration to the Eastern Mediterranean (The New Bible Dictionary ... 1974, s.v. 'Cherethites'). This mercenary corps was used to deal with internal clashes and rendered extensive and loyal service during Absalom's rebellion. The mercenary corps was commanded by Benaiah ben Jehoida with the Gittite Ittai as the second in command.

David's Kingdom.

(Map from Bimson *et al*, 1992: 42)

During his entire reign, David's entrusted field command of the army to the very capable generalship of Joab. At the time David ascended the United Monarchy's

throne, the army was almost entirely composed of loose formation spear armed foot, well suited to fighting in the broken terrain of Palestine. This main core of the Early Hebrew army was supported by javelin, sling, and bow armed light troops. It should be remembered that the Hebrews had only in recent years begun to make inroads into the lowlands and plains and that their fighting formations were undergoing changes very gradually. Captured chariots of the two-horse type and some early proto-type unarmoured cavalry began to feature in this expanding regular army. 1 Chronicles 18: 3 – 4 records that after defeating the Aramaean king Hadadezer, some 7000 horses and 100 chariots were captured. Chariots were a common arm in the arsenals of the Philistines, Canaanites and the Aramaeans.

King David imposed a complex system of national service for every able-bodied man over the age of 20 years throughout Israel. Thus the bulk of the Israelite army was its tribal levies. The parochialism of tribal levies was effectively countered by David by mustering men from all tribes (except the Levites) into the same corps. Their loyalty was firstly to the person of the King now, rather than to Israel. This occurrence of change in basic allegiance and tactical adaptation presages the Roman experience in the transitory period of Marius to Augustus (c.105 BCE – 25 BCE) during which the republic succumbed to imperialism. The motivation in both political case histories was the search for greater war and military potentials. The common man of both states had originally been a yeoman, beset with great personal difficulty in rendering more and more military service as a conscript within republican regimes. The pursuit of greater war potentials demanded more commoners be permanently called to arms to realise the greater political goals through the instrument of military statecraft.

Accordingly, during King David's reign twelve militia brigades were constituted, each totalling 24 000 men. Such brigades were further divided into large and smaller subunits; each had 12 battalions numbering 1000 soldiers, and smaller units of 100's, 50's, and tens. These subunits mustered troops according to their fighting style and weapon specialisation. 1 Chronicles 12 broadly outlines these specialisations; Benjaminites showed particular aptitude in the close range ballistic support (slings and bows) i.e. 'psiloi' specialists, acting in concert with the heavier troops. Gad, Reuben and half of Manasseh was sword and buckler armed and excelled as melee specialists, with some aptitude for archery. Zebulon showed expertise in close formation fighting, being able to fight effectively in closed ranks such as in spear armed phalanxes. Issachar showed a particular propensity as raiders and scouts – perhaps recalling their long experience with persisting strong enemy settlements in their tribal homeland in the lush Jezreel Valley. The priestly Levites with their religious zeal made for especially reliable troops for guarding unstable border areas. Each brigade was assigned its own calendar month for active service, the other eleven forming an active reserve and still pursuing their civilian livelihoods. Thus the full mustering of levies was 12 x 24 000 which totalled 288 000. 1 Chronicles 27: 1 -21 lists the field officers of the levy, identifying Amasa ben Jeter at the commanding officer of the entire levy. In David's time Israel's sphere of political control and influence extended far beyond the original borders of Saul's early kingdom. The extent of Israel's military potential during IA IIa expanded to allow them to deploy confidently on any terrain, including the open terrain that had formerly advantaged the chariot based armies of their erstwhile technically superior enemies.

5.10. King David Attacks the Canaanite Stronghold Jebus [c.1001 BCE].

Hebron, the principal city of IA I Judah was poorly sited as a future capital for a united Israel. By contrast Jerusalem was sited on excellent natural defences, had never been allocated to any tribe and thus did not provoke the provincialism problem among the tribes. Roads approached Jerusalem from several directions and it lay fairly close to the major trade routes and highways that networked the region. Limited water supply in the surrounding limestone hills would prove difficult to future enemy besieging forces yet its inhabitants could access a natural spring nearby. Investing this Canaanite stronghold without incurring a Pyrrhic victory was the tactical puzzle that David and his commanders had to unravel.

5.10.1. Military Potential of the Jebusites.

The site of Canaanite Jerusalem was very strategically sited in terms of topography and proximity to the trade routes. *Jebus*, as it was named prior to David's investing it, was a Canaanite enclave and had withstood all of Israel's earlier attempts to take it by force of arms, including efforts by the highly acclaimed Joshua (Judges 1: 8). At best some of the city precincts which lay outside the city-walls were successfully invested and some Benjamites had been settled there (Judges 1: 21). The city was not large at this time but its defence value was significant, mainly due to its location in the Judean hills. It was a citadel, a fortified village surrounded by deep ravines on three sides. That its defenders had become complacent regarding their security reflects something of the strength of this citadel (*The New Bible Dictionary...1974*, s.v. 'Jerusalem').

5.10.2. Military Potential of King David's Assault Force.

A major portion of David's force was employed in a decoy siege against the Jebusites. While David was directing the siege, his trusted lieutenant Joab with a picked force of warriors penetrated Jebus' defensive walls. Scholars debate the means by which Joab actually gained access to the fortress. The popular view is that the Hebrew word *sinnôr*, which means 'watershaft' (2 Samuel 5: 6 - 10), refers to a watershaft by which means David's men entered the city, i.e. Warren's shaft on the E side of Ophel Hill. Alternatively, Albright showed that the term *sinnôr* was in fact a Canaanite word meaning 'grappling iron' or 'hook' which suggests that the conquering Israelites actually scaled the walls to conquer Jebus (*The New International Dictionary of Biblical Archaeology*....1983 s.v. 'Jerusalem, Old Testament'). Whichever is correct, this daring attack was successful and the Canaanite enclave became a new Israelite possession.

5.10.3. Technological Aspects: Operational Strategy and Tactical Factors

Jerusalem continues to frustrate archaeological efforts to filter its occupational history for various reasons, inter alia the fact that its site has been continuously occupied for more than 40 centuries. Scholarly estimates of its precincts at the time of King David generally limit its walled-in area to the southern spur of Ophel Hill. The noteworthy natural defences included the Himnon Valley on the south and west, and the Kidron Valley on the east side. Only the northern flank was without natural defences, and man-made defences compensated for this. The rough plateau on which Jerusalem was located is about 762 m above sea level and the ravines around it were even deeper at the time of King David, bearing in mind how centuries of rubble and debris have been dumped into these ravines.

5.10.4. Logistical Factors: Seasons, Distances, Mustering, and Volumes

In this early period it must be noted that the purpose of fortifications in the Bronze and early Iron Ages was not related to general strategy or to complex offensive or defensive strategies such as the Maginot Line between France and an aggressive and resurgent post World War One Germany. Such thinking would be anachronistic. Ancient fortifications served simply to amplify the defence value of the given domestic settlement. The invasions of antiquity were stringently governed by the periodic nature of seasons. Such military statecraft lacked the advantages of logistical sophistry now available to military commanders of the modern era. Thus the ancient inhabitants of Jebus, Athens, Carthage or Byzantium could retire behind their strong walls and wait for the tyranny of logistics to impose its relentless and impartial will on the undersupplied belligerents without the city's walls. As Clausewitz stated it: "By their fortifications, towns sought to ward off the storm clouds of war" (in Howard and Peret [eds.], 1976: 393). In that the warriors from settlements had the benefit of a permanent refuge, they also could impose their political will to a disproportionate scale in the region. They could sally out and operate against the interests of their enemies and then retreat to the security of their fortification. Such fortifications promote the scope for hostile action. Such military architecture multiplies the defence capacity of even small urban settlements to a disproportionate value (*The New Bible Dictionary*... 1974, s.v. 'Fortification and Siegecraft').

Thus Jebus still existed after the Israelite invasions of Joshua, the reign of the Israelite 'judges', and King Saul. Notwithstanding the tactical superiority of David's veterans and the superiority of Israel's military potential, a fortress such as Jebus has a serious

debilitating effect on these notable enemy strengths. Even the weak and the poorly trained can stand up to a superior foe when fighting from within the tactical amplification of a fortification.

5.10.5. Political Aftermath and Strategic Dialectics

Rather than posing a serious political threat to the Israelites, Jerusalem offered King David a means for unifying the still parochial Israelite tribes. The new capital was an instrument of domestic diplomacy; well sited between the northern and the southern tribes and not a city of any given tribe. This served King David's nation-state building ambitions very well. At a later date David transferred Israel's principal cultic object, the Ark of the Covenant from Shiloh to Jerusalem, further cementing his relationship with the all-important Levitical priesthood leadership. Jerusalem was not only to be the political capital for the united monarchical state of Israel it was to be the religious capital as well (Miller and Hayes, 1986:171). Such increased national cohesiveness added immense strength to the war potential of the state. The conquest of Jerusalem constituted one of the most important political acts of David's career. His penetration of the city's defences yielded an undamaged political asset with no costly expense in military potential in the face of many hostile neighbours.

5.11. King David's Defence Against Philistine Forays at Nahal Rephaim

Since the Battle of Mount Gilboa the Philistines had reasserted their political dominance over the Kingdom of Israel. David had been a Philistine vassal commander of a military band and had acted under the hegemonic leadership of King Achish of Gath. The Battle of Mount Gilboa had plunged Israel into serious political disarray. The internecine fighting between those still loyal to the House of Saul,

represented by Ish-bosheth and those loyal to David had dragged on for around seven years. Still the Philistines recognised no change in David's vassal status, perceiving him as fighting a war of attrition against the Israelite enemy who had been the bane of Philistine political ambitions in the region. Too late did they recognise David's actual personal political ambitions. His political manoeuvring had by the end of the Israelite civil war produced an Israelite military potential that surpassed what the Philistines had previously fought during Saul's reign. The Philistines responded promptly to arrest this strategic development by despatching powerful raiding forces against Israel's new centre of political consolidation (2 Samuel 5: 6 – 25).

5.11.1. Military Potential of the Philistine Raiding Force

The core fighting units of Philistine forces were armoured spearmen, reminiscent of their Aegean roots. More lightly equipped auxiliaries supported these proto-type hoplites in the field. Common to most Syro-Palestine armies of Iron Age II were chariots but it is unlikely that such a troop-type would have been taken into broken terrain such as the Sorek Valley system where their tactical effectiveness would be largely nullified. Little tactical for-thought appears evident on the part of the Philistines in their preparation for this punitive expedition. Notwithstanding the tactical disadvantages of the rugged terrain, the Sorek Valley led directly from Philistia to the new Israelite capital now renamed Jerusalem. The Philistines may have assumed that the appearance of a large raiding force would send the civil war weary Israelites scurrying for cover, as had been the case in the intervening years since the Battle of Mount Gilboa.

5.11.2. Military Potential of King David's Defence

The basis of Israel's new military potential was a reunited Israel, with a hardened core of loyal regulars, well-equipped and experienced under David's skilful political and military leadership. The political pendulum had begun to swing emphatically back in favour of Israel and the proverbial writing was on the wall for the city states of Philistia although this would only become clear in the evolutionary passage of time. The biblical text gives no breakdown of the Israelite forces in either of the two clashes in the valley of Rephaim. From David's ambush tactics in difficult terrain, it is evident that Israel's typical loose formation foot formed the fighting nucleus.

5.11.3. Technological Aspects: Operational Strategy and Tactical Factors

The influence of the terrain and the effects of surprise must have been major tactical factors in the outcome of this battle. To a well-seasoned campaigner's eye the Rephaim Valley or *Nahal Rephaim* was ideal terrain for taking on more heavily armoured troops equipped as hoplites. To be effective armoured spearmen must fight in close formation. Unbroken terrain, such as found in the Jezreel Valley in the vicinity of Mount Gilboa optimises their tactical effectiveness. The rugged terrain of the Hill Country of Judah was the ideal place to successfully attack close formation troop types such as the Philistine spearmen. David had worked in close proximity to Philistine forces during his exile and was well familiarised with their typical order of battle.

Such terrain setting has been the preferred choice of commanders of tactically weaker forces. Terrain is the 'great equaliser' in battles. It significantly improves the prospects for inferior military forces against stronger opponents. Repeatedly Israel's

military commanders resorted to the terrain factor to even the tactical odds against them. 1100 years later (AD 132) the Second Revolt against Imperial Rome irrupted under Simon Bar Kochba's patriotic leadership and Nahal Rephaim was again the well chosen site of Israelite fighting against enemy invaders (Reader's Digest, 1981. *Atlas of the Bible*: 203). The more lightly armed fighters, fighting in a looser formation, could effectively employ hit-and-run ambush tactics against their encumbered infantry opponents in such rough terrain. These factors considered together with heightened morale from recent military and diplomatic successes, and under David's capable generalship and familiarity of the enemy and the battlefield site, produced very positive and significant military results.

5.11.4. Logistical Factors: Seasons, Distances, Mustering, and Volumes.

The small distances in the region between Judea and Philistia and the anticipated brevity of such a raid suggest that the logistic aspect had little bearing on this clash. There is no reference to weather, season, or mustering of the forces, other than the Philistine raiding operational strategy included large forces (2 Samuel 15: 5). The distance to be covered between Ashkelon and Jerusalem was about 66 km's and from Gath further north, about 48 km's - within three days march for the Philistine foot.

5.11.5. Political Aftermath and Strategic Dialectics

The formal coronation of David as king of a re-united Israel with international recognition by at least one neighbouring city-state (King Hiram of Tyre, 2 Sam. 5: 11) left the Philistines in no doubt of David's new status. As king of Israel his regal duty centred upon the defence of Israel. David's political ambitions were now laid bare at the chagrin of the Philistines. The latter lost no time in attempting to remedy this

development that threatened their political pre-eminence in the region. Although the Deuteronomistic historian treats the details very lightly, the full weight of this confrontation and the political threat the reunification of Israel posed to Philistine interests in the region is alluded to by the writer's reference to "...*all the Philistines came up to seek David*"...(2 Samuel 5: 17).

Nahal Refaim, site of David's ambush of the Philistine Punitive expedition.

(photograph from *Bible Lands*, 1986: Judaeen Hill Country, J1-4).

Asiatic warfare, as a general strategy, placed a high premium upon the destruction of the opposition king or leader. The death of David would have swiftly returned Israel to the chaos that followed Saul's last battle at Mount Gilboa. All of David's political initiatives would have come to nought. Notwithstanding the correctness of their general strategy, the tactical situation that David forced upon them by attacking them in *Nahal Rephaim* reduced their operational strategy to failure. Philistine persistence in a subsequent attack fared no better. Ironically, like Saul, David too had publicly

demonstrated divine affirmation of his claim to Israel's throne by routing the arch enemy of the early United Monarchy. There was little room for rival claimants after David had restored Israel's security and demonstrated his fitness for kingship.

5.12. Resurgent Israel's Political Expansion in Syro-Palestine [1000 BCE – 955 BCE]

David set about consolidating the home front. The domestic consolidation included the establishment of Jerusalem as the religious capital of the state. The Ark of the Covenant was transferred to Jerusalem from Shiloh. Deference was shown to the priesthood officers and David demonstrated his own submission to Yahweh by the appropriate offering of sacrifices and invoking divine sanction for the state and for his political role within it. In all the political activity of these campaigns, David was careful to observe both the spirit and the letter of the covenant (2 Samuel 7 and 8). Beyond Israel's territory there was little agreement between the regional political entities as to what were the relative strengths between them and King David's Israel. These campaigns record the tests of relative political strengths within the Syro-Palestinian region (Miller and Hayes, 1986: 180 – 185).

5.12.1. Military Potential of King David's Campaign Forces.

The forces David employed in these campaigns would have varied considerably according to the enemy's military potential, specific logistical factors such as distance and season, and the political priority attached to such a campaign. David's campaigns to extend the frontiers and security of Israel spanned many years, sometimes drawing only lightly on Israel's war potential and in other instances very heavily. Against the Edomites southwest of the Dead Sea, 1 Kings 11: 15 – 16 states that David's commander in chief Joab, and *all Israel*, campaigned for no less that six months in the

territory of Edom, laying utter waste to their war potential. One can make an educated guess that David's royal guard remained on active duty throughout the campaign, supported by at least one or two brigades of militia every month in accord with the established military national service regime outlined in 5.9 above.

5.12.2. Military Potential of Israel's Enemies in Syro-Palestinian.

Philistines (west), Moabites (east), Ammonites (east), Aramaeans (north), Edomites (southeast). That the Philistines were in political decline comes as an after-sight and reminds us of the adage that nothing conquers so thoroughly as culture. The earlier military advantages enjoyed by the Philistines had been incrementally lost over the previous three to four centuries as neighbouring peoples had gradually acquired the Philistine's technical skills in iron working. Their long-standing reputation of military prowess and their huge military potential still however posed a significant military threat for Israel.

The Moabite-Israelite relationship soured and David subjugated them, putting large numbers to death. Thereafter the Moabites became tribute-paying vassals of Israel until after Solomon's death (2 Samuel 8: 2).

The Aramaeans (later known to us as Syrians) at the time of the United Monarchy were a collection of feuding petty kingdoms. The kingdoms of Damascus and Zobah were cursorily reduced by David to vassal status and brought under Israelite control (2 Sam.8: 3 - 8). Hadadezer of Zobah allegedly lost some 1000 chariots, 700 cavalry, and 20 000 infantry to King David at the initial battle. These inflated numbers of chariotry and cavalry reflect to some degree the Hurrian legacy as a major horse-

producing region for the ancient Near East. Military support from Damascus for Hadadezer of Zobah was also severely routed with heavy losses. The size of the Damascan reinforcements is not given but the record claims David slew 22 000 infantry in the engagement and followed this up by planting Israelite garrisons in Damascus' territory.

Israel's political relationship with the Ammonites ruptured into open hostility. The earlier cordial relationship that David had enjoyed with the older king, King Nahash, did not continue when the latter's son became the royal successor. Newly installed King Hanun insulted David's ambassadors and hired Syrian mercenaries to fight Israel. The biblical account (2 Samuel 10: 6) records that some 33 000 mercenaries, mostly infantry, were hired from the Aramaean cities Beth-rehob, Zoba, and Ish-tob. Notwithstanding the purportedly large mercenary army hired by King Hanun of Ammon, the extent of the threat is placed under question. David did not personally lead the total Israelite army but instead dispatched his best troops (the so-called *mighty men*) under the capable leadership of his trusted generals, the brothers Joab and Abishai. The combined armies of the mercenary Syrians and the Ammonites were routed and the Israelite expeditionary force returned victorious to Jerusalem.

Together with Abishai, David led an expeditionary force against the Edomites to the southwest and fought a decisive battle against them in the 'Valley of Salt'.

Traditionally this location is taken to be the plain south-southwest of the Dead Sea opposite the oasis of the Zered delta. This plain of about 6 – 8 miles (approx. 4 – 5 miles) long would allow for the deployment of reasonably large forces. The Edomites

lost 18 000 warriors and Israelite garrisons were set up to police the territory (1 Chronicles 18: 12 – 13).

5.12.3. Technological Aspects: Operational Strategy and Tactical Factors

David's military leadership skills and his ability to lead Israel's army through a series of successful military campaigns are demonstrated in the events sweepingly recorded in 2 Samuel 8. The Israelite army honed its technical skills and further developed its abilities to employ new weapon systems such as chariots and cavalry in larger numbers in open terrain. The terrain of Israel's traditional enemies, the Canaanites and the Philistines, had not hitherto favoured Israel's battle doctrine which centred upon the exploitation of broken terrain with primarily loose formation foot. Such infantry, so well suited to fighting in the broken terrain of Judaea, was now supplemented from the spoils of war. The record alleges that some 60 000 enemy troops were destroyed. Whatever the actual number, the Israelites would have amassed huge amounts of armour and armaments from their several victories.

Specifically mentioned in 2 Samuel 8: 4 was the capture of many chariots (*the figure 1000 may be figurative for a division of or a large number of chariots*). Chariotry as a weapon system was both the principal shock weapon and the mainstay of mounted troops during IA IIa. The spread of true cavalry was yet in its early stages. The influence of the Indo-Europeans in the territories ascribed to Syria is prominent; the large cavalry and chariotry arms encountered by David's army remind us of the Hittites and Hurrian's leading influence in the development of the horse as a major weapon system in ancient warfare (Vermaak, 1996a:22).

5.12.4. Logistical Factors: Seasons, Distances, Mustering, and Volumes.

The logistics for Israel's campaigning army included a substantial demand for food and water supplies. Seasons, distances and other geographic factors would affect such logistical calculations. What is offered below thus represents a much generalised sample of the logistic equation. The selected case study represents the logistical burden that had to be shouldered by the Israelite yeomanry for the many years of the campaign. Israel's campaign against the Ammonites will serve to illustrate the burden. The logistical model assumes that the Israelites launched their attacks in the early summer months when food supplies were approaching peak levels, and that the equation is not further complicated by variable factors such as drought, flooding, pestilence, or nomadic raiders.

(a) Food

1,4 tons of food / 1000 warriors per day.

Thus, at least one division of the 'Gibborim' or royal bodyguard would have been deployed together with the militia division of the month. The deployed divisions would have theoretically numbered 600 and 24 000 fighting men.

1,4 tons of food x 24 600 = 34 440 tons of food *each day* of the campaign.

34 440 tons of food x 30 days = 1 033 200 tons of food *each campaign month*

Capable and experienced generals of David and Joab's calibre would have paid due attention to the agricultural calendar and timed their campaigns accordingly to afford themselves operational leverage. The staple crop was wheat, ripening in the springtime – the beginning of the Mediterranean World's campaigning season. Sieges that would span several months would bottle the enemy up behind their defence works and allow the invaders to provision themselves at the local

population's expense, thus hastening the decision of the defenders to capitulate. Iyyar (the beginning of the barley harvest), Sivan (the beginning of the winter-wheat harvest), Tammuz (the beginning of the grape harvest), Ab (the olive, fig and nut harvest), and Elul (the date, summer fig, pomegranate, vegetable, and other grains harvest), approximately the equivalent of mid-April to mid-September. At the rate of half a ton of ripened wheat per hectare in the dry regions of Syro-Palestine, the campaigning army of David and Joab would have consumed, on a daily basis, about 17 220 hectares of such cereal grass. This would have been offset by other food stocks such as livestock, dates, grapes, olives, dairy products, fruit and vegetable etc. Small wonder warfare was counted as a primary factor for denuding the land and turning it into desert.

(b) Water

The minimum requirement of one litre per person per day required a provisioning of no less than 24 600 litres per day. As the mounted arm of the campaign army grew, including chariotry and the early cavalry arm, an additional eight litres per horse and mule was necessary. The campaigning season was also the dry season so access to local streams, brooks, springs, wells, cisterns, lakes and dams had to be carefully planned into the operational strategy, the army's line of march, and continuous local re-supply capabilities of the region in the event of siege warfare.

(c) Communications

The reality of the iron shackles of logistics required that secure communications were established to maintain a lifeline between the campaign army and Jerusalem. The several years of campaigning made it unrealistic that King David could be away from

the rigours of political leadership at home indefinitely. Progress reports, replacing yeomanry divisions at the front with those on active reserve from home, and supplemental provisioning from Israel all counted on secure lines of communication. In the hostile environment of Syro-Palestine during IA IIa, David had to plan the Israelite campaign objectives in conference with his 'Thirty' very judiciously. Gradually moving Israel's sphere of political influence methodically outwards, step by step until political control was securely established and maintained. Both diplomacy on the periphery and military statecraft closer to home coloured the picture of David's general strategy and the lines of communication that serviced it in the field.

David's Campaigns.

(Map from Douglas, J.D. [ed], 1974: Map 5)

5.12.5. Political Aftermath and Strategic Dialectics

Whatever piety motivated David to transfer the ark from Shiloh to Jerusalem, the positive political ramifications were significant. By this masterstroke all Israel's tribes were jointly and comprehensively united to a new king and a new capital that was largely free of the divisive effects of tribalism. David had not only secured a political base among the fickle commoners of all the tribes and their provincial elders, but he had also won the allegiance of Israel's conservative clergy.

With the major political powers of the ancient Near East in a political nadir, Israel became an important actor in the regions international politics. David's *general strategy*, as pointed out by Miller and Hayes, centred upon three contingencies: Firstly, the containment of the still powerful Philistines. Secondly, the expansion of the state boundaries beyond what Saul had ruled and the annexation of these heretofore independent city-states, and thirdly the successful conduct of frontier wars and the establishment of fruitful alliances with surrounding kingdoms (Miller and Hayes, 1986:179). Regarding point three, political consolidation is well served by external political exigencies. David altered Israel's economic status from a struggling emergent state to a fairly powerful regional state on a sound war potential footing from which imperial objectives could be successfully pursued.

The most important land trade routes followed a north-south axis through Palestine and all such were brought under Israel's direct control. Even the prosperous east-west trade routes that trafficked from the Eastern Mediterranean across Syria and into Mesopotamia now lay within Israel's sphere of influence. Iron-hungry Egypt to the south was an anxious consumer of the ore which became more accessible as a trade

commodity after David's campaigns in Syria. After the second successive defeat of the Aramaean forces, Damascus was garrisoned and 'Syria' was obliged to supply tribute. The balance of power was changed in Syria and the Galilee was now undisputedly under Israelite control. Powerful regional enemies in the north were reduced and exploited. Israel's southern borders were emphatically demarcated by clearing out all the non-Israelite aliens loosely referred to as 'Edomites' who had filtered into the area west of Edom proper. Such key trade routes were secured for Israel's own economic interests - the economy being at the heart of nearly all political discourse. By means of diplomatic alliances and military statecraft, David secured for Israel an economic base that would sustain her as regional hegemonic leader (*New Bible Dictionary...* 1974, s.v. 'Trade and Commerce')

5.13. King David at War in Aram (Syrian Princedoms)

David's expansion of Saul's Israelite kingdom was mainly northward, including the important Jezreel Valley and Galilee. Both these locations added substantially to Israel's food security and ultimately, to her war potential. Both locations also lay along important north – south trade routes. Securing these locations brought King David within range of the lucrative Aramaean bazaars and the east – west trade routes that perpetually fed them. Initial conflagration had already irrupted in the reign of King Saul (1 Samuel 14: 47) which lists the kings of Zobah (geographically north of Damascus) as amongst the enemies of Saul's own campaigns of political conquest. The lucrative east – west trade routes were not easily yielded and lay at the centre of David's general strategy in the north.

The Aramaean petty kingdoms had arisen in the aftermath of the political chaos brought on by the Sea Peoples disruptions c.1200 BCE. The kings of Zobah were ardent enemies of Israel during the reign of King Saul, choosing to align themselves with Israel's enemies during David's campaigns to the north and east. Hadadezer of Aram-Zobah was the strongest Aramaean kingdom during IA IIa, his kingdom reaching to the Euphrates (2 Samuel 8:10).

5.13.1. Military Potential of the Israelites

David's campaigns in Aram occurred somewhere between 980 and 970 BCE. For more than two decades the Israelite army and its commanders had been in the field. There is no evidence in available records that suggests the dual arrangement of conscripts from the active reserve and a hard core of regulars had changed. The Israelite army was well-seasoned in IA IIa warfare, with a long standing tradition of victory over their Syro-Palestinian enemies. Israel's military potential in this campaign would have conformed to their proven establishment.

5.13.2. Military Potential of the Aramaeans

Fearful of David's northward expansion, some of the Syrian rulers had responded to the Ammonite appeal for assistance by sending Syrian mercenaries. The troops supplied by King Hadadezer of Zobah numbered about 12 000 infantry. 2 Samuel 10 also records a large number of proto-cavalry and a large strike force of chariotry. Notwithstanding necessary adjustment for the hyperbole, the presence of these weapon systems says much about the economic strength of the Aramaean kingdoms. Such a large force of mercenaries with advanced weapon systems of the day illustrates their strength. When David attacked Aram-Zobah, Hadadezer was en route

to the Euphrates to restore his political authority there. 2 Samuel 8: 4 lists the war material David captured which again points to the war potential enjoyed by this principal Aramaean state. The record lists Hadadezer's military potential at this encounter as 20 000 infantry, 1000 chariots, and 700 proto-cavalry. Hadadezer also enjoyed the political support of other Aramaean kingdoms who supplied allied contingents numbering 22 000 additional foot soldiers.

5.13.3. Technological Aspects: Operational Strategy and Tactical Factors

2 Samuel 8: 4 yields a useful insight into the cultural process of military acquisition of new weapon systems for the Israelite military potential. David's chariot arm was small in comparison to some of his political neighbours but the merits of this weapon system were already well proven. Where captured chariots exceeded the Israelite army's ability to assimilate such, the hamstringing of captured chariot horses ensured that the enemy war potential was denied their use as well, i.e. the ancient equivalent of spiking guns. The acquisition of an early chariotry arm that was to become a major component of Solomon's military establishment. The latter would still feature as a key part of the Omride military potential in 9th century BCE.

5.13.4. Logistical Factors: Seasons, Distances, Mustering, and Volumes

The greater the distance the greater the logistical complications for the army setting out on campaign. The distance between Jerusalem and Damascus was about 220 km's as the crow flies, a distance that would have taken approximately two weeks steady route marching to cover. Troop fatigue impacts upon tactical prowess and had to be factored into the logistical calculations of the campaign. Very specific and detailed orders had to be worked out and issued to all units moving over long

distances in order to preserve the fighting effectiveness of the army. The absence of an extensive all-weather road network further aggravates the logistical situation.

Unlike Clausewitz's Napoleonic period and the modern era thereafter in which self sufficient fighting forces referred to as 'divisions' were constituted, early Iron Age armies lacked such organisational sophistication and were considerably more prone to debilitating disorder if not properly managed during a march. Unlike the divisional armies of later periods, the ancient army had to be assembled and deployed in its entirety before engaging it in battle. Besides duration, victuals, and routes, even the 'order of march' in ancient times was carefully considered. This was a tactical question rather than a strategic one (Clausewitz in Howard and Paret, 1976: 318).

The possibility of unexpected and hostile encounters, and which units were engaged first by the enemy were important considerations when self sufficient military divisions did not yet exist.

The overall size of a marching force determines the logistical time frames for the operation. A large army or campaign force will cover a given distance at a slower rate than a smaller force. The crude roads of the Late Bronze Age and Early Iron Age did not promote efficiency. The Persians and the Romans with the challenges of expansive spatial empires were proactive in addressing this specific aspect of logistics. Clausewitz's Napoleonic divisions provide useful analogous data to illustrate the logistics of 'the march':

- Moving head to tail on a single road, a division of 8000 troops with commensurate wagon transports takes about an hour to file past a given point along the route.

- A second division of the same size, moving in conjunction with the first, will arrive at that point an hour after the first and be passed it two hours after the first division reached that point.
- An army of 24 000 troops such as one IA IIa Israelite yeomanry division during the reign of King David, would take not less than three hours to file past the said point along the route. This theoretical assessment has not made provision for sick troops or troublesome or lame draught animals, or for mechanical failure of the crude vehicles, terrain, and weather, human error in navigation or for congestion along the limited roads of antiquity.

The experience of the military commander is significant too, and commanders such as David, Joab and others of ‘the thirty’ would have been able to draw on many decades of individual and collective experience. Furthermore, the standard distance of the march was about 24 kilometres in a day. This must be reduced to 12 to 16 kilometres per day in extensive campaigning to allow for rest and equipment maintenance. This is moderated further by various factors, inter alia;

- A division of 8000 men takes eight to ten hours to cover the 24 kilometres in flat open terrain along satisfactory roads.
- The same will take ten to twelve hours to cover this distance along satisfactory mountain roads.

Marching for several hours over many days can dissipate an army’s concentration of numbers which is as counterproductive to the prospects for operational success as the fatigue factor. Generally, concentration of force at the critical point of contact with the enemy is crucial to operational success.

With the esoteric eye of one literate in logistics, a reader becomes alert to text statements such as David intercepted Hadadezer's army as the latter were marching eastwards to re-establish their political authority in the region of the Euphrates (2 Samuel 8: 3). Did David's army arrive at the point of interception earlier, rest and take up outflanking or ambush positions or did David engage his exhausted men with the enemy immediately? The text simply summarizes David's engagement with an assertion that David was victorious and increased his military potential from the battle's spoils. Clausewitz observes that armies of 40 000 men did not engage each other immediately but waited for the next day (Clausewitz in Howard and Paret, 1976: 314).

5.13.5. Political Aftermath and Strategic Dialectics

Exhausted troops are generally unable to exploit a battlefield victory and convert such into a strategic political victory. Troops that are already worn out before going into battle quickly succumb to exhaustion due to the massive exertions demanded just to survive the battle. This leaves little energy and will power to properly exploit the tactical battlefield victory. Thus the logistical factors of total campaign distance, season and circumstances of terrain to be traversed, security of lines of communication, frequency of engagement, and ferocity of battle all combine as logistical factors to challenge the prospects for a strategic victory or to limit it to merely a tactical victory. The political aim is more closely associated with the strategic victory. In terms of strategic dialectics, the more distant the campaign in logistical terms, the harder it is to attain a strategic victory and to satisfy the political objective.

David's victory over Hadadezer was a political follow-up from his war with the Ammonites, who had received military support from Hadadezer. The king of Hamath, named Toi, supported David against their mutual enemy Hadadezer and became a northern vassal king to Israel. Thus by the second half of his reign, David had become political overlord of much of IA IIa Syro-Palestine. He had created a small empire, securing trading privileges far to the north, even extending to the Euphrates river. In so doing however, David had over-extended Israel's war potential. The political fabric could not hold for long and the cracks appeared early in Solomon's reign (Reader's Digest, *Atlas of the Bible*, 1981: 98).

5.14. Israelite Civil War: King David and Absalom's Rebellion

David's third son, Absalom, born of a Geshurite wife, returned from a three year exile consequential to the killing of his older half-brother Amnon. The crisis was originally precipitated by Amnon's rape of Absalom's sister Tamar. After his return at David's request, Absalom remained banished from the royal court for another two years until David relented and restored the royal prerogatives to the young prince. Absalom promptly responded by intriguing to win popular favour and to depose his father.

David's political astuteness and Jerusalem's capacity to withstand a siege was great which invites the question; why did David meekly withdraw from Jerusalem, his mountain fastness. His call for the flight from Jerusalem of those still loyal to him is sometimes explained as a humane desire to spare the civilian population from the horrors of civil war but such is a weak rationale (2 Samuel 15: 14). This appears out of character for the campaign hardened veteran. His fears are better understood if he feared treachery from within the walls of a besieged city. Moreover, David was

unsure of his military potential, i.e. to what extent Absalom had corrupted his loyal support base. The text points out that David still enjoyed the resolute support of 600 faithful Gittites besides his personal retainer divisions of Cherethite and Pelethite mercenaries (2 Samuel 15: 18). David also demonstrated sincere remorse as the insurrection came to a head; he interpreted the events as the punishment from the hand of God and stoically accepted the humiliation and scorn (2 Samuel 16: 5 – 14).

What transpired over David's long and celebrated reign that allowed Absalom to raise an insurrection against David with such apparent ease? (2 Samuel 15: 12).

Inefficiencies resulting from David's advanced age were manifest in the looseness of his internal political affairs, particularly the weakness of the administration of justice – a common and fundamental royal duty in all oriental monarchies. Joab as commander of the army had overgrown his authority and exploited the king's long standing trust in him. Along with his brother Abishai, Joab was regarded by many as wicked, insolent, and ruthless in their political dealings. Many believed the king had weakened and was afraid to execute the law against these powerful military commanders. There were also still some partisans of the House of Saul such as Shimei of Bahurim who still saw David as a usurper of Saul's throne. Lastly, David had reached an advanced age and the issue of succession was closely tied to patronage. The support for Absalom throughout Israel appeared extensive (Church Educational System. Old Testament Student Manual, Religion 301, 2003: 296).

A short note on the redactive nature of the Genesis – 2 Kings account is helpful here. The garbled treatment of David's life by the chroniclers easily confirms that the record was written in retrospect from a variety of sources with the premeditated

intention to legitimize the Davidic Dynasty. There are serious limitations regarding the authenticity of David's reign and the event's surrounding it. Chronological error, subjective bias i.e. where Jonathan the legitimate heir of King Saul defers to David (1 Samuel 18: 4), hyperbole, use of legendary material in a pro-Davidic manner, contradictory statements such as who actually killed Goliath (compare 1 Samuel 17: 54 with 2 Samuel 21: 19) all combine to challenge the historicity of the Genesis – 2 Kings account (Miller and Hayes, 1986: 152 – 156). The redactive veneer notwithstanding, the substance of Absalom's rebellion has heuristic value for establishing the foundations of military power during IA IIa.

5.14.1. Military Potential of King David's Loyalist Force

Had Absalom heeded his own counsellor Ahithophel's advice, rather than that of King David's planted mole advisor Hushai, the military potential of David's civil war forces would have been considerably smaller and less organised when the two armies clashed. By ostensibly stalling to muster a decisive force, presumably of northerner yeomanry, Absalom lost most of his operational strategic advantages. The ill-advised interval allowed David to also add to and organise his veteran loyalist force. The mustering was large enough to warrant a deployment under three field commanders. The first command under the brothers Joab and Abishai, the king's nephews, and the third under Ittai the Gittite, another Philistine mercenary commander recently arrived from Gath and in David's service with a force of another 600 mercenaries (2 Samuel 18: 1 – 3).

5.14.2. Military Potential of Absalom's Rebel Force

Absalom's rebel force was larger but less experienced than David's loyal veterans and mercenaries. The structure of its commands is not given. It was placed under the overall command of Amasa, Absalom's cousin.

5.14.3. Technological Aspects: Operational Strategy and Tactical Factors

David had crossed the Jordan and moved to where the threat of encirclement from the north and south was negated. With his rear secured against the Transjordan tableland and his flanks safely nestled in the broken terrain of the Jordan River valley, David anticipated Absalom's larger but less experienced force. David thus opted to fight a defensive battle; he would await the attack of the enemy and engage him in terrain and circumstances of his own choosing. The characteristic feature of defensive warfare is awaiting the enemy's blow and then parrying it. It does not however equate to passive warfare. Experienced practitioners in the art of warfare will readily recognise errors in the enemy's deployment and tactical disposition and then release their own forces like coiled springs, to capitalise and exploit the miscalculation of the enemy (Clausewitz in Howard and Paret, 1976: 357). Fighting in woodlands and difficult terrain calls upon even greater tactical skill from the commanders and further complicates the tactical equation.

Thus defensive warfare in the context of IA IIa and for millennia thereafter was an intrinsically stronger form of warfare than offensive warfare. Defensive positions can be strengthened; troops can be rested while they await the arrival of a fatigued enemy, and terrain can be selected that adds to the defenders advantages. Hence the defending commander 'reaps where he did not sow'. From his advantageous

defensive position, the defender is able to inflict heavy losses on the enemy at low cost to himself. With a strong front, and terrain assisted defensive flanks, David would have been able to keep back a strong reserve which could be released at a later stage to take the initiative and renew the conflict on his own terms. Once the defensive measures had been used successfully and a more favourable balance of strength had been achieved, the defending troops could then counterattack the exposed and weakened enemy. The decisive victory that David achieved over Absalom's forces could not be achieved if the offensive element was completely missing. David's tactical acumen born of several campaigns and Absalom's contrasting raw naivety were demonstrated by the deployment of their respective armies alone, let alone the subsequent events leading to Absalom's death.

5.14.4. Logistical Factors: Seasons, Distances, Mustering, and Volumes

Absalom's best opportunity for a strategic victory was wasted by David's mole Hushai who advocated inaction. Rather than wait as he did, had Absalom pressed home his initial advantages the political results may have been different. Only by exploiting a local or tactical victory fully can a strategic victory - one that achieves the political aim of the war, be achieved. Having secured Jerusalem from David Absalom dithered. In the fog of war very few are able to think with the required clarity and objectiveness. This 'fog of war' includes conflicting and competing inputs to the commander, inter alia, the need for food, rest from danger and fatigue, processing data into useful intelligence, repairing equipment and so on. Of this situation Clausewitz observes: "Only a few are able to think beyond the present moment" (Clausewitz in Howard and Paret, 1976: 264). Distance and time for mustering additional forces and the replenishment of the existing forces was the

disguised poisonous counsel of Hushai that afforded David sufficient time to secure his defence and organise his own loyalist forces.

5.14.5. Political Aftermath and Strategic Dialectics

The relative ease with which Absalom was able to raise an insurrection against David is noteworthy. That the insurrection was sparked off in Hebron, a former pro-David stronghold, and that the insurrection spread outwards from amongst David's own tribesmen who were prepared to renounce the benefits of patronage with the old king speaks volumes of the levels of the internal discontent that was building up in the later period of David's reign. The light glossing over of the seriousness of the insurrection is evidence of the retrospective and redactive nature of the textual record. Even after David's forces had successfully dealt with the rebel forces and Absalom had been dispatched, Sheba, a Benjamite urged the other tribes to renounce their allegiance to the House of David rather than reinstall him again to the Israelite throne. Significant numbers present heeded this call, requiring a swift and decisive response from David and his inner council. This adds substantially to the claim that Absalom's rebellion was founded on strong general discontent for the rule of David throughout the kingdom (Miller and Hayes, 1986:177).

Yet the power and the glorification of the reign of David, aided by text redaction, still bear upon the era. It is to David rather than Saul that Jews of all dispensations since IA IIa look back with pride and affection. David is still seen as the establisher of their kingdom. David's rule was not only a glorious political reality by it symbolises an ideal as well. The promised Messiah after the pattern of David would someday deliver them from their political foes, whether such enemies are Egyptian, Assyrian,

Babylonian, Mede-Persian, Greek, Roman, Moslem, Ottoman, European, or Palestinian.

5.15. King Solomon's Reign, ca. 965 – 928 B.C.E.

The opening proposition of this chapter declared its intent to delineate the wars and conflagrations in and around Israel during IA IIa. These political irruptions would serve as a vehicle for the examination of Israel's evolution of military force during IA IIa. Proceeding to Solomon, the third of Israel's kings, the biblical record is again problematical. The texts dealing with Solomon's reign has all the hallmarks of a severely redacted work. This is aggravated by a dearth of alternate literary sources, sacral and profane, by which the editorialised reign of Solomon could be objectively moderated. Material remains - particularly that of military architecture, has shed some helpful light on the evolution of Israel's foundation of military force during Solomon's reign. Thus what follows for Solomon is more of a survey of intelligible cultural remains rather than a chronicle of warfare.

5.15.1. Political Regime of Solomon.

The Israelite monarch's grip on the levers of political power was unremittingly tightened. Solomon tolerated no potential rivals within the royal inner circle. His stepbrother, Adonijah, together with his highly placed supporter Joab, David's erstwhile military chief, were both executed and the priest Abiathar exiled to his estate in the village of Anathoth on conspiracy charges. Joab was replaced as army chief by the willing Benaiah. Solomon's reign more than both his predecessors began to take on the appearance of oriental despotism. Palace intrigue and the beginnings of Israel's first dynasty characterised Solomon's ascension to the throne. Solomon's

political goals reflected a more benign foreign policy than David's. He had inherited a substantial kingdom from his father and was content to maintain rather than expand its territory. Rather than a vigorous foreign policy based upon military conquest, Solomon aimed to increase Israel's political power through trade and related economic statecraft. David had entrenched Israel's political security and Solomon sought to fully exploit Israel's political dominance in the Syro-Palestinian region during IA IIa. His almost 40 year long reign (c.965 – 928 B.C.E.) was largely peaceful without any evidence of large military campaigns being conducted or having to muster Israel's substantial military potential to repel any invasions. This does not suggest however that he had no political enemies.

5.15.2. Expanded Bureaucracy.

Efforts to expand the bureaucracy reflected Solomon's political aspirations. Against the larger cultural backdrop of the ancient Near East a rare political eclipse of both the traditional great powers was still proceeding. The ancient hydraulic cultures of the Nile to the southwest and the Euphrates and Tigris to the east had both declined into dormancy at the same time. This situation afforded IA IIa Israel its unique opportunity to exploit with no external impediments or interference, the political primacy it had won in Syro-Palestine under Saul and David.

Solomon vastly expanded the bureaucracy; several departments were created with a 'high official' or minister directly answerable to the king over each. The army which had enjoyed primacy in the earlier governments of Saul and David was now relegated to the status of one of several departments. The fierce guardians of the covenant – the charismatic priests and prophets which had hitherto never hesitated to preach regicide

against impious kings were temporarily daunted and reduced to the status of another ministry, not unlike the Mesopotamian or Egyptian models. This reflected the new order of the political landscape that prevailed under Solomon. The addition of other new ministries such as a 'forced labour ministry' and the 'palace ministry' further reduced the prominence of the leading generals and priests who had in earlier days been the king's peers and religious overseers (Miller and Hayes, 1986: 205).

5.15.3. Economic and Diplomatic Statecraft.

Economic expansion was extensive during the reign of Solomon. Israel's economy still centred mainly upon agriculture but now the growth of trade and commerce began to come into its own. The campaigns of Saul and David had established the relative positions of power among the regions political actors. A significant degree of consensus of political strength had been reached among these international actors thus creating conditions of stability favourable to trade and commerce. The containment and in many cases, the break-up of Canaanite enclaves and the Philistine and Transjordan political competitors had opened the way for Israel's economic growth during IA IIa. The dangers of an external political threat had been dealt with by Saul and David, permitting the pursuit of a more benign diplomatic policy. Solomon enjoyed the advantages of diplomacy conducted from a politically dominant position when dealing with weaker neighbouring political actors. Such was the legacy bequeathed him by his royal predecessors.

The maintenance and further strengthening of Israel's war potential during Solomon's reign was not motivated by fear of external military threat. It was the diplomatic wisdom of negotiating and entering into trade and commercial agreements and

compacts with the backing of the greater war potential – not unlike Rome’s rise to regional power with its Italian social allies in the Early Republic Period or Bismark’s brand of power politics of the nineteenth century. Israel’s mature alliance with Phoenician Tyre now entered its greatest period of mutual prosperity; a merchant marine joint-enterprise, based at Enzion-Geber was entered into, trading up and down the Red Sea and along the coast of East Africa and further to the east, bringing a range of exotic goods and luxuries to Israel for the first time since their settlement in Canaan. The plundering nomadic tribes such as the Amalakites had already been comprehensively dealt with and the erection of a network of small forts kept such raiders quelled and allowed for extensive agricultural prospecting in the hitherto marginal regions such as the Negev and southern Transjordan. Pacified Arab’s now sought trade at Enzion-Geber and at Israel’s desert settlements. The lucrative major trade and caravan routes such as ‘the Way of the Sea’ and the ‘King’s Highway’ could now be closely regulated for taxation purposes. Not only direct trade but indirect trade featured in Solomon’s comprehensive economic statecraft. Under the king’s entrepreneurial brokerage the wealthy potentates of Aram and Egypt did extensive trade. Egyptian chariots went north and the majestic stallions of Kue went southwards, and Israel’s ‘middleman’ services bolstered her coffers.

Within the kingdom Solomon modernised the domestic tax regime. A new arrangement of 12 taxation districts was established within the kingdom. These tax districts were comparatively equal in resources and population. To achieve this, old tribal boundaries were ignored and tribal connections were downplayed. This aimed at further reducing the traditional problems of tribal parochialism and strengthening the war potential through greater political unity centred on the personage of the

monarch, regardless of tribal differences and genealogies. A senior administrator oversaw the tax affairs of his tax district and each such officer accounted to Azariah. Each tax district made payments in kind for the support of the king's household on an assigned month of the year. The heavy tax burden outlined in 1 Kings 4: 1-25 recalls the earlier warning of Samuel (1 Samuel 8: 11-20) on the evils of monarchy (Church Educational System. Old Testament Student Manual, Rel. 302, 1981: 4-5).

5.15.4. The Expansion of Israel's War Potential.

The increase in despotism did not equate to a decrease in war potential for IA IIa Israel. The expansion of the tax system allowed Solomon to fund projects that related to Israel's war potential. The conscripted labour force was used to expand Israel's infrastructure. Such projects included a huge palace complex comprising the renowned temple of Solomon and the extension of the Jerusalem's defensive walls northwards to include the 'Temple Mount' as well. Jerusalem's population swelled during Solomon's reign from the earlier 11 to 12 acres to an urban footprint of some 32 acres.

Several strategic sites were identified and developed as fortified military bases for the defence of the homeland along key invasion routes. These strategic passive defences included Hazor, the huge former Canaanite Bronze Age city-fortress that guarded the access routes from the north. Famous Megiddo guarded the 'Way of the Sea' which transverses the Jezreel Valley via the Mount Carmel pass, and Gezer which stood guard over the most direct route from the Eastern Mediterranean to Jerusalem and the Judean highlands. The fortified city of Balaath was established to add further strength against the Philistines, Israel's erstwhile powerful antagonists in the west. Balaath, or

Beth-horon as it is also known, guarded the short western approaches to Jerusalem, evidence of Israel's early acknowledgement of her small territory's strategic vulnerability (Miller and Hayes, 1986: 210). This was clear even before the onset of modern mechanised armies. In the southeast Tamar was established to affirm Israel's political control in that region of bitter hostility and to ensure that Israel retained her grip on the lucrative trade routes that traversed it. In addition to the fortified cities, Solomon established several strategically sited magazines or 'store-cities'. These cities, some named and several others not named, were established to ameliorate the challenges of logistics during times of war. Logistics is an unrelenting dictator to all field commanders alike. That all operational strategy is shackled to constraints of hard realities of logistics was not lost on Solomon as supreme commander of Israel's war potential.

Jezreel Valley, One of the Strategic Routes Fortified by Solomon

(photograph from *Bible Lands*, 1986: Jezreel Valley, D1-1)

Another variance from the military statecraft of Saul and David was Solomon's employment of diplomatic marriages. The many marriages with 'gentile' princesses outside the covenant colours the work of the later redactionists. Had the latter done

their work in more pious times Solomon's diplomacy would have been denigrated as wholesale apostasy. Prophets of the ilk of Samuel would have denounced him and had Solomon been a contemporary of Elijah regicide would have been the prophetic homily of the day instead of the rose coloured redacted text by which we view Solomon now. Solomon's goals were emphatically secular. The great temple of Jerusalem is reminiscent of the religious splendours of Babylon's ziggurats and of Egypt's pyramid to their gods incarnate, all integral aspects of typical Near Eastern despotism. Later redaction aimed at establishing the piety of the House of David to underscore legitimacy. Even the references to stalls for 40 000 horses for the chariot corps with an equally unbelievable expansion of the proto-cavalry arm to some 12 000 horsemen lend weight to the sceptics arguments that hyperbole is again being employed for placing Solomon's career in a particular light (Miller and Hayes, 1986: 190). Diplomatic marriages occurred thick and fast over Solomon's long reign, each one a flagrant violation of the Law of Moses (Deuteronomy 7: 1-4). Each such union aimed at cementing a political compact and gaining some secular increase. Solomon's lifelong political priorities were greater than his religious ones and the text records that his eventual later political decline traced its roots back to his having strayed from the precepts of Israel's definitive covenant (1 Kings 11: 1 – 11).

5.15.5. Political Aftermath and Strategic Dialectics

Behind the material façade of prosperity there was a groundswell of internal political discontent which intensified with the passing years during Solomon's long reign. The authoritative allocation of resources from internal revenue did little to benefit the common man. In fact, when Solomon developed cash-flow problems he viewed his fellow covenant Israelites with the same disregard as a despot; they had become

trading assets – twenty villages and all within them were simply handed over to King Hiram of Tyre (1 Kings 5: 1-12) to assuage a financial problem. Internal revenue became Solomon's personal property in the same manner as all oriental monarchs. The grandeur of the king and his expanded retinue took precedence in state expenditure. The Israelite king, originally a fellow of the Abrahamic Covenant with a political stewardship for the common man, had begun to take on the social form of the oriental 'great king'. The tenets of the Abrahamic Covenant were no longer a constitutional restraint and political discontent, coupled with no evident external threats to mobilise against, began to eat away at the moorings of political stability.

Another factor in the strategic dialectics that militated against ongoing political stability and the growth of the Solomonic regime's war potential in its closing decades was the cumulative result of corvee labour. Neither Saul nor David had engaged in the schemes of architectural grandeur that Solomon did. They had little use for large numbers of slave labourers, though their military statecraft created a ready supply of foreign prisoners and slaves. Ironically during Solomon's reign hardly any large campaigns were undertaken but a large labour force was critically needed. Thus the flow of enemy captives dried up and with it the prisoner slave gangs needed began to diminish over the many years of Solomon's reign. Israelites were initially used as a stop gap measure, but soon it became a necessity to regulate such arrangements and place them onto a more permanent footing. Enforced labour hearkened back to Israel's worst political memories, where their forefathers toiled under the taskmasters lash as slave labourers for the Pharaoh. Solomon's forced labour program accelerated the seeds of dissent and began to foster attitudes of rebellion. A senior officer over such forced labour in the northern area, from the

unsympathetic tribe of Ephraim named Jeraboam became an instigator against these royal building measures and was forced to flee to Egypt for his safety (1 Kings 11: 26 – 40). The building program with its attendant forced labour produced dissent enough to split the kingdom. The occasion of the king's death provided the opportunity to act. Notwithstanding the best efforts of the compilers of Genesis – II Kings to lay the crises at Solomon's successor's door the inescapable cause of the crises rested with the political foolishness of Solomon himself (Miller and Hayes, 1986: 217).

Jeraboam received ecclesiastical support in his challenge to Solomon from the prophet Ahijah, a shadow of the Samuel – Saul fallout suggesting the reign of Solomon was rendered idealistic in the biblical text. The loss of ecclesiastical support is also linked to Solomon's choice of diplomatic statecraft – another mimic of foreign methods of governance. His marriage to so many non-Israelite women, the resulting massive royal harem and its expensive upkeep alienated Solomon from the priesthood and the pious commoner who had to foot the bill. Like Saul, it was divined that the kingdom would now also be wrested from Solomon's family and its war potential divided and permanently compromised. The upshot of which would not be lost on opportunistic political adventurers such as Pharaoh Shishak (Sheshonk I).

Disgruntled, bitter and subjugated restless neighbours saw the steady erosion of political solidarity in the kingdom and the concomitant loss of war potential and took courage in planning their breakaway to independence while Israel struggled internally. Hadad returned from exile in Egypt to lead Edom's unremitting political struggle against Israel. Rezon of Damascus measured the currents of Israel's war potential against his own political aspirations and found the opportunity ripe to break

free. Soon after Solomon's death Ammon and Moab followed suit and even the reduced Philistines in the enclave Gibbethon, west of Jerusalem, reasserted themselves politically (*Readers Digest* ... 1981, s.v. 'Divided Monarchy'). The final blow that broke the back of the United Monarchy was when Jeroboam returned from refuge in Egypt to lead the succession of the northern tribes after Solomon's death. The war potential of the United Monarchy of Israel, wrought to its peak over a century of gruelling political struggle, was irretrievably diminished. With it the period IA IIa or the Early Iron age of Israel's history passed, and the Middle Iron age or IA IIb in the parlance of Syro-Palestinian archaeology began (Bimson *et al.* 1992: 24).

The Divided Kingdoms of Israel and Judah

(Map from Bimson *et al.*, 1992:45)

CHAPTER 6. ARTEFACTS OF WAR FROM SYRO-PALESTINE DURING IRON AGE IIa

Artefacts of war are to some degree the reification of the doctrines and associated principles regarding war and its conduct as it obtained in that given period. Though cultures of any dispensation appear to be stable they are indeed constantly undergoing changes. The rate and scope of change depends upon several factors such as frequency of contact between two societies and the intensity of contact. Agents of cultural change include innovation, diffusion, cultural loss, and acculturation. *In situ* material remains reflect the cultural values of that society who occupied that place at a given time period. Cultural values, and how they ‘metamorphosis’ over time, tells much of a given society, its *weltansschauung* (worldview), and the cultural universe to which such a society belonged.

Innovation takes place when someone discovers something new which is then accepted by others in that society. Other agents of cultural change include diffusion - the borrowing of something from an outside group. For instance, the technical know-how of working iron from the Philistines to the Israelites. This did not merely change the weapons used by Israel superficially from bronze to iron, but led to significant changes in military values, military doctrine, and operational strategy such as the employment of a large chariot arm by Solomon’s time in the latter part of IA IIa. Cultural loss and acculturation, namely, the abandonment of an existing practices or trait, with or without replacement, is another mechanism for cultural change (Vermaak, 1996 b:13). The introduction and development of true cavalry changed the nature of warfare in the ancient world. This is evidenced by the eventual loss and

replacement of chariotry by cavalry as the principal mounted arm and 'shock weapon' of antiquity.

Commenting on the technological aspects of war potential which in fact delineate the context for artefacts of war, Dupuy asserts: "Mobility, or the lack of it, played an important role in the composition of early armies, in the use of their weapons, and in the tactics they employed" (Dupuy, 1984:6). Arguably then, military doctrine for operational strategy in particular, and to a lesser extent general and total strategy, is heavily informed by technical innovation. Technical sophistry in antiquity and the ensuing innovations that followed are traceable in the material remains of that given society. The material remains inform us not only of the technological aspects of the weapons systems employed but of organisational developments necessary for the effective employment of such weapons also. In the same way that pottery can esoterically comment on a society's economy, trade patterns, economic strengths etc., so too, for the esoterically trained eye of the military archaeologist, do military artefacts comment on the technological and social sophistication of the ancient society from which the artefact originates. By extrapolation, such artefacts also comment on the cultural dynamics of the society that possessed such artefacts. The principal theme of Dupuy's quoted book is that warfare, i.e. the methods and means for waging war, is evolutionary by nature. This theme is consistent with the evolutionary nature of cultures.

From a holistic perspective Dupuy observes that modern warfare traces a discernible evolutionary path from past to present warfare. Some aspects of war and indeed, even some aspects of warfare, never change. For anthropologists some interesting aspects

of culture arise at this juncture. Innovation is much lauded for the technical advantages it can afford the innovators. It is recognised as a key agent for cultural change in general. Cultural change is a matter of great importance to anthropologists, including the derived discipline of archaeology. For archaeology's purposes however, the nature of cultural change is characterised more by the gradual and incremental technical evolution than by radical and revolutionary invention. The latter type of change, while dramatic from an anachronistic viewpoint, is exceptional and uncommon. Ironically it is often these radical changes rather than the normal course of evolutionary change that receives attention and emphasis among scholars. New Archaeology requires, in a review of military artefacts belonging to IA IIa, that the commonplace and the standard be given priority rather than the exceptional, the rare, and that which was experimental in the arsenals of this period. The unusual artefact should be duly noted but care must be taken against inductive assertions that would distort the emerging picture of the ancient world in which the military encounters and wars occurred. This perspective will serve as the point of departure for a review of the artefacts common to Syro-Palestine during IA IIa.

6.1. Lethality of Weapon Factors

The degree of a weapon's lethality rests primarily on two general aspects: the technical qualities of the weapon and the proficiency of its employment. Thus lethality is a comparative thing and inherently dynamic – a valuable window for anthropologic insight. Weapon lethality's comparative nature is contextually circumscribed by factors of time, range, and cultural background. Outside of this contextual ring-fence we end up with science fiction rather than scientific insight such as King David's proto-type cavalry being compared with Napoleon's dragoons and

chasseurs. The simplest yardstick for lethality, which invites the establishment of a lethality index, is the matrix of total deaths caused within the shortest time span possible. Dupuy represents the evolution of weapon lethality in the table below.

Weapon Lethality Table (Dupuy, T. 1984: 288 – 289).

Over the millennia of history Dupuy claims three great periods over which weapon lethality evolved: the Age of the Muscle, the Age of Gunpowder, and the Age of Technological Innovation. This heuristic timeline of weapon evolution allows for some interesting insights. Firstly, the huge time block of the first four millennia of world history, into which IA IIa fits, falls into the so-called Age of Muscle. This

period reflects the slightest degree of technological change in military application. General technological innovations throughout this time period were continuous if not radical and time was needed to find their application in the sphere of weapon systems and battle doctrine.

Secondly, the graph tracing weapon lethality over these first four millennia is remarkably flat. No major advance in weapon lethality occurred in the age of muscle. A major advance is explained by Dupuy “as a new development that changes the nature of warfare” (1984: 287). Ballistic weapons and melee weapons from Neolithic times underwent evolutionary change rather than revolutionary change. For example, King David and Solomon’s prototype cavalry began to feature alongside the chariotry arm of the army, but this was evolutionary change of the mounted weapon system, not a revolutionary change in warfare. It was the result of bigger and stronger mounts capable of bearing a fighting cavalryman rather than the earlier horses of smaller and weaker physiology.

Thirdly, a clear cultural link exists between weapon evolution and the cultural backdrop of the period being studied. Finally, in his role as a military historian, Dupuy lists 18 revolutionary technological changes which qualify as major advances in warfare (1984:287-294). Warfare would never be conducted in the same manner once these innovations became manifest to a significant degree. Of the 18 major advances, four occurred in the Age of Muscle, four in the Age of Gunpowder, and no less than ten (more than double both the previous dispensations combined) in the Age of Technological Innovation. With regard to the four major advances that occurred in the Age of Muscle, all of them fall outside of IA IIa. The latter began with Phillip of

Macedon's development of the *sarissa* (lengthened pike) in c.359 B.C.E. The Roman *gladius* (heavy short sword) introduced c.250 B.C.E., the English longbow and the Mongol composite bow of the 13th century were the other three significant developments in weapons and their lethality in the Age of Muscle.

There are several additional factors that ought to be closely examined to preclude the accusation that this retroactive study of polemology is subjective and highly artificial, thus lacking in relevance. Time and the scope of this dissertation obligate selectivity. Accordingly, the final aspect of weapon lethality that is crucial to the relevance in this survey is that of battlefield density or 'dispersion'. This is a product of weapon lethality. Density is the result of the lethality of weapon systems, the battle doctrine, including organisation and deployment, to maximise the efficiency of such weapon systems offensively. Defensively, its density comprises the counter tactics (again including organisation and deployment) to minimise the effects of the enemy's offensive capacities. Even though weapon lethality has increased over time, counter tactics and organisation to optimise security has likewise increased to offset battlefield casualties. Greater dispersion on the battlefield has served as the primary off-setter to the ever increasing weapon lethality index. The table given at the top of page 225 treats this phenomenon on the large scale of an army or a corps, numbering about 100 000 troops. The trends and principle holds true notwithstanding the rarity of such huge troop mustering in antiquity.

Dispersion Pattern Table. (Dupuy, T. 1984: 312)

6.2. Arms, Armour and Mobility in Iron Age IIa

Warfare in terms of its operations is conducted either offensively or defensively. Military equipment may be categorised according to its operational function. Such classifications are helpful but artificial. It captures however the essence of warfare - particularly at the levels of operational strategy and tactics, viz. "... the ability to move troops to engage and injure the enemy without serious injury to oneself" (Yadin, 1963: 3). Thus arms, armour and mobility are the key elements of warfare for the common man in all dispensations of warfare and will serve as the principal points of departure for the review of military artefacts that obtained during IA IIa.

6.3. Personal Ballistic Weapons

Offensive capacity over a distance increases the operational and tactical options open to a commander. Ballistic weapons place the enemy at a disadvantage; such weapons threaten the security of the enemy while denying the enemy not armed with such

weaponry the opportunity to threaten harm in return. Ballistic weaponry also promotes the prospects for tactical surprise such as ambush, adding a psychological dimension to their scope. Ballistic weapons are grouped according to a wide variety of characteristics. For the purposes of ballistic weaponry in IA IIa the power of propulsion and the distinction by function will serve as the characteristics by which this category of weaponry is reviewed.

6.3.1. Hand-Thrown Missiles.

The stick or the stone are the simplest weapons of aggression. Sophisticated ballistic weaponry of the nuclear age all derived from these primitive weapons. During the temporal time frame of IA IIa hand-hurled rocks, stones from slings, and light spears are the main examples of this category of ballistic weaponry. While simple in concept most of these weapons required great skill and strength to be used effectively.

In order to realise the tactical advantage inherent in such weaponry on the battlefield, the power and effective range of the weapon (the missile itself) had to be extended beyond the normal capacities of the human arm. The lethality index had to be increased for military purposes to be served. To this end a number of simple throwing devices were devised to assist the throwers arm. Unlike the bow, the power and range of the sling and the throwing-spear (javelin) were directly commensurate with the strength of the thrower's arm. In terms of these weapons destructive function, neither the sling-stone nor the light spear stored any energy useful to the lethality index (*Weapons: An International Encyclopedia...* 1982, s.v. 'Hand-Thrown Missiles').

Devices to assist throwing the missile are distinguished by either being an integral part of the missile or by being a separate item that can be reused.

6.3.1.1. The Sling. The sling is the prime example of a reusable throwing device for IA IIa. The illustrations below are slings from various times and places of the ancient world. Of particular interest to this dissertation is artefact number one in the picture below which derives from ancient Egypt. It is a cord sling (with one missing cord) that was probably carried into Egypt either by invaders or mercenaries, the belief currently held among weapon specialists that the Egyptians did not use the sling.

(place picture of slings here,
illustration in *Weapons Encyclopedia*, p.77).

(Picture from *Weapons: An International Encyclopedia ...* 1982, s.v. 'slings')

The sling-bullet illustrations shown below are all at twice their actual size. Bullets 'a' and 'b' were recovered from Memphis, ancient Egypt. The etched devices on them show an anchor and a star. It is surmised that these bullets date to the period of the

Seleucid – Ptolemaic wars and may be relics from a Syrian siege, c. 171 B.C.E. The lead sling bullet ‘c’ has the ancient Greek inscription “take that” etched on it. Stone sling-bullet ‘d’ is from Maiden Castle, Dorset England and says something of how far the sling had been diffused throughout antiquity. While these examples originate from times and places outside of the temporal framework of this study, they are evidence of the tactical material that permeated the ancient world.

(Picture from *Weapons: An International Encyclopedia...*1982, s.v. ‘slings’)

6.3.1.2. Throwing-spears. Spears are the enduring and universal weapons found among all peoples of antiquity because of their great utility value. The ease and cheapness of construction from universally available materials established the spear as the staple weapon of ancient armies and the benchmark against which the lethality index of all ancient weaponry was determined. The throwing variant is the relevant weapon here. Its form and function was simple. The long shaft ensures that the sharp tip is delivered point first, and its added weight increases the kinetic energy behind the blow. The disadvantage of throwing-spears is that not many can be carried, as

compared to slingshot for instance, and once thrown they are lost to the combatant (*Weapons: An International Encyclopedia...* 1982, s.v. 'throwing-spears'). While throwing-spears made good shock weapons they had to be supplemented with a secondary personal weapon for subsequent fighting. The wide variety of throwing-spears shown below tell something of the universal value of the spear to a wide cross section of ancient and later cultures.

(Place picture of throwing-spears here, p.82)

(Picture from *Weapons: An International Encyclopedia...* 1982, s.v. 'throwing-spears')

Various materials were used to make spear points, including hammered copper, cast bronze, or worked stone, flint or bone. Iron was a scarce and an expensive commodity during IA IIa. Artefacts 4 and 5 in the illustration below are of particular interest to the ancient Near East, IA IIa. These spear points were fastened to the shaft by means of a socket or tang that projected from the spear point.

(place picture of spear points here)

(Picture from *Weapons: An International Encyclopedia ...* 1982, s.v. 'spear points')

The size range of throwing-spears is great. The greater majority was in excess of the height of the thrower. Shorter varieties came into existence over the years, sometimes called javelins. Darts were about 30 centimetres long but have no relevance to Syro-Palestine's IA IIa period.

6.3.2. Hand-Held Missile Throwers

Such weapons essentially all follow the same technical concept. They are hand-fired weapons of two parts; the propelled component and the device for discharging the propelled component. Amongst all the many examples, the bow and arrow is relevant to this study. The technical principle here is that the destructive energy of the firer is indirectly transferred from the firer via the bow into the propelled component, namely the arrow. This contrasts the throwing-spear in that the transfer of destructive energy in the case of the latter is directly to the weapon. In the case of the hand-held missile

thrower, be it modern small arms or the IA IIa bow, destructive energy is significantly increased by the discharging device and produces a significant increase in the lethality index. The bow had been “in fairly general use certainly since the end of the fourth millennium” (Heath, 1980: p.14). Many technical developments in bowery had already taken place by the time of IA IIa. The conquering Sumerian armies of Naram-Sin utilised the full potential of the composite bow as a warlike weapon, their military footprints reaching as far as the Mediterranean Sea, diffusing their military innovations and technical superiority amongst peoples far beyond Sumer.

(Picture from *Weapons: An International Encyclopedia...* 1982, s.v. ‘Bows’)

The spring of the bow became the multiplying factor for the lethality index. Thus the bow, technically speaking, is a spring that stores and multiplies energy. The slow strength of the archer, as he draws the bowstring and bends the bow, is rapidly transferred to the arrow, propelling it farther and at a much higher velocity than it could be thrown by hand. This simple device had the advantage in range and accuracy over all hand held throwing weapons. It added tactical complexity to both defensive and offensive operational strategy. For military archaeologists, “the bow, and more particularly the composite bow, is technically one of the most complicated

and most advanced artefacts among those of perishable materials” (Rausing in Heath, 1980, p.8).

Bows became increasingly sophisticated as the technical innovations followed one after the other, varying in overall size and complexity of construction.

Notwithstanding the many profiles and sizes of bows, it is the manner of construction that serves to distinguish among bows. From the details of the Egyptian stele and other evidence commemorating the Battle of Kadesh, in 1286 B.C.E., between the Neo-Hittites and the Egyptians under pharaoh Rameses II, there is evidence among the Egyptian forces of both the simple recurved bow (double convex) and the more sophisticated and longer ranged composite bow being used in the same time period and region. Simple bows are shown carried by Nubian mercenary archers while compound bows are shown as the principal weapon of the Egyptian’s elite chariotry force.

(place picture of bow profiles here)

(Picture from Yadin, Y. 1982, *The Art of Warfare in Biblical Lands*: 235)

6.3.2.1. Simple Bows. Also named 'self bows', such a hand held missile thrower is made from a single material, usually wood. It predates the composite bow, being part of the technical apparatus common to most early civilisations and man was found possessed of it at the dawn of history, c. 3000 B.C.E. The simple bow continued to be employed in the armies of the ancient Near East, even long after the composite bow made its earliest documented appearance in Sumer.

6.3.2.2. Compound Bows. Such bows differ mainly in the construction when compared to the simple bow. The upper and lower limbs are 'backed' with a layer of resilient materials. Horn, animal sinew, or another kind of wood served to strengthen the bow stave. Weapons specialists distinguish between 'laminated bows' (layers of similar materials), 'backed bows' (backed with resilient materials), and 'composite bows'. The key factor in recognising a composite bow is that a composite bow was made up from at least three different materials. The aim was being to maximise effective range and penetration power.

(Place picture here of 'types of bow construction')

- 1) Simple bow 2) Backed bow 3) Laminated bow 4) Composite bow

(Picture from *Weapons: An International Encyclopedia...*1982, s.v. 'Bows')

6.3.2.3. Accessories. The archer was a technical specialist and carried with him various paraphernalia necessary for the proper employment of his ballistic weapon. The bowstring, a key component, was made from flax, hemp, animal sinew, cotton, and ramie, also known as *rhea fibre*; a valuable Eastern fibre, the product of a species of nettle used for textile purposes (*Consolidated – Webster ...* 1962, s.v. 'Rhea fibre'). Such were the materials most used. Their key qualities were elasticity and toughness. Arrow cases, also named quivers, were common to archers the world over. Evidence of this is given in the pictures on page 235. Detail from the Egyptian relief on the temple of Rameses III at Medinet Habu show early light chariots in action in their role as a ballistics weapon platform. Noteworthy are the rearward positioning of the wheels on the chariot car and the various ballistic equipment such as the quiver fastened to the side of the chariot.

(Place Medinet Habu picture of Egyptian Chariot here)

(Picture from Heath's *Archery, A Military History*, 1980:18)

The bow case was essential in the fluctuating seasonal temperatures of the Near East. Besides efficient portage, it also served to prevent the bow from warping when not in use. It was standard equipment to soldiers trained in archery. In the ensuing Late Iron period the Persian Immortals are depicted in typical Asiatic infantry apparel. The reliance on archery is evidenced by the bow case, as depicted in a frieze representing the Royal Guards of the Persian great King – the renowned 'Immortals'. The ornate clothing says much about the social status of the Royal Guard. Their employment of the bow indicates this was not a weapon system condescendingly relegated to the 'common man' as was the case in the West European armies of the medieval period. In the east, the bow was highly regarded for several millennia.

(Place picture here; Persian Immortal)

(Picture from Reader's Digest *Atlas of the Bible*, 1981:15).

Other accessories that aimed to sustain the archer and increase his efficiency in the field included a 'bracer', a pad worn on the left-wrist to protect it from the strike of the released bowstring. Another accessory was the thumb-ring. The drawing power of the bowstring placed a great load on the archer's right-hand thumb. The repeated draw and release action in the heat of battle could rub the archers thumb raw; thus the use of such an accessory. Wrist-bracers were generally made of tough materials such as leather or of more expensive materials such as ivory in the case of nobles. Thumb-rings were produced from common materials such as bronze or bone, or the more exotic ones from material such as jade.

Place picture here;

Drawing 'd' of thumb-ring

(Picture from *Weapons: An International Encyclopedia ...* 1982, s.v. 'Bows')

6.4. Personal Melee Weapons

Weapons wielded by hand and not relinquished, and as were generally common to IA IIa period is the subject of this subsection. There was a great variety of such weaponry and an even greater variety of ways for employing them effectively against diversely armed and armoured opponents. Melee weapons as defined above had been evolving in terms of a lethality index since before the onset of history proper.

Tactical doctrine for their effective employment was and still is as relevant as the purpose-made hand weapon itself. Technical developments in metallurgy and the impact of cultural diffusion often provided the stimulus for tactical doctrine and vice versa in all periods. It warrants emphases however, that tactical doctrine was securely shackled to technical developments. Inertia arising from conservative values and technical limitations ensured that melee weaponry from earlier archaeological periods were still used during IA IIa as well. Melee weapons (including improvised weapons such as peasant's farming implements etc.) that obtained during IA IIa can be broadly grouped as concussive weapons, edged weapons, and pole-arms.

6.4.1. Concussive Weapons

To appreciate the club as the first purpose-made hand weapon it is necessary to understand the dynamics that govern its lethality index. The heavy weight held in the hand (a), or the stick (b), can both be used to strike the enemy with greater impact than the hand alone. But when the weight is mounted to the end of the stick (c) momentum is significantly increased and the lethality index rises greatly. The ever increasing number of armour bearing troops on the battlefields of the ancient Near East and the constantly improving efficiency of personal armour stimulated modifications in weaponry to offset such accruing advantages in security.

Simple wooden clubs changed to become composite material clubs, made of stone initially and later with metal heads. The design of the club head changed to meet the contingencies of the day. The introduction of armour among more and more common troops by IA IIa undermined the original concussive function of the simple club. It now evolved to include a spike or a sharpened edge by which helmets and body armour could be pierced. The weight of the device still sufficed to smash bones or to neutralise enemy by sheer brute force. Along with the bow, it was a weapon often shown in the hand of god-kings like the pharaoh's of Early Bronze-Age Egypt and elsewhere, suggesting to a largely illiterate world the dire and terminal consequences of defiance and political dissidence. Fighting picks and war-hammers did not belong to the IA IIa period. These weapons evolved from clubs and came into being in response to the increasing quantity and quality of mail, and later, the more articulated plate-armour of the late medieval period. Accordingly they do not merit further mention in this dissertation (*Weapons: An International Encyclopaedia...* 1982, s.v. 'Clubs').

(Place picture of Egyptian stone mace here)

(Picture from *Weapons: An International Encyclopedia ...*1982, s.v. ‘Ceremonial maces’)

6.4.2. Edged Weapons

This category of hand-weapon is further subdivided into fighting-axes, daggers, and swords. The key difference between concussive and edged weapons was the former’s function to smash and beat while the latter’s was to cut or pierce.

6.4.2.1. The Axe. The axe was more problematical to produce than the mace owing to its function. The increased incidence of armour on the battlefield led to different solutions at different times. Axes harkened back to the Neolithic period and even earlier during which they were made from flint which offered a natural sharp, hard edge. It was mainly technological methods of production that distinguished the historical-periods axe from earlier versions. Rather than by process of chipping and polishing, the Bronze-Age axe that continued into the Iron Age was cast in open moulds. A hammering process then hardened the cutting edge.

(picture of shaping / moulding an axe-head, p. 23)

(Picture from *Weapons: An International Encyclopedia ...* 1982, s.v. ‘Axes 1’)

The techniques of casting the complex shape of a socketed axe were mastered in time. This was an enduring problem that pre- and post-dated IA IIa. The method of fastening the axe-head to the handle was already resolved in pre-historic times. The illustration and captions below provide something of a technological chronology table of securing the axe head to a shaft.

(picture with captions of fastening methods of an axe-head to a shaft)

page 22

(Picture from *Weapons: An International Encyclopedia ...* 1982, s.v. 'Axes 1')

The conception of the axe as a melee weapon for military purposes influenced its development. In much the same way as the sword that followed it, axes were developed for the alternate functions of cutting and piercing. Broad scalloped axe blades, such as the '*epsilon*' (figure 'e' on page 240) were designed for cutting and not for piercing, which considering the belated appearance of efficient body armour, makes the cutting and slashing function of such weapons more understandable. Such bladed axes were very effective melee weapons during the Bronze-Age periods prior to the proliferation of body armour. Axe-heads that were long, ending in a narrow sharp edged blade, were developed to penetrate body armour. These axes were however a secondary development. The broad bladed cutting axe was largely obsolete by the onset of the Iron Age owing to the increasing proportions of helmeted

and armoured soldiers. Existing armouries and the continued individual use of cutting axes account for their inertia or occurrence into the Iron Age.

(Place picture of tang-type axe with wide edge here p.180)

The straight left edge of the axe above fitted into a recessed haft. In time narrowing the cutting edge further increased the efficiency of the penetrative function of this axe. Later piercing axes as on page 242 have narrower cutting edges.
(Picture from Yadin's *Art of Warfare in Biblical Lands*, 1963:180)

(Picture from Yadin's *Art of Warfare in Biblical Lands*, 1963:180)

Various socket-type axes were cast as metalworking techniques began to extend across the breadth of the Ancient Near East during the Late Bronze Age, particularly in the lands of Mesopotamia. The conservative nature of the ancient Egyptians was manifest by their consistent preference for the tang-type fitted axe, which ensured that

such axes also continued into Iron Age. The tendency to increase the penetrative function is also in evidence in the socketed axe heads, such as artefact # 6 in the examples given below and on page 243.

1.

2.

3.

4.

5.

6.

7.

1. Sample *hand-axe* from the Pleistocene period.
 2. Egyptian bronze battle-axe for piercing armour, bearing name of Pharaoh Sanusert I. (*Note the axe-head's splayed back which would be lashed into a recessed shaft*).
 3. Broad scalloped cutting function axe from 12th Dynasty ancient Egypt
 4. Egyptian axe-head from the Coptic period for slashing unarmoured enemy.
 5. Bronze axe-head from Luristan (Iran), an area that excelled in bronze fine casting technique.
 6. Cast bronze axe-head with a crouching lion on the socket, from Luristan, c.2400 – 1200 B.C.E.
 7. A composite battle-axe from Syria with a dedicated piercing function. It comprises an iron blade set in a socket of bronze.
- (Pictures from *Weapons: An International Encyclopedia ...1982*, s.v. 'Axes 1')

6.4.2.2. The Dagger. The dagger is older than the sword, dating back to the Stone Age when they were made from chipped and polished material such as flint, quartz, or obsidian. While the hardness of such stone allows for a sharp edge to be fashioned, it lacked toughness and temperance. Longer bladed weapons made from these stone materials would have shattered when employed as swords. The onset of the Bronze Age c.3150 B.C.E. precipitated a technological revolution that in turn affected the manufacture of blades. Consequently daggers increased in length. When the blade was at least as long as the hilt it is accepted that short swords had come into being. By 2500 B.C.E daggers and short swords were being made throughout the ancient Near East and Europe (*Merit Student Encyclopedia ... 1973*, s.v. 'Swords and Daggers').

6.4.2.3. The Sword. Daggers, like the axe and the mace before it, predate the sword due to technological limitations in metallurgy. These earlier weapons, together with spears and javelins, had comparatively small metal components whereas the sword required a longer metal blade to make it effective. The earliest Bronze Age swords are called rapiers. Scholars specialising in military archaeology point to the strikingly similar appearance these early Bronze Age swords have to rapiers of the 16th and 17th centuries C.E. A rapier is a thrusting sword, rather than a slashing or a cutting weapon. Examples of Bronze Age rapiers, such as the artefacts shown below, were typically made of bronze in the regions of Mesopotamia, Palestine, and Anatolia. These earliest swords date to the Third Millennium B.C.E. Interesting for the Bronze Age context were these rare iron swords, the first known purpose built iron artefacts - exceptional artefacts for the Bronze Age. Both these swords were found in Anatolia, the region regarded as the earliest for iron working technology in the ancient Near East.

The main technical drawback of these early rapiers was the weakness of the artificially attached handle to the sword blade. The haft was not an extension of the blade as in later period swords and daggers. Instead the handle was made from a variety of materials and was riveted onto the end of the sword. It could not sustain the impact stress of a slashing or swing action; it thus functioned as an elongated dagger for fear of breaking on contact if swung. Third Millennium swords were limited to a thrusting or piercing action.

(Picture from Yadin's *The Art of Warfare in Biblical Lands*, 1963:145).

The development of the curved sword, also referred to adjectivally as the 'sickle sword' was a logical step toward producing a sword that was sufficiently robust to function as a cutting sword without breaking on impact. For the purpose of artefact identification, sickle swords of the Middle Bronze Age closely resembled a modified cutting axe; they had long hilts and a short blade. The increasing proliferation of helmets and body armour accounted for the disappearance of the cutting axe from ancient Western Asia, and the sickle sword itself accordingly changed during the Late Bronze Age to a progressively longer blade and a shorter handle (a useful observation when analysing artwork or such artefacts). By the time of the Iron Age, curved swords were common to all the ancient Near Eastern armies, as the artefacts below confirm. Egyptian conservatism allowed for the sickle sword, or the *Khopesh* as they called it, to continue even after straight swords replaced it elsewhere.

(a)

(b)

(c)

(d)

Dates and excavation sites of sickle sword:

(a) From Gezer, early 14th century BCE (c) From Egypt, tomb of Tutankhamen (c. 1350 BCE). (c) From Ugarit, 14th century BCE (d) From Assyria, sword of King Adad-Nirari (1310 – 1280 BCE)

(Picture from Yadin's *The Art of Warfare in Biblical Lands*, 1963:207)

Toward the end of the Bronze Age, c.1200 B.C.E., incremental technical progress in metalworking also brought improvements in sword making. Rather than a separately cast sword and hilt, sword -blades cast during IA IIa were cast with a rearward-protruding tang to which a handle could be reliably secured. Similarly, some Early Iron Age sword-blades narrowed into a shank onto which the handle was fitted. Sword shapes varied throughout the region; leaf-shaped blades, sickle-swords, short and stocky blades or longer heavier blades of both bronze and others of crude hammered iron obtained (Yadin, 1963:140).

The early steel swords date to about 1500 B.C.E. It was mainly in Urartu, north of the Assyrian homelands that the technique for producing carbonised iron, or steel, was developed. These smiths repeatedly heated the iron in charcoal fires and then

hammered it. In this way the iron picked up enough carbon to become low-grade crude steel. This was significantly harder, tougher and more durable than pig iron and the alloy bronze. Such technical skills were soon translated into an increased war potential and in due time into an increased military potential for those peoples and states possessed of such superior technical literacy. To illustrate, superior steel weaponry afforded the Philistines a greater military potential than the Israelites.

It bears mentioning that the early sword hilts also improved over time. Originally (and this remained largely the case during IA IIa) there was no protective device for the wielder's hand. The base of the sword blade swelled out, offering some protection to the hand, but it was largely inefficient as a defence. Larger structures were placed between the handgrips and the blade. As the technical efficiency of swords increased there was a corresponding general decrease in the importance of the dagger as a military weapon. Swords continued to evolve throughout all the historical periods and on into the modern era.

1. Sickle sword, early bronze sword from Babylon. (*Weapons: An International Encyclopedia...* 1982:35)

2. Nordic bronze short sword, one piece casting. (*Weapons: An International Encyclopedia...* 1982:44)

3. Roman steel gladius, with missing hilt. (*Weapons: An International Encyclopedia...* 1982:45).

The Nordic Bronze Age sword and the Roman *gladius* are included here as illustrations of the sword's technical developments rather than as potential Near Eastern *in situ* artefacts from the period IA IIa.

6.4.3. Pole-arms

Adding a long haft to weapons originally designed for cutting, thrusting, or clubbing bestowed the significant advantage of reach in the tactical melee. Such a tactical innovation also affected the initiative in the fight. Pole-arms represent a large grouping of weapons that evolved over the centuries for both infantry and soldiers on mounts of various kinds. Pole-arms became very diversified in the medieval period (glaives, halberds, partisans, military forks and tridents, etc) but that subject in its entirety does not concern this period. It is primarily the spear that concerns us here. The spear predates history, reaching back into the Palaeolithic period, where it began as a long shaft with a sharpened end, the point being hardened in a fire. By the Upper Palaeolithic period, ivory barbs were being added to the spear's foreshaft. In time, spearheads of greater penetrative efficiency were being produced from materials such

as stone or bone. Gradually, bronze and then iron spearheads by the onset on IA IIa were being fashioned. Such spearheads were by then more specialised. Several derivatives followed. Light throwing spears such as javelins and heavy throwing spears such as the Roman pilum, together with the long-thrusting spears typical of the Classical Greek period armies and the pike or *sarissa* of the Macedonian phalanxes all stem from the ubiquitous spear of antiquity. Other specialised derivatives include the use of the spear by mounted troops and the eventual development of the spear into the lance, the principal shock weapon of armoured cavalry (*Merit Students Encyclopedia* 1973 s.v. 'spears').

6.5. Personal Armour

Personal armour or security on the battlefield is the passive element of the three constituents that comprise basic warfare at the tactical level. In retrospect it is evident that there has been a dynamic struggle for priority between mobility, firepower and security. The dynamics between these three elements of warfare primarily constitute the art of battle at the tactical and operational levels of strategy.

Yadin observes that a large and heavy shield could give excellent security, but it would do so at the cost of mobility and interfere with firepower (1963:13-14).

Moreover, a coat of mail may free up both hands but mobility would still be compromised. Such considerations are only meaningful when viewed against the cultural backdrop of the peoples and nations under review and in their temporal framework.

6.6. Mobility

Momentarily setting aside the common foot soldier which remained by and large the principal soldier type of IA IIa, the slow development and diversification of more mobile tactical arms was being manifest. The horse and the camel had already been domesticated during the Early Bronze Age, c.4th Millennium B.C.E. Around 2000 – 1500 B.C.E. the potential of the horse as a draught animal had been realised. The chariot as a weapon system is dated to the Late Bronze Age and cavalry prototypes to the ensuing Late Bronze Age. The primary function of these early IA IIa chariots was that of weapons system platform on the battlefield. From this specialised weapons platform ballistic weaponry could be brought to bear on decisive spots in the midst of the fighting. These Late Bronze Age chariots were highly sophisticated weapon systems in their day. From the vantage point of modern scholars, these chariots were light chariots relying on their speed and manoeuvrability for their battlefield advantage. The heavy impact chariots were yet to follow in a later period.

(Place picture of Late Canaanite Chariot here)

The long axle, 1.53 meters, gave such light chariots great stability even on sharp turns.

(Picture of Canaanite chariot from Late Bronze II period. Picture from Wise's *Ancient Armies of the Middle East*, 1981:31)

In time the horses would be selectively bred to produce bigger and more powerful animals. These genetically modified horses would eventually come to have the physical power necessary to draw the heavier crew loads and heavier chariots of later periods that were better suited for the shock role. The chariots full evolution to optimum efficiency as a shock weapon system reached into the period of the New Assyrian Empire, c. 9th century B.C.E., at which time the chariot body had changed from a light weight, manoeuvrable vehicle to a heavy, shock weapon proper. These later chariots relied on destructive impact rather than as a ballistic weapons system platform. Such heavy chariots were drawn by three to four horses and were deemed to be expendable.

The mobility under discussion here is tactical mobility – chariots were not intended to serve as transportation for logistical purposes such as transporting troops to a distant battlefield. In its principal function during IA IIa as a mobile platform weapons system the chariot had to be stable, fast and manoeuvrable. For the purposes of military archaeology the chariot comprised the following parts; body, wheels, axle, chariot car pole, yoke, and various weapons fittings. Technical developments that were spurred on from field experience saw the repositioning of the axle to the rear of the chariot car for improved manoeuvrability and stability in its role as a stable weapons platform. The development of the spoked-wheel added significantly to the

speed of these early light chariots. The weapons fittings were mountings for such things as quivers, bow-cases, and sheaths and stands for axes and spears. For speed, and to offset the significant cost of metal and artificers fees as much as was possible, the IA IIa chariot was made from various suitable woods and leather. Where loads, stress and wear were greatest, some parts were made of bronze. This was 'cutting edge' military technology and its employment would have been restricted to the traditional great powers of the day such as Egypt, Early Assyrian Empire, and the Hittites of Anatolia. In Canaan itself the wealthier and long established princedoms may also have had sufficient means and political capacity to employ chariots. The same situation existed among the confederate Philistine cities. It was the weapon system of the nobles and the upper-classes, the royal retainers, such as evidenced by the *Mariannu* of the Hurrians (Knapp, 1988:184). Nations rich in resources and technological capacity, often born of a long established sedentary lifestyle with agricultural surpluses, tended to possess these sophisticated weapon systems.

True cavalry evolved as horses increased in size and strength. It is generally easier to pull something than to carry it. The horse had been domesticated sometime during the Middle Bronze Period (2000 – 1500 B.C.E.) but the development of cavalry took a further millennium to unfold, c.1000 – 750 B.C.E. It was the Hurrians who are again credited with the innovations associated with the progress toward true cavalry. The diffusion of cavalry throughout the ancient Near East took time and extended beyond the IA IIa period. Such cavalry units as existed in IA IIa were rare and generally limited to technologically more advanced peoples. Here horses were custom bred to bear the armed rider directly into battle rather serve as draught animal for the chariots which had certain tactical limitations.

The several advantages of the horse over the chariot included its capacity to negotiate difficult terrain that was unsuitable to chariotry. The horse born warrior had greater utility value on the battlefield. It followed a similar development path as the chariot, first as a mobile firing platform for hand-ported ballistic weapons, gradually progressing through centuries of selective breeding until cavalry could be employed in the shock weapon role of carrying an armoured rider at speed into the fray.

Several centuries passed before the mounted soldier gained ascendancy over the foot soldier on the battlefield. In the Western Mediterranean this happened only during the late Imperial Roman period of history. In the East it occurred a lot earlier as evidenced in the empires of Cyrus the Mede and the Skythians and their successors such as Sarmatian peoples around the northern steppes of the Black Sea.

During IA IIa the effectiveness of cavalry was very limited. Like the development of modern weapon systems such as artillery, tanks, aircraft, and rocketry, the early stages of equestrian soldiery also evidenced crude and slow progress. Modern scholars using examples of their day must be vigilant in guarding against technological anachronisms. However, the military doctrine in the effective employment of such a troop type in combat was closely tied to further technical developments. The late introduction of improved saddles rather than horse blankets, and reins, and even later stirrups and spurs all contributed to the better control of the horse and its increased utility as a mobile weapons platform. The cavalryman could use his thighs, knees, and spurred feet to control the horse leaving both hands free for spear and shield or for bow and arrow. In time the horse and the armed rider developed into a combined, articulate weapon system in its own right, its zenith being the West-European plate-

armoured knight of the High Middle Ages some two millennia later. Yadin observes that it was little wonder that the horse only made a meaningful contribution to the armies and raiding parties of antiquity some one and a half millennia after the chariot (Yadin, 1963: 5).

6.7. Military Architecture

This section refers to architecture as a branch of warfare by means of which advantage often accrues to the defenders because of enhanced static defences. Static defences may include field fortifications of a temporary or a permanent nature. It may involve strategic sites, including cities and villages along suitable invasion routes. Such sites may be purpose-built walls (i.e. Hadrian's Wall), towers, and fortresses such as the Roman mile-castles in ancient Britain or fortified cities and villages with gates and in time gate complexes located at strategic sites such as Jericho and Lachish. By means of military architecture, whether such structures are temporary or permanent, defence values are increased. This in turn affects the overall political cost – benefit equation when political actors are choosing means to political ends such as between military statecraft and more passive forms such as diplomacy or economic statecraft. Such a rubric invites a more careful evaluation of military statecraft as a viable alternative to political ends over other forms of political dialogue. Just as there existed an esoteric dynamic between the components of warfare at the tactical level (viz. mobility, security, and firepower), so likewise there is an esoteric dynamic at work when military architecture is investigated.

Yadin gives the aim of military architecture as denying the enemy two important advantages in assault; mobility and firepower (1963: 16). Moreover, military

architecture adds security to those who exploit it effectively. This is the point of departure for a study of military architecture in its proper cultural context. Once the basic dynamics have been outlined, the material remains of military architecture and its components such as gates, walls, and towers, for the period IA IIa can be intelligibly discussed.

6.7.1. Dynamics of Military Architecture

Developments in the methods of attack and defence were reciprocal. Successful attacks resulted in penetration of the fortification or exhaustion of the morale and logistical resources of its defenders while successful defences denied the attackers penetration until such time as the attackers resolve or logistical resources were exhausted.

6.7.2. Attacking Fortifications.

In the offensive five possible methods of penetrating a fortification may be listed. Military architecture is a dynamic science and its innovations were counteractive responses to the threat of offensive penetration. The changes in fortification design and methods of construction say something about the progress of engineering science, available resources, regional trading patterns, and the extent and range of cultural exchange. Fortifications were the reified response to all such material and intellectual factors.

6.7.2.1. Penetration by force from above. This was achieved by scaling the walls, mainly by means of ladders as illustrated below. The strategic dialectics thus produced taller walls, large revetments at the foot of exterior walls that frustrated the

purchase of a ladder at the base of the wall, and crenulations and embrasures to protect the defenders as they kept the enemy storming parties at bay.

1

2

(left) Drawing of the relief in the Ramesseum at Thebes. It illustrates an Egyptian assault on a strongly fortified city from above in 13th century Syria.

(right) Drawing of the relief in the Egyptian temple of Karnak (1290 – 1223 B.C.E) showing penetration of fortifications from above. The depicted assault was Rameses II's attack on the city of Ashkelon.

(Picture from Yadin's *The Art of Warfare in Biblical Lands*. 1963: 228 – 229)

6.7.2.2. Penetration through the barrier. Direct penetration of the fortifications could be achieved with hand weapons and other implements if the scale of the fortification was modest. Incrementally progressive technological sophistry stimulated the creation of dedicated and purpose-built devices and machinery wherewith the attackers could bring ever increasing destructive power to bear on the fortifications and prepared defences. Sophisticated gate complexes were the strategic dialectic relevant to penetration, with its purpose-build devices such as the ever more powerful rams.

The battering ram to the untrained mind initially appears crude but it was in fact technically complicated to manufacture. It also required both brain and brawn to

operate effectively. Engineering skills were needed to know where to thrust the metal-tipped pointed or wedged head into the wall, seeking the cracks or crevices between the wall's stone- and brickwork. Once securely lodged into a fissure, the ram was levered from side to side, dislodging stones and collapsing a section of the wall.

The defenders were not passive onlookers. They engaged the battering ram and its operating crew from the walls above with ballistic weaponry and by dropping rocks, beams, and other weights onto the ram and its crew. In response to the defenders strategic dialectic, the attackers would deploy slingers and archers nearby to suppress the defender's missile fire. From very early periods the attackers sought protection by providing cover for the ram operators from the defenders missiles. Crude affairs to begin with, as illustrated by the Beni-hasan 20th century B.C.E. wall painting, these devices incrementally grew in size, sophistication and power over several millennia as the pictures demonstrate.

TECHNICAL EVOLUTION OF THE BATTERING RAM

The crude hand-held Egyptian ram as employed c.1900 B.C.E. with a protective portable hut. The screen of protective missile-armed troops in the upper register engages enemy defenders on the walls.

Drawing of the relief from Sargon II's royal palace at Khorsabad (721 – 705 B.C.E.) depicting the Assyrian attack on the fortified city of Pazashi. Note the Assyrian wheeled and towered rams.

Three centuries later, a cross-sectioned depiction of a huge battering ram employed in the post-Peloponnesian War era. Noteworthy are the wheels, the chain suspended massive ram with its metal-covered chisel-end, and the protective housing with its fire-resistant covering of layers of animal skin with dried seaweed between each layer

(Pictures on page 258 taken from Yadin's *The Art of Warfare in Biblical Lands*. 1963: 159 and 425 respectively. Picture of a fourth century ram taken from Warry's *Warfare in the Classical World*, 1980:63.)

6.7.2.3. Penetration from below. This was less dangerous for the assault team but it demanded engineering and other such technical skills. It was also very time consuming which compounded logistical factors. Such an approach was best carried out in secrecy so that the element of surprise could be properly exploited. Walls and towers could be undermined and collapsed by tunnelling. When the tunnel reached the position of the fortifications faggots were packed against the wooden supports of the tunnel at that measured point. When the supports were burned the tunnel would collapse, bringing down the fortification on the surface above the tunnel.

To avoid the defenders taking countermeasures such as erecting inner blocking walls behind the outer wall, or counter tunnelling to attack the tunnel builders at work, efforts were often made to keep the tunnelling operation a secret. Oversized foundations, traps built below the walls, and various other measures were taken to obstruct and detect tunnelling such as placing bowls of water on the floor of the fortification and watching for ripples and other disturbances on the water's surface.

6.7.2.4. Penetration by siege. Such an attack took the most time to bear fruit for the attacker. Its value was that it minimised the attacker's losses, which tended to be severe when attempting to break through the fortifications or to scale them. The task of the attacking besiegers was to cut the defenders lines of communications, ensuring no logistical support reached the enemy and that their morale and physical ability to resist was reduced to where further resistance was deemed pointless. To effect a proper siege the attacking force had to be able to resist enemy attempts to break

through the siege to assist the besieged. Sometimes such attempts were made by the besieged troops as they sallied forth from the besieged fortification and attacked a portion of the besieging forces. Alternately, an enemy relief force attempted to lift the siege by attacking and defeating the besieging force such as King Saul at the siege of Jabash – Gilead (see 5.3. page 141). To meet such threats the besieging force established various fieldwork defences around the besieged place and concentrated the bulk of his strength into fortified camps. These camps were strategically sited to block the approach and the escape routes and ideally, allow the besieging force to respond quickly when required to. The illustration on page 261 shows the Roman siege of Jerusalem undertaken by the armies of Vespasian and Titus, 68 – 70 CE.

Vespasian's Siege of Jerusalem, AD 68 – 70
(Picture from Connolly's *The Roman Army*, 1975: 62.)

Although the time frame is different the siege principles are much in evidence.

Noteworthy are the fortified Roman camps located on the northern approaches of Jerusalem, including Mount Scopus which, for tactical considerations, was the high ground, and the northern section of the Mount of Olives. On the opposite side of Jerusalem, on the high ground above the Hinnon Valley was the third Roman camp. The picture also shows the Roman circumvallations (siege lines) all along Jerusalem's surrounding hills to where they butt against the fortified Roman camps. Some sieges took years to run their course. In the case below the siege began in AD 68 and ended in AD 70, which was, by the standards of antiquity, not a particularly long siege.

6.7.2.5. Penetration by ruse. Such an attack sought to offset the political cost of potentially heavy losses that usually resulted from assaulting fortifications from above, below, and through the barriers. It aimed to bring success more speedily than the assault by siege. Yadin observes: "Men of a hostile army would seek to infiltrate into the city by cunning, using some ruse to gain the confidence of the defenders.

Once inside, they would overpower the guards and open the city gates to the awaiting attackers” (1963: 18). The celebrated story of the ‘Trojan Horse’ may be cited as an illustration of this. A more relevant example for IA IIa is David and Joab’s investment of Jebus (see 5.10. page 181).

6.7.3. Defending Fortifications.

When a site was found that satisfied the basic overriding factors, then the business of fortification according to established defensive principles could begin. Reconciling the above-named key factors with the given defensive principles was not easily accomplished because natural conditions in the Near East worked contrary to any such arrangement. Siting a city on high ground (tactically advantageous) often removed it and its people from their water sources (logistically disastrous). This was because such water sources, including wells, springs, streams and lakes, were mostly found in the low-lying areas. Thus novel and sophisticated engineering entered the picture in order to secure water features within the city’s fortifications, such as the river passing under the walls of Babylon, or alternatively, to make ingenious tunnels that could reach subterranean water sources. The magnificent tunnel commissioned

by Hezekiah (716 - 687 B.C.E), who feared an Assyrian attack and siege at Jerusalem in the light of Samaria's recent capitulation to the Assyrian juggernaut (722 B.C.E) is an excellent example. Hezekiah's tunnel extends downwards from the fortified Old City to the Gihon Spring in the Kidron Valley.

The rarity of finding sites that approximated the strategic conditions and the tactical principles resulted in these much sought-after topographical sites being continuously settled throughout the several political dispensations of the Near East. The great value of historical records and material remains derive from this phenomenon of continuous settlement at selected key sites is self-evident to anthropology and its several sub-disciplines, including military archaeology. Such settlement patterns produced the celebrated 'tell'. In antiquity such a rising mound accorded the site the tactical advantage of height over its immediate surroundings.

However, over time, hundreds and in select cases, even thousands of years of building and rebuilding at a given site, the advantage of height was offset by two serious defects that undermined the defence value of the site. These two problems – which when understood bring an expanded and better understanding to the cultural world of the ancient Near East, also go some way to giving a clear understanding of the dynamics that led to cities developing in the manner they did. Firstly, as Yadin points out, the higher the tell got the softer its slopes became. No longer were the slopes of natural rock but rather they were artificial composites, including mud bricks, loose rocks, and general earth-fill. They were more easily eroded and more easily undermined by assaults from below. Secondly, the higher the tell grew, the smaller the flat surface area became at the top of this artificial hill. This had the drawback of

a reduced population and consequently, fewer defenders to defend the city from enemy attacks. The ebb and flow of political realities in the world of the ancients often forced such evolving hilltop cities into a radical choice. Either they had to abandon the city and begin again elsewhere because the defence value had finally been compromised and the limited number of defenders was now a untenable liability, or they had to build an extension of the city at the base of the tell. Scarcity of suitable sites, sentimental attachment, developed agricultural holdings and an established local agrarian or mercantile economy, or the strategic value of the site all combined to decide in favour of the extended 'lower –city' option. The loss of the tactical advantage of height amplified the need for fortifications around the lower city. Walls, gates, moats, glaciers, towers and so forth were frequently included into the lower city defences, affecting the overall character of the now greatly enlarged city.

The demographics of the Late Bronze and Early Iron Age, as it relates to city building, needs some attention in order to bring greater focus to the rubric of attack and defence of urban fortifications in the ancient world. If one accepts Yadin's assertion that there were approximately 240 inhabitants to an urban acre (4050 sq. meters in metric terms), the occupational density reached an index of 16.8, say 17 sq. meters per inhabitant– a tight squeeze in anybody's language. Thus, if the surface area is known the demographics of the cities can be guessed at with some degree of confidence. Yadin further states (1963: 19) the average city area for cities in Palestine, Syria, Anatolia, and Mesopotamia ranged from five to ten acres. Accordingly, the population of these average-sized cities ranged between 1000 to 3000 inhabitants. The few larger cities totalled from 5000 to 10 000 persons. Anything larger was exceptional and needs to be studied apart in the light of its own

extraordinary circumstances. Scholarly consensus suggests that about 25% of an ancient city's population was available for military service which by extrapolation suggests that the average-sized cities could muster about 300 to 500 fighting men while the few larger ones had about 1000 to 3000. The exceptionally large cities probably had several thousand soldiers to man the defences of the large city. The benefit of a fortified lower city was a significant increase in the number of defenders for the city, with the original upper city becoming a citadel. The citadel became a final point of defence in the event of the lower city walls being breached, scaled, undermined or otherwise overcome by the attackers. With a better grasp of warfare involving fortified defences and the cultural backdrop in which such warfare occurred, a closer study of the principle components of fortification can be undertaken with greater prospects for the transmission of more reliable data and more intelligible interpretation thereof.

6.7.4. Defensive Walls and Towers

The principal aim of defensive walls must be sought within the context and scope of ancient warfare. Walls obstructed movement and gave security to the defenders. A defensive wall's functional value lay in its capacity to resist breaching by scaling; thus it had to be high. It had to resist breaching by penetration; thus it had to be thick. It had to resist breaching by undermining and thus the foundation of the wall had to be deep and broadly based (Yadin, 1963: 20). Adding certain features to it could increase the strength and overall defence value of a wall. By buttressing the wall at regular intervals, strength could be added. The best form of buttressing was to in fact build towers and bastions that projected forward beyond the outer surface of the wall. This increased the arc of fire of the defenders and reduced the 'blind spots', also referred to as dead ground. These blind spots were flaws in the fortification design

that lay outside the defenders field of vision or arc of fire. Towers and balconies went far in correcting such fortification deficiencies. The towers were carefully spaced taking the range of the bow into account. By spacing the towers no more than twice the range of a bow, all such dead ground at the base of the wall could be covered by archers on the flanking towers. Overhanging balconies were built onto the towers to further reduce the danger of dead ground along the base of the wall. Through openings in the balcony floor objects could be dropped onto the attackers below, or the defenders could direct fire upon them from directly above.

Excavations in Palestine have revealed the standard fortification wall for the period IA IIa was the casemate wall. The casemate wall had its origins among the Hittites of Anatolia. The Hittite capital Hattush (modern Boghazkoy) was protected by one of the finest examples of a casemate wall in the ancient Near East.

Picture of Hattush, p.112

(Picture from Cotterell's *The Encyclopedia of Ancient Civilisations*, 1980:112).

This type of fortification wall dates back to the Middle Bronze Age. The Hittites are credited with their development and dissemination into Syria and Israel during the Neo-Hittite period. Such a wall comprised an outer and an inner skin and a rubble or earthen-filled centre. Sometimes as the derived Latin name suggests the area between the outer and inner walls was utilised as storage or living space. Rooms (or in Latin '*casa*', meaning house) were built into the space between the walls, hence, 'a wall with rooms'. With no proper windows to let light in these rooms in the casemate walls must have been poorly lit, dark and dingy affairs. Hence the Latin '*motto*' from which the syllable *mate* comes, which means dim or dark. Thus casemate walls were originally designed to include in their size the width of or space sufficient for a room. Security for the defenders was provided by an arrangement of crenellations or openings on the breastwork of the wall. From between the merlons (as the 'teeth' were called) the defenders engaged the attackers with their ballistic weapons. A closer look at Hattush's casemate wall reveals both the towers and the crenellations (spaces between the merlons) along its breastwork.

The fortification wall was further strengthened and the approach to it made more difficult by digging a moat in front of it. By packing the excavated earth from the moat against the base of the wall in a sloping fashion a glacis was formed. Plastering its surface and in some instances also lining its surface with bricks or stone increased the durability of the glacis. These were important additions to military architecture in countering attempts to scale, penetrate, or undermine fortifications. All the above fortification features already existed in the Middle Bronze Age as evidenced in the Beni-hasan wall painting (c.1900 BCE) and the fortifications of Buhen in Nubia (also c.1900 BCE). Thus the question is begged – how come military architecture is so low key during IA IIa in terms of progress in scope, scale, and technical innovation standards as compared to the Middle and Late Bronze Age archaeological periods that preceded it? Further thereto, why did progress in military architecture resume again so abruptly after the close of the IA IIa period? A corollary question is what jump-started the process following King Solomon's reign?

The political history aside, it is evident from the material remains of fortifications from IA IIb onwards that there were radical departures from some long-serving fortification features of IA IIa and earlier. The most notable was the abandonment of the ubiquitous casemate wall, so characteristic of the IA IIa and the Bronze Age periods. In its place from c.920 BCE came massive solid walls with salients and recesses. These material remains witness the local response to the advent of 'full-blown imperialism' (Knapp, 1988: 219). Aggressive imperialism was a defining characteristic of the resurgent traditional great powers of the ancient Near East, viz.

Egypt and Mesopotamia, first in the guise of the mighty Neo-Assyrian Empire, and then the Neo-Babylonians and Persians one after the other.

During IA IIa military architecture was designed to cope with the incursions of large militant migrations, the likes of the Sea Peoples, the tribes of Israel, or Midianite nomadic warriors, all of whom had no more than a regional war potential at best with a commensurate limited military potential. Most military potentials of IA IIa did not include significant siege warfare doctrine or equipment in their establishment. Thus casemate walls and other enduring fortification features from the Bronze Age were sufficient to the circumstances of warfare during IA IIa. Such walls were however rendered obsolete very quickly once the great powers revived, bringing with them an array of siege equipment, the military doctrine for the effective employment of such, and the war potential to sustain siege operations. The reappearance of battering rams, now even more powerful in the Iron Age, promptly exposed the limitations of the casemate wall still prevalent during IA IIa. Beginning with Pharaoh Sheshonq I (alternatively *Shishak*) in 925 BCE, the evolution of technology once more rendered obsolete what had been to-date a key security feature of people living within the expanse of the ancient Near East.

6.7.5. Gates and Towers

Typically the gate was the weak point of the city's walled defences. Its function was to facilitate controlled access to the city. Thus it was a prime target for enemy attack. By the onset of IA IIa city gates had already evolved into sophisticated pieces of military architecture. So imposing were the gate defences over the course of time that modern archaeologists have come to speak of gate complexes. Yadin traces the

evolution of the gate as a key element of military architecture (1963:21-22). Early Iron Age military architecture was clearly a slow continuance of military architectural standards from the preceding Late-Bronze Age. The process served as a mirror of the war potential at large in a given period and place. Saul and David only slowly transformed the war potential of Israel from a tribal confederacy to a centralised nation-state.

There is a profound contrast between the standards of Saul and David's predominantly Bronze-Age technology and standard of fortifications, and the significantly larger and more complex military architecture of Solomon's fortifications. This was in consequence to the greater diffusion of iron working knowledge and technology. Solomonic era fortifications are a clear indicator of changes in war potential between the Solomonic era and the preceding Israelite monarchs. This assertion is born out by a comparison of the Late Bronze Age fortress at Haruvit along a key trade highway and line of communication between Egypt and Canaan. The fort plan shows a strong but simplistic elongated gate complex. Gate complexes in particular are a useful indicator of the levels of sophistication in military architecture. Tracing the evolutionary changes in gate complexes from the sketch below to the end of IA IIa will amplify this assertion.

(Picture from Mazar's *Archaeology and the Land of the Bible*, 1990:280)

Typically in IA IIa, cities were located atop their natural or artificial hills and the gate complex was reached from ground level by an approach road. The art of warfare had made clear to military architects since the Bronze Age that the approach to a city's gate was not an incidental matter. When facing the city, the approach road led up to the gate complex in a way that obliged enemy troops to expose their unshielded right side to hostile fire. Topography permitting, it ran from left to right across the front walls of the city.

The gate complex sought to minimize the vulnerability of the gate in the city's fortifications. In time a second or lower gate structure was erected forward of the main gate along the approach road, preferably located to the right of the main gate. High walls flanked the road between the gates, creating an enclosed courtyard. Should the attackers penetrate this first gate, their advance would be arrested at the main gate. Between these gates they would be boxed together in a tight mass presenting themselves as an easy target to the defenders of the gate complex. The right-angled arrangement between the two complementary gates worked against any

attempt by the attacking force to opportunistically charge through the gate with mounted troops should it be opened to them. It also resisted efforts to employ siege engines, including battering rams, directly against the main gates.

It was mainly during King Solomon's reign that a chariotry arm was added to the Israelite army which to that point had been predominantly an infantry force. It is in the Solomonic era that Israel's military architecture began to make provision for chariotry in its establishment. The gate itself, usually a double door to allow for the size of chariots, was made of large timber beams. As iron became more commonplace iron studs were fixed into the wooden surfaces of the doors to add strength and hardness to them and to make such doors more resistant to axe strokes.

In time metal plates were affixed to front of the doors to reduce the possibility of destroying the doors by fire. To strengthen the weak centre-line of the double-doors, a sliding heavy beam was employed to brace the closed doors from behind. The walls on either side of the doors had customised recesses in them. The heavy beam slid out from the one particularly deep wall recess, across the back of the door, and into its corresponding recess-mate on the other side of the heavy double-door. The large, heavy doors of the gate swung open on posts "recessed into a wood lintel at the top and set into stone sockets at the bottom" (Wright, 1974: 109).

With his hugely increased war potential Solomon invested heavily into the fortification of key strategic sites, including Gezer, Megiddo, and Hazor. The strategic value of these particular sites was already long established back in the Early Bronze Age. Spectacular fortification works of optimum defence value for their period were further developed at the above named cities. To increase efficiency in

design and cost effectiveness of construction, the same excellent architectural plans were used at the three strategic cities. The top view of the gate complex at Megiddo shows the approaches to the first gate firstly from a left to right orientation that would expose the shieldless side of troops advancing on the gate complex. Secondly, a smaller outer gate structure creates a courtyard between it and the main gate structure, all surrounded by high strong walls. Thirdly, the main gate is located at right angles to the axis of approach, precluding the employment of battering rams against the main gate structure itself. Fourth, the outer and the main gate structure channel foot and other traffic through doorways narrower than the passages leading to and from them. This would limit any numerical advantages the attackers may have in the melee, affording the defenders the advantage of greater numbers in the fight at the critical points of entry and exit. The narrow portals would also deny large siege equipment access to the main gate structure's doors. Fifth, the offset angle will reduce the impetus and the impact of the charge, again minimising the advantages attackers would typically have if fighting in the open. The additional interconnected towers that supported large roof platforms clearly illustrate the defence value of this structure and how extremely challenging it must have been for attacking enemy forces to get within striking distance of the main gate. Not shown in the top views are the glacis and the revetment walls which were intended to frustrate scaling equipment, undermining efforts, and kept mobile rams at a safe distance from the walls.

(Picture from Mazar's *Archaeology and the Land of the Bible*, 1990:384).

The top view of the same gate complex at Gezer, Hazor, and Megiddo identifies dressed stone pilasters that served multiple functions. Foremost, they were the primary supports for the roof structure above the gate. The spaces between the pilasters also could serve as defence bays in which the defending soldiers could take up defensive positions, or as excavations showed at various sites, these bays were walled in to make storerooms or guardrooms. The pilasters could support multiple interior doors making a forced entry through the gate complex very difficult indeed.

Gezer

Hazor

(Pictures from Mazar's *Archaeology and the Land of the Bible*, 1990: 384).

The final observation for this chapter on military architecture rests with the proposition that all fortifications, regardless of spatial, temporal, geographic or cultural parameters, rely on two principal themes for their optimal efficiency as defence works; elevation is the first and enclosure is the second. Through these two themes archaeologists may access the merits of all military architecture before them.

CHAPTER 7. CONCLUSION

Syro-Palestine, the land bridge between the three continents that makes a world – island comprising Africa, Europe and Asia is the spatial stage for the study of Israel's development and its employment of military statecraft during the period Iron Age IIa. This temporal window was one of a few rare and peculiar periods when the gatekeepers of the land-bridge became a regional power in the ancient Near East. This dissertation has outlined a matrix of prevailing IA IIa cultural circumstances set against the polemological factors constituting the foundations of military force. Modern concepts of polemology have been used in the belief that military archaeology without such concepts is but another brand of subjective 'drum and bugle' history writing. The aim of the research has been to show the cultural

backdrop of common man in the political setting of IA IIa. It soon becomes clear that the political world of the common man entailed incessant warfare. The latter was the societal norm rather than peaceful cohabitation notwithstanding generalised perceptions to the contrary. This dissertation excludes the normative domain from its scope and strives to work only in the empirical and analytical domains of science.

The selection of time refined social science concepts that are relevant for this examination of man in the context of IA IIa Syro-Palestine have to be balanced against the challenges of ethnocentricity and anachronistic bias. In this quest for accuracy and relevance it was useful to list the factors that are unaffected by time and culture. It has also been useful to place the many political irruptions into types and categories. Human nature motivated by caprice, pride, ignorance and bias and those several other inputs that provoke the decision for warfare in human society has likewise been unaffected by the march of time. Sensitivity to the limitation of texts and primary sources all provide for a more trustworthy analysis of the IA IIa lifeworld.

In the nature of military force it is the concept of a war potential that stands at centre stage. This is the substance of military statecraft. It gives political weight and muscle to other more benign forms of statecraft such as economics, cultural exchange, and diplomacy. It extends to all aspects of a society and its values, including within its scope both practical and intangible aspects. Phenomena such as the economy, technical sophistry, national ethos, geographic factors and demographics all added together determine a political entity's war potential. The military potential of a nation is a subset of its war potential. A political entity's total, general, and operational

strategies are circumscribed by its war potential. Essentially, all strategy is methodology and it has a consistent aim: the creating of untenable situations for opponents. The 'creating' of such circumstances is what gives warfare its art aspect. Strategy has a reciprocal relationship with technology. Technological sophistication is critically important to fleshing out the cultural backdrop of a political entity. This may be the result of cultural communication or even acculturation. Technical sophistry informs the selection of strategy and the development of tactical praxis in polemology. To ignore aspects of logistics is to render the accuracy of an examination of military force meaningless at a stroke. The notes on logistics are explicitly extensive for at least three reasons. Firstly, logistics makes up as much as nine tenths of the business of war (Van Creveld, 1977: 231), which is essentially the content of this dissertation. Secondly, to avoid the oft made error of lip-service to logistics that is so common to the work of several writers on military matters. Finally, the bias of New Archaeology demands that such a practical approach take its proper precedence over the political – historical approach which has tended to track the life and works of the elite with scant regard for the lot of the commoner.

To this end chapter six places the artefacts associated with warfare in a holistic cultural context. The preceding chapters will afford a more accurate interpretation of these material cultural remains. Insights from such research will provide a valid test for our existing assumptions of the lifeworld of the common man in antiquity. Understanding the context of such material remains increases the anthropologist's capacity to understand them and interpret them intelligibly. When considered holistically the chapters of this dissertation have established an informed visage of the

political dynamics that shaped the lifeworld of the common person in the period catalogued by archaeologists as Iron Age IIa.

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