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1999

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Jones, Eric C.. "The U.S. Military as an Informational Environment." *Journal of Ecological Anthropology* 3, no. 1 (1999): 24-38.

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# The U.S. Military as an Informational Environment<sup>1</sup>

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## Abstract

*The historical development of military organization in the United States has been strongly influenced by the desire to make more precise information available to decision-makers at appropriate levels in the chain of command for national security and warfare. By placing the U.S. military in national and international contexts, this paper proposes that its historical development results from the complex informational needs critical to the political-economic evolution of the State. Specifically, technology, strategy, chain of command and battlefield tactics increasingly require improvements in information quantity, quality and analysis.*

Can a system designed for achieving and maintaining a long-term political consensus also make and carry out decisions inevitably marked by urgency, secrecy, and often contention? . . . Can any U.S. institution long survive which lies outside the consensus?

—Schmitt 1986:282-3

## Introduction

The objective of this paper is to give a preliminary analysis of the role of information in the development of the military. The military is examined as an informational environment within a human ecosystem. An informational environment contains potential physical, biological, social and cultural sources of information, as well as relevant actors who manipulate and potentially produce varying qualities of information (see Casagrande, this volume). The position of the military within such an informational environment is primarily due to its status as a fundamental institution in the modern Nation State. While the specific example used here is the U.S. military, the scope of analysis is broad and general, and might be applied

to military institutions in other times and places.

The centrality of the military to social organization in the U.S. is often noted, but little understood. Past explanations have characterized the military simply as a capitalist tool, or as necessary for national security, tending to ignore the role of information in its development. An alternative approach examines the existence, construction and maintenance of informational boundaries. Historically, these boundaries range from the development of civilian/military distinctions to intra-service (enlisted/officer) and inter-service (Marines/Air Force) distinctions of identity, which constrain potential information transmission.

Here I briefly trace the development of the U.S. military as related to complex informational

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<sup>1</sup>This paper carries over ideas developed in Charles R. Peters' seminar in Information Ecology held at the University of Georgia in 1997. Some of these threads were developed further in Peters' 1998 Complex Systems and 1998 Information Ecology II seminars. While the author is solely responsible for oversights, Charles Peters, Felice Wyndham, David Casagrande, Suzanne Joseph, Rick Stepp, George Luber, Rebecca Zarger and Warren Roberts have all made useful contributions.

needs in the evolution of the State. First, a history of U.S. military intelligence activities provides a background for understanding the role of information in the modern State. Next, the U.S. military's connections to external environments (e.g., geopolitical, economic, biophysical) are placed in a systems perspective. This is followed by an enumeration of military functions, and remarks on cross-cultural and cross-temporal developmental tendencies. I conclude with an overview of the internal workings of U.S. military intelligence.

### History of U.S. Military Intelligence

At the beginning of the 20th century, the United States had virtually no centralized body to coordinate military intelligence activities. American beliefs in pluralism and decentralization limited the possibility for such centralized coordination (Powe 1973). Nonetheless, a powerful structure for acquiring and analyzing information now exists in the United States; one which emphasizes both hierarchy and flexibility; the former for efficiency in command, the latter for unexpected events or the exploitation of unconventional information sources.

Technology for communication and intelligence, especially mapping, has had a cumulative effect in the organization of the military, creating specific military and non-military branches of intelligence. Although localized tactical intelligence has been demonstrated by American commanders in all wars, the Civil War demonstrated a lack of coherence in military intelligence on both sides (Powe 1973). Informational improvements in the ability to command troops during the Civil War were made possible by the technologies of the railroad, hot air balloon and telegraph. These improvements withered during the post-war era, and as with previous wars, there was little peacetime follow-up of wartime organizational developments. For example, it was not until the 1880s that the U.S. dispatched permanent foreign military attachés, after military leaders visited Europe and brought back an interest in military staff organization.

At the turn of the century the middle class in the United States began to seek power and leadership through management skill and technology

(Powe 1973). This was expressed in 'scientific' management, bureaucratization, centralization, and an emphasis on expertise as the appropriate impetus for social change. Along these lines, Major General Ralph H. Van Deman helped create the Military Intelligence Section of the War College Division during WWI. His vision was of a professional intelligence service:

The most necessary and essential kind of information, the information without which no war plan can be made that is worth the paper it is written on, does not come in of its own accord or as a matter of routine. It must be actively sought, traced out, and proved up. (Van Deman, in Weber 1988:141)

Van Deman, in those formative years, always sought to maintain the separation of military intelligence activities from strategic military activities. He envisioned the Military Intelligence Section as an agency responsible for the centralization of information and analysis (Table 1), as a separate institution accountable directly to the war chiefs of staff, and separate from the heads of planning, supplies, operations, etc. (Powe 1973; Thomas 1986).

Since WWII, civilian control over intelligence apparatus has waxed and waned a number of times. Formalized in 1947, congressional control of intelligence included the creation of the Central Intelligence Agency (CIA), emerging from the WWII Office of Strategic Services (OSS). The 1950s and 1960s were characterized by congressional deference to executive initiatives concerned with foreign policy. In 1974, Congress bounced back, reacting to CIA covert actions. Congress placed covert actions under presidential control and demanded notification. This period of imposing restraint on intelligence activities was followed by one of restricted Congressional influence, requiring notification of only two Congressional committees before action instead of eight, and prohibiting the press from publishing the names of any intelligence officer (Schmitt 1986; Allard 1991).

Present distribution of resources in military intelligence is uneven. Loch Johnson asserts that material technology's evolving role in U.S. military intelligence is evidenced by the fact that the CIA

TABLE 1. EARLY U.S. MILITARY INTELLIGENCE ACTIVITIES (DOWE 1972)

and the other twelve U.S. Intelligence Agencies are “. . . bloated bureaucracies, overly reliant on technology and in need of a game plan for the post-Cold War era . . .” (cited in Koppes 1998:6). He argues that we should aim for a 2:1 spending ratio of technology to people. Presently the ratio is 7:1. This lopsided distribution of resources can be traced to political influences; for example, the emphasis on data-gathering techniques. The president, as civilian head of government, checked by Congress, often appears to have no choice but to follow the dictates of the military-industrial complex. White House staff organization is a key for a president to affect distribution of resources for intelligence activities by Congress (Lord 1988). However, the influence of politics on distribution of resources partially depends on the presidential style of management. A strong, activist president can make these agencies and the National Security Council serve his/her needs to a greater extent. The National Security Council (NSC) has a number of responsibilities aimed at strategic planning. The NSC answers directly to the president, who then issues directives or proposes legislation regarding the structure of the intelligence community. The informational responsibilities delegated to the

National Security Council’s policy groups now include routine staff support and information, crisis management, policy development, policy implementation, policy advice and operations (Lord 1988:63).

One of the classic public concerns in the U.S. has been with the role of secrecy and intelligence in public and private life. Citizens cannot perform their democratic responsibilities if ignorant, and Congress cannot fulfill its constitutional responsibilities if it is lacking military information. Self-restraint was encouraged for the press during WWI (largely ineffectual) and heavily pushed during WWII<sup>2</sup>, starting eight days after war was declared on Germany. However, censorship of the press predates the country’s independence<sup>3</sup>. For management of press access to government and intelligence information, presidents Truman and Eisenhower created the categories: ‘top secret,’ ‘secret,’ ‘confidential,’ etc.—classifications of government data for managing information at the source (Wiggins 1956:101). By the present decade, as demonstrated during the Gulf War, the press has seen even more restrictions and opted for even more self-restraint, unlike in the Vietnam War.

<sup>2</sup>Roosevelt’s announcement claimed: 1) the necessity of withholding some of the news where it originates; 2) the necessity of guarding the nation’s borders to not allow information to reach the enemy; 3) the necessity of prohibiting publication of some information even within the U.S.; and 4) the importance of conformity by the press and radio to abstain from revealing certain details, such as troop and carrier movements (Wiggins 1956:97).

### Military Functions

Modern military functions can best be seen in a simplified case study, presented here in the form of graphic models to illustrate the players and relationships in these military systems. Building on this, comparisons can then be made with prior social forms of military-like behavior and forms of warfare that have evolved in the past few thousand years.

### *The United States of America's Warpath*

Figure 1 is a triptych that depicts the relationship between function and development of the military in the U.S. in the 1980s and 1990s, and introduces some of the players in the multiple environments (physical, biological, social, cultural) external to the military. The U.S. government interacts with the rest of the world through the 'western system of alliances.' This inevitably leads to war, wartime production, and martial law (three panels on left of Figure 1), and eventually back to the 'balance of power' for a new cycle. It is important to understand the place of the U.S. military in national and international politics in terms of these continual pressures.

With regard to the preeminent nature of warfare, Martin van Creveld has noted that:

. . . in order to explain the occurrence of war, it is not necessary to postulate the existence of any ulterior objectives other than war itself. (1991:215)

To repeat, the true essence of war consists not just of one group killing another, but of its members readiness to be killed in return if necessary. (1991:221)

From an evolutionary point of view, this aspect of tribal warfare does not seem to have changed much when war was bureaucratized, or further rationalized, as chiefdoms or states grew in size. While we often think of the State, or any organizational body, as being either at war or at peace, it seems that no such complete division between war and peace is very useful to the State, as expressed in Figure 1. A shaky 'balance of power' (i.e., peace) is compromised by the way in which people and institutions are ready to jump on 'the warpath,' when it appears that a new cycle, precipitated by economic or political duress, is in the making.

The next two sections provide functional explanations for the existence of a professional military, and a third section provides an evolution-

**TABLE 2: FUNCTIONS OF THE MODERN NATION STATE MILITARY.**

<sup>3</sup>In 1725, Massachusetts ordered Boston newspapers not to print anything related to military activities without seeking governmental consent (Wiggins 1956:94).

# MILITARY INDUSTRIAL COMPLEX

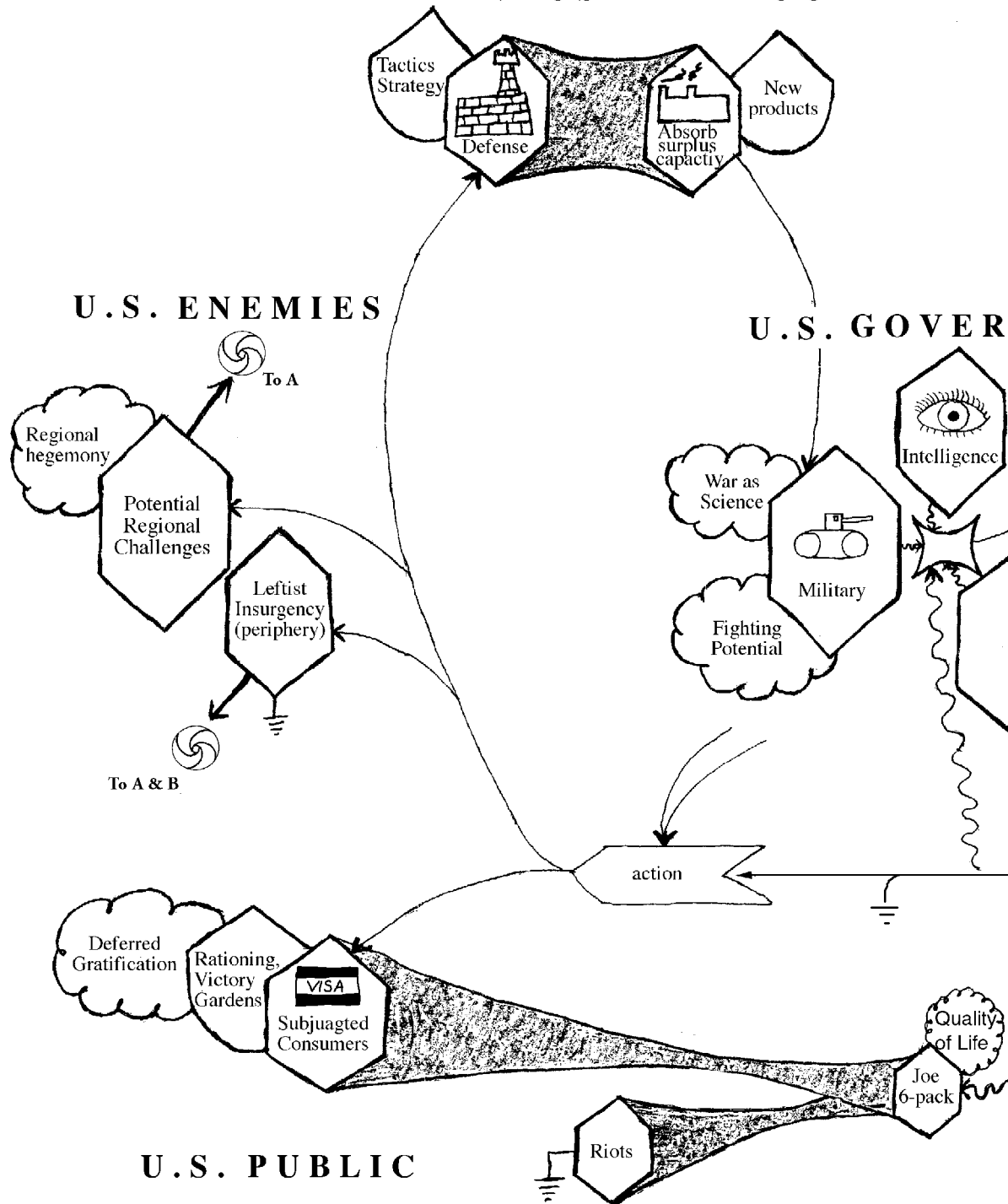
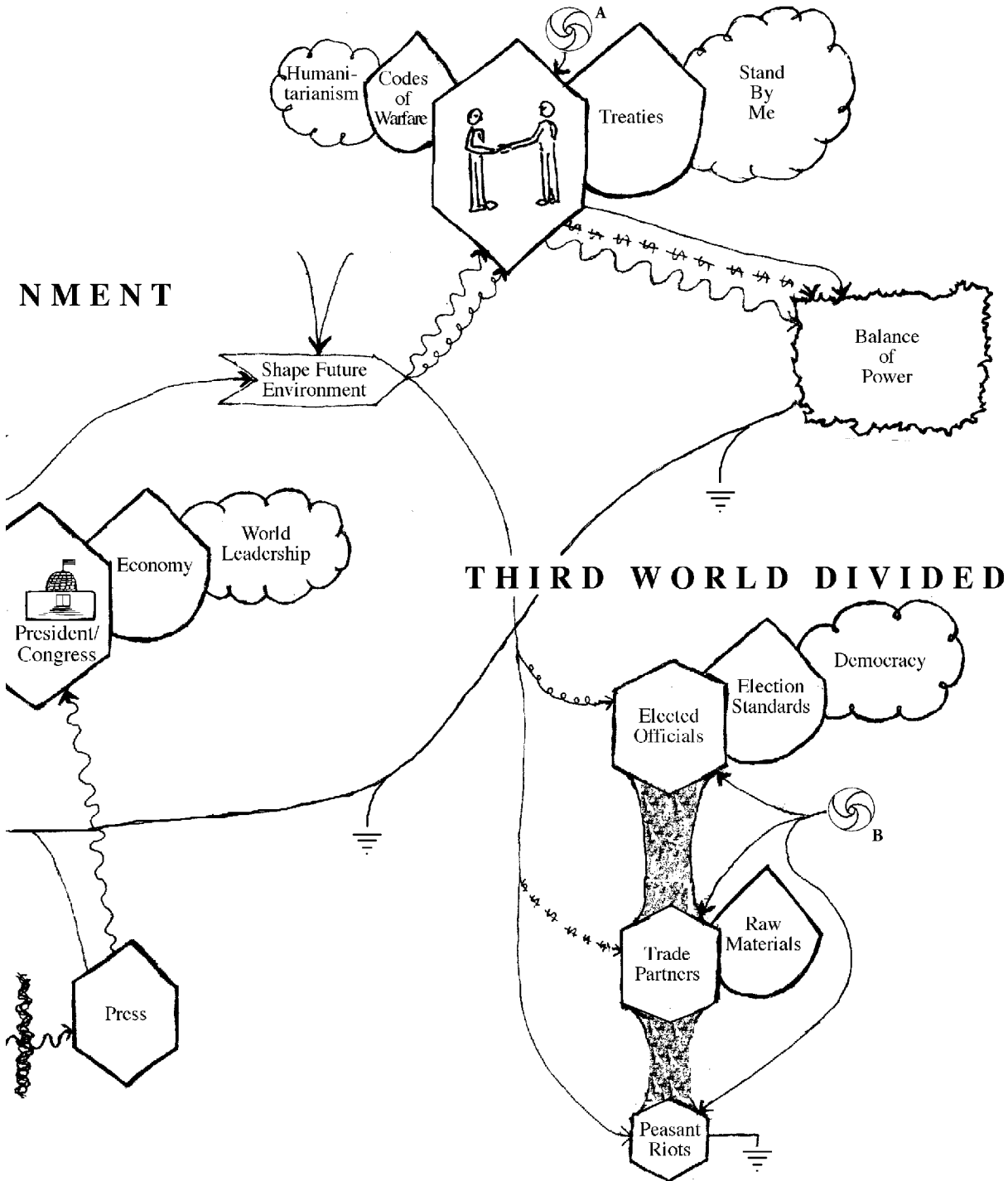


FIGURE 1: THE WARPATH.

For a key to symbols see Stepp, this volume, Appendix D. There exists an ever-present potential source of war in the 'balance of power'—a world-society type of pluralism. With a shaky balance of power, even arms speculation can give impetus to start on 'the warpath.' Starting in the middle of the figure, the triad of the President/Congress-military-intelligence community is constrained by the 'western system of alliances,' as well as by the tradition of 'development of underdevelopment,' which is the world capitalist system's reliance on permanently feudalistic and non-capitalistic relations of production. Shaded areas represent changes or evolution in the nature of a population or institution. Countries targeted for underdevelopment can be the focus of: 1) U.S. propaganda or legitimizing a puppet government through democracy; 2) an unequal trade relationship; or 3) an extremely exploitative relationship

# WESTERN SYSTEM OF ALLIANCES



with capitalist institutions, which often results in riots, revolution, and other reasons for the U.S. to go to war, or provide a counterinsurgency. The president is influenced somewhat by the press because of reporting, but this influence owes mostly to the press' role as a filter of public opinion. 'Fighting potential' is of concern to both the President and the Press. The Press becomes an ally to military intelligence by criticizing foreign governments and maintaining jingoistic hype in order to increase revenues. When a country (regional power, revolutionary country, etc.) is engaged by the U.S. in war, they return to the 'balance of power' through a portal, either as part of the 'western system of alliances' (mostly industrialized countries) or the 'development of underdevelopment' (mostly 3rd world countries). The 'warpath' is joined by the U.S. governmental institutions, the press, and, eventually, the public. This model provides for dissipation of the 'warpath' through sinks.

TABLE 3: RANKINGS OF NUCLEAR CAPABILITIES<sup>4</sup>.

ary bases for such an institution.

#### *Wartime and Peacetime Military Functions*

Although it is sometimes difficult to distinguish between wartime and peacetime functions, as can be seen in Figure 1, Table 2 attempts such a delineation for the modern military.

Hyperfunctional explanations for the existence of the military are common. For example, it is argued that not only does military power help maintain international hierarchies (Tables 3 and 4), it also becomes a resource sink for states that must deal with the problem of surplus capacity for production (e.g., Schumpeter 1950; Wallerstein 1974). However, not all expenditures should be seen only as 'unproductive' employment of surplus personnel and equipment within the military, since at least two productive capacities come to

mind. One is the construction of public works and reclamation projects, for example by the Army Corps of Engineers. Second, in the U.S., The National Oceanic and Atmospheric Administration provides civilian services by mapping coastlines, as well as by assisting scientists in environmental research. These also serve the informational needs of the military.

Another military effect is technological—most modern civilian technologies are the hand-me-downs from military research and development. From intelligence have come such technologies as e-mail, LSD, radar and sea-bottom charts, weather and low-altitude satellites, rockets, lasers, global positioning systems, remote sensing and geographic information systems. From non-intelligence technologies have come jeeps (4x4s), canned-ham,

TABLE 4: RANKINGS OF NATIONAL MILITARY RESOURCE DEDICATION FOR 1995<sup>4</sup>.

<sup>4</sup>Source: US Agency for Arms Control and Disarmament, internet address: [www.acda.gov/wmeat/](http://www.acda.gov/wmeat/)



dehydrated foods, vacuum-packed wrapping, etc.

Arguably, the most important non-wartime service provided by the military is that of protecting shipping and trade routes. Not the slightest fraction of present materials could flow through the world system without the existence of military forces, especially those of the U.S.

The military also performs a display function for the state, attaining public recognition through parades, bands and burials, as well as 'showing off' by having a presence in foreign countries. In addition, in most societies, the military absorbs the reserve of young (age-graded) males, who might otherwise disrupt society with aggression, through competition with adults for land or productive responsibility, or by competing with older males for mates.

#### *World Military Rankings*

In addition to being an institution of social organization, as just noted, military intimidation functions as a source of symbolic interaction

between citizens of different countries, especially given the increasingly global character of information, migration and contacts. Tables 3 and 4 show a method, though perhaps artificial, of ascribing rank amongst world citizens in a type of world pluralism<sup>5</sup>. For instance, public perception of the strength of a foreigner's country affects how a person may be seen vis-a-vis citizens of other countries. A passport-bearer from a militarily powerful country generally will not be turned away in most places as easily as someone who presents a passport issued by a militarily weak country. Tables 3 and 4 are expressions of potential power. How this information (in numbers or in actual, physical presence) might be consumed, received, or perceived by citizens and functionaries of various countries is of strategic importance to the U.S. government.

#### *Non-State and State Military Comparisons*

Table 5 compares the content, construct and effects of war under different types of societal

**TABLE 5: ASPECTS OF WAR VIS-A-VIS SOCIETAL ORGANIZATION.**

<sup>5</sup>Other possibilities for this ascribed status include: G-7/G-15/G-22 or UN Security Council membership, preeminence of educational or other cultural institutions (art, press, television, entertainment, etc.).

organization, presenting a role for information in the evolution of military organization.

Note that the goals of the modern Nation State in Table 5 do not include 'expand empire'. This is due to the emergence of a global system of autonomous states, where all geographic areas are identified with State-level political organization. Van Creveld characterizes this situation as follows:

1789 marked the beginning of a period when it became possible, even fashionable, to overthrow kings wholesale. As this process took hold, the sanctity that had attached to dynasties was gradually transformed to national borders, and for one state to grant right of passage to the forces of another became tantamount to sacrilege. The new belief system solidified after the First World War and grew into dogma after the Second when it was also enshrined into international law. This made it extraordinarily difficult to use war as an instrument for altering borders; where the territorial integrity of one state is violated, all others feel themselves threatened. (van Creveld 1991: 215)

This resignation to a system of legitimate units of competing interests resembles the *realpolitik* advocated and followed by U.S. Secretary of State Henry Kissinger in the early 1970s. It can also be noted in the shaky 'balance of power' shown in Figure 1. Clearly, the impetus for formation of a fighting force was not born with the Nation State. Nonetheless, professionalization of a fighting force is likely to occur when a nation faces many wars.

Such has been the case with the development of a universal [inter]state system paralleling the growth of capitalist institutions during the modern period. Pressures to professionalize also occurred earlier in societal development when populations grew and there became a need for a pan-societal mechanism of integration as powerful as the military (Service 1971; Carter 1977). Table 6 elaborates this idea, and distinguishes the point at which a society has developed the military as a full-fledged independent institution. In the descriptions presented in Table 6, almost all categories show clear differences between State and non-State modalities of war, though the existence of warfare is noted in almost all societies (Ember and Ember 1992).

As can be deduced from Tables 5 and 6, the nature of warfare has changed in both tactical and strategic realms. Development of tactical operations, or battlefield practices, is affected most by technology. Strategic questions, or battle plans, also have witnessed technological breakthroughs, most recently in the technologies of nuclear, biological and electronic warfare. In the end, the role of information in tactical and strategic matters is increasingly important for the professional military, especially compared with non-State war-making bodies.

### **The Military as an Informational Environment *Command, Control, Correspondence and Intelligence***

Command and control of troops are basic to

**TABLE 6: COMPARISON OF NATION STATE AND NON-STATE MODALITIES OF WAR<sup>6</sup>.**

<sup>6</sup>Based on Turney-High, cited in Hallpike (1988:102-4).

military battlefield tactics, as well as to long-term strategy. Key to both command and control, as well as to correspondence and intelligence, are the identifying markers which denote place and responsibility for every individual in the military. Advancement in the hierarchy means a pay raise, an increase in skill, an increase in prestige, and, typically, an increase in the number of people for whom you are responsible. As sheer military force proves to be inadequate in some theaters of war/conflicts, what have become more important are communication and intelligence. Long-distance communication is especially crucial, as is the analysis of the glut of data provided by intelligence and information gathering techniques.

Hutchins' (1995:372) model for cognition in a social setting (e.g., a naval ship) includes the development of the practitioner, development of the practice, and conduct of the practice. In Hutchins' application of this model to the military, development of the practitioner results in specialization and increase in status in small, graded increments, based on glamour, technology, destructive power, extent of training, quality of people, and the difficulty involved in gaining entrance. Specialization is not so extreme for officers as it is for the enlisted. Identity also is forged by encouraging some

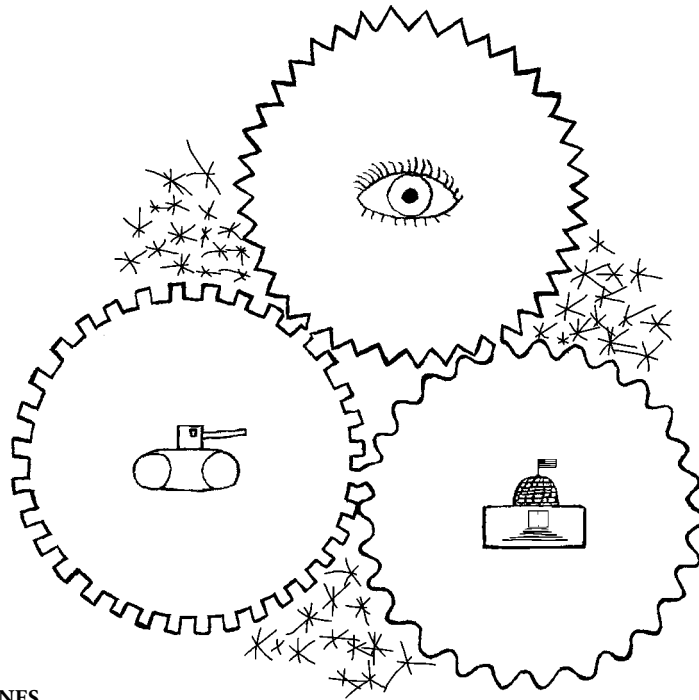
units to think that other units in the command are not as competent. Pride and confidence are paramount to maintaining cohesion and identity, with concomitant execution of responsibilities. The conduct of the practice is governed by successive hierarchical responsibilities and witnessed in the salute, uniforms and insignia that express the just-mentioned delineation in status (Hutchins 1995). The development of the practice in the U.S. is based on the division of labor between the services, leader/soldier relationships of reciprocity, and the operational requirements of the transport and fighting arena, be it air, sea or land (Hutchins 1995; Allard 1991).

This model of information flow and cognition in the military can be used to organize future research. Table 7 lists apparent gaps in past and present studies of military intelligence. Points one, two, five and six relate in different ways to development of the practice and of the practitioner, while points three and four relate to conduct of the practice.

#### *Political/Defense/Intelligence 'Faultlines'*

Lord (1988) identifies three 'faultlines' affecting U.S. national security, which result from the relationships between information gathering, defense considerations and relevant policy development: 1)

**TABLE 7: IDENTIFIED GAPS IN STUDIES OF MILITARY INTELLIGENCE.**



**FIGURE 2: FAULTLINES.**

A synoptic sketch of the three main players at the center of Figure 1—the military, the intelligence community, and politicians (Congress/President), based on Lord’s (1988) discussion of the “faultlines” which develop between these institutions. These faultlines are depicted as wheels with differently shaped cogs. Sparks fly where the cogs meet.

political-military; 2) political-intelligence; and 3) military-intelligence (Figures 2 & 3). Faultlines develop because the president, a civilian leader, is dedicated to domestic concerns, requiring disclosure, as well as foreign diplomacy, requiring secrecy. The president attempts to influence contingency or strategic planning through the National Security Council, though this traditionally is the domain of a War Department. In Figures 2 and 3, the absence of an economic ‘wheel’ and economic faultlines is due to this paradigm’s concern with Nation State organization, and because economic contexts and functions were already presented in Figure 1, ‘The Warpath.’

Figures 2 and 3 are based on Lord’s (1988) presentation of these faultlines/disjunctures in the U.S. government’s national security structure. The three relevant government objectives for national security are depicted: 1) ‘control by

military;’ 2) ‘activity through politics;’ and 3) ‘secrecy in intelligence.’

The political-military faultline appears in Figure 3 as ‘subjective control’,<sup>7</sup> owing to the fact that the military influences civilian agencies and planning (e.g., officers in the National Security Council), and that politics influences internal military affairs (e.g., officers becoming experts in international relations). As noted earlier, however, the ideal since the turn of the century has been ‘objective control,’ wherein the civilian bureaucracy is separated from, but has total control over, the military bureaucracy, which has exclusive control over its own internal workings.

The political-intelligence faultline in Figures 2 and 3 starts with the CIA’s ‘objectivity,’ and results in the agency often discounting or questioning administrative policy as biased. This faultline recently has created ‘competitive analysis,’ with several agen-

<sup>7</sup>This term and “objective control” come from Samuel Huntington (Lord 1988:45). “Subjective” refers to the mutual influence of the military and the government on each others policy and internal workings. “Objective” refers to the separation of the military and government in terms of internal workings, where overall policy objectives are set by the government and followed by the military.

cies submitting competing intelligence estimates, rather than the CIA exercising hegemony over the final report for the National Intelligence Council.

The military-intelligence faultline in Figures 2 and 3 is exhibited by: 1) military distrust of the CIA's ability to provide adequate intelligence; 2) CIA hegemony over information analysis; 3) technology determining policy rather than vice-versa; and 4) a lack of adequate counter-intelligence, especially within military intelligence agencies. In addition, surveillance work is not always well-paid, nor exciting and, as van Creveld states, people always can be "outwitted, bribed or subverted" (1991:211).

Within the political wheel, the president does not lie at the center because Congress is another source of power, as are the Defense Department and Department of State (largely under presidential control, but having their own traditions). Also, informational campaigns for democracy by the United States Information Agency, Voice of America (or Radio Free Europe, Radio Liberty, Radio Marti), often are not in the State Department's interest of maintaining good bilateral relations (Lord 1988:51). This 'la la land,' an attributed, mythological reality, is comprised of fairly autonomous agencies devoted almost entirely to patriotic propaganda.

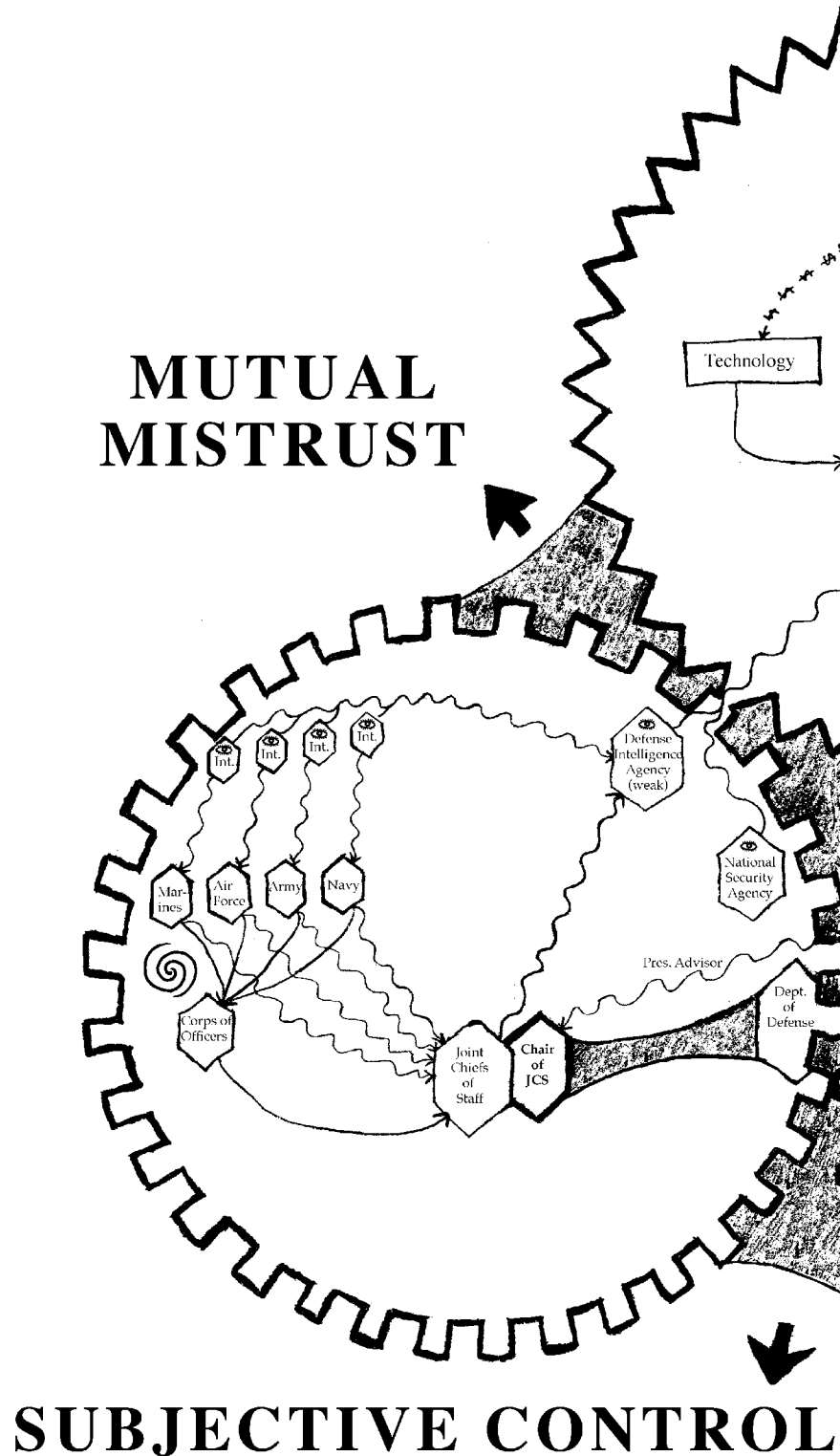
### Conclusion

The military is one of the basic social mega-institutions in the Nation State (e.g., Cohen 1991). States have always been concerned with control. As Allard (1991:236) states, "Over any significant length of time, the pluralistic nature of the American civil system is more likely to favor the institution than the individual." Pluralism exists in all states, though this means that political safety valves and continual outlets for ethnic tension and mass discontent also are required (Cohen 1994). Warfare, patriotic public displays, and jingoistic journalism against other countries also serve this end (Figure 1). Within the State, surveillance and military intelligence are involutional developments, resulting partly from the disintegrating possibili-

ties of pluralism and information entropy, where different epistemological fields (i.e., worldviews) of different ethnic groups and professional identities collide and compete. Given this fact, the military and its related institutions may well be as fundamental to State functioning as the political realm.

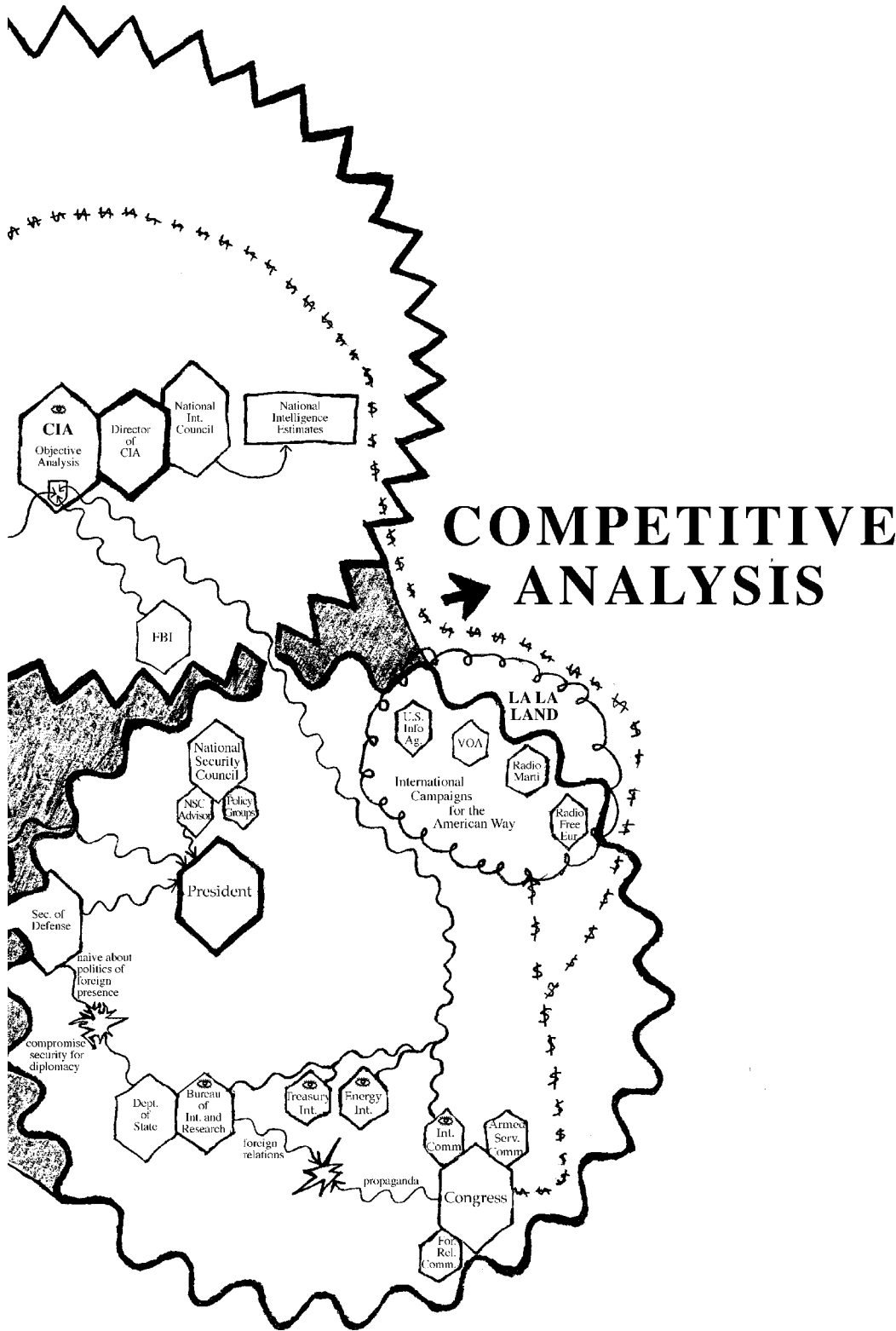
The development of military intelligence in the U.S. since the late 1800s involved centralization, autonomy, direct accountability to war chiefs, intermittent civilian control, decreasing antagonism with the press, and the integration of the different armed forces. These developments have been made possible and shaped by the use of a 'least common denominator' approach to communication, which encompasses all interservice, intraservice and civilian/military distinctions mentioned in the introduction. The distinctions within the military illustrate that the most effective modes of information transmission *within* an organization are not always the same as the most effective modes of transmission *between* organizations. Future research might examine types of communication, and their effectiveness, within and between intelligence or military organizations at different places and times.

This effort to contextualize the study of military intelligence traces the role of information in the history and development of the U.S. military and the development of the U.S. as a polity in the world system. The communication between the tactical systems of the armed services has improved in the past 25 years, but the biggest threat to effective and efficient military operations in the U.S. is still the coordination and analysis of information (Allard 1991:16). Thus, even though weapons systems procurement, organization for war, and distribution of power are also the prerogatives of each individual service branch, it is information that remains the most important variable in the evolution of this component of the human ecosystem.



**FIGURE 3. FAULTLINES (EXPLICATED).**

Partially explicated view of Figure 2; intelligence agencies denoted by the eye in the peak of the consumer symbols. All answer to the CIA/Director of Central Intelligence. Prior analytical hegemony exercised by the CIA can (and presently does) give way to competitive analysis of intelligence information by other agencies in forming the National Intelligence Estimates. Most of the flows are informational, excepting Congress' impetus towards sinking money into defense and technology, presumably to absorb surplus capacity for production. The dialectical field between military officers and their troops (who resemble kites), designates the contradictions wherein soldiers oriented toward group solidarity and devotion are forced



through a system requiring professionalism, organization and impersonality. Similarly, officers who believe in, and have a duty to, their subordinates are required to manage their troops through manipulative integration instead of simple dominance (Buck 1981). Whereas sparks flew where the cogs met in Figure 2, the meeting of these institutions has more specific results. Distrust develops between the military and intelligence spheres, competition over information control develops between the political and intelligence spheres, and politicized control of the military results from the relationships developed between the political and military spheres.

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