Draft-for Conference Distribution Only

WARFARE IN THE NEW GUINEA HIGHLANDS: THEORY AND ETHNOGRAPHY IN CONFLICT

by

Edward Lipuma

Anthropologist and Research Associate Center for Psychosocial Studies Chicago, Illinois, USA

The Twelfth International Conference on the Unity of the Sciences Chicago, Illinois November 24-27, 1983

© 1983, The International Cultural Foundation, Inc.

INTRODUCTION¹

Although anthropologists, political scientists, and an assortment of fellow travelers have spent pen and ink on phenomena they variously designate as warfare, armed conflict, or feuding, they seldom attempt to pinpoint what they are describing. The reason for this evasion is that there are no true definitions, only different perspectives each of which has its own criteria. Thus, the orchestrated, semi-ritual warfare of New Guinea tribesmen or Plains Indians seems distant from the warfare of nuclear conflagration.

Nonetheless, it seems that human warfare has certain recognizable characteristics which set it apart from non-human conflict. A roster of such characteristics would include:

- 1. Warfare involves groups which are organized in terms of principles of social organization. This may encompass kinship, the legal system, or concepts of nation-state. Accordingly, the conflict takes place between two groups as groups.²
- 2. Warfare is a recognized species of event which stands in contrast to accidental homicide, murder, and other forms of causing death. There is indeed an implicit agreement between factions on the legitimacy of fighting with the intent to kill.³
- 3. The motives for warfare include not only territoriality and the allocation of scarce resources (both of which are historically determinate), but a plethora of immediately social motives, ranging from religious affiliation to rites of initiation. More, warfare can be multi-motivated with different factions of the same group fighting for very different reasons.
- 4. Warfare may be triggered by the manipulation of symbols and indicies, rather than by overt aggression. So, for example, defacing the burial grounds of a rival or failing to sign a peace accord may trigger aggression.
- 5. The categories of warfare (e.g. categories of combatants) have a influential linguistic component insofar as these categories are inflected by the semantic structure of the language and its rules for the use of linguistic items.
- 6. Acts of warfare, like all human actions, have a belief, a desire, a judgement, and an intentionality component. This expressly implies a concept of the future and ability to construct an image of future events based on the outcome of present ones.

Many of those who analyze warfare allow themselves to be trapped in fruitless oppositions, particularly the oppositions between cause and effect, and between independent and dependent variables. Almost invariably, these analysts forget—or perhaps never understood—that warfare brings together two states of history: the history that is objectified in buildings, technology, codified laws, traditions, and books; and the history that is embodied in practices and dispositions of agents (Bourdieu 1982:305). Warfare only ignites when societies, predisposed by their own history, aware of their outstanding investments, endowed with compatible dispositions and attitudes, take an interest in its prosecution.

Part of the popular philosophy of the West is the notion that we have understood a social or natural phenomena when analysis discovers its most primitive cause. Analysts have thus generated biologically-based theories of warfare on the unspoken premise that the biological ontologically precedes the social. Such theories are rarely content to illustrate how biological factors, such as hormonal balance, may interact with social and psychological factors. Eschewing modesty, they often proclaim that biological variables and their realization determine human warfare. The most general defect of such theories is that they are based on a pre-scientific logic, one which operates from the standpoint of underdetermination. Theories, such as that advanced by Wilson (1972), are notable because they cannot account for the social organizaiton of war, its conceptualization or imbrication of motives, the categories of warfare, and indeed all of the features listed above. 4

It is quite clear that on the rebound warfare will affect the biological profile of warring groups. Hulse (1961), Divale (1970), and others have shown that in many primitive societies war alters the age and sex composition of the population. It is clear also that the effects of depopulation vary dramatically from one group to the next, depending on their mode of production, rules for the

transmission of land and other resources, marriage practices, and much more. Hulse (1961) has also demonstrated that warfare, for a variety of reasons, can stimulate or retard shifts in gene frequencies. So returning warriors may carry back new diseases, captured females may introduce new genes as may conquerors, and the flight of a population to a new homeland may generate a new genetic mix. By the same token, it is likely that a call to war has a biological impact on the warriors, altering their willingness and ability to risk their life in what may be a mindless cause.

A. PERSPECTIVE ON WARFARE

An adequate, comparative theory of warfare must start with well-developed specific cases, and then synthesize these cases without doing violence to historical truths. In other words, the theory must be able to account for the production of warfare in specific instances, and, with equal dexterity, for the similarities of warfare across cultures. The starting point must be a theory which asserts that social action, especially as warfare, is never a mechanical causality. Rather, there must be a fundamental integration between the agents and the practices and institutions. The same history must inhabit both the soldiers and the institutions of war, so that in the words of Bourdieu (1982:306) history "is reflected in its own image" and soldiers, appropriated by a state of war, unquestioningly appropriate things inhabited by the same state. It is not only, for example, that ethnocentrism (or in-group, out-group relations) drive societies to war but the potential to initiate war leads societies to draw lines of demarcation. In the same vein, those who are involved in war (soldiers of various ranks) are imprisoned by the nets they cast over one another, motivating one another to combat even if they only

reluctantly accept the reason given for the combat. An account of warfare must, in other words, be specific and move on several fronts at once, without unduly weighting any one factor.

I would like at this point to take up a specific case study and try to illustrate a situation where a society which had not engaged in war for more than a generation, indeed had embraced the understanding that economic development required the renunciation of war, is moving towards conflict once again. Hopefully, focusing on a specific circumstance, and adopting a non-reductionist viewpoint, will offer some insight for the development of a more general model.

THE NEW GUINEA HIGHLANDS

The Maring form a distinct cultural and linguistic group living in the interior Highlands of Papua New Guinea (located in the Western Pacific and the second largest island after Greenland). Their homeland consists of some 350 square kilometers of steep, rugged, and heavily forested terrain straddling the slopes of the Bismarck Mountains and the border between Western Highlands and Madang provinces. Those who live in the Jimi Valley are affiliated politically with the Western Highlands and those of the Simbai Valley, with Madang. Land ownership follows the geometry of the mountainous environs and territorial units cultivate vertically banded strips that extent from the valley floor to the mountain crest. Considerable variation in altitude and heavy forestation permit production of a wide variety of crops and practice of a classical form of swidden agriculture. The society is internally organized into more than twenty clan clusters whose constituent clans are aligned through a history of intermarriage and material exchange. Marital and material alliances between Simbai and Jimi clan clusters are

the rule and constant traffic between valleys has accelerated with pacification.

INTRODUCTION TO MARING WARFARE

The sweep of recent years has witnessed a resurgence of violence in the Western Highlands that recalls an older tradition. But the threat is not of a return to tradition—the resurrection of an earlier practice—but that clansmen will enlist violence in the service of modernity. I have interviewed more than one weekend warrior, Mt. Hagen men who work for government and business during the week, only to leave on Friday afternoon to fight (See Meggitt 1977).

Traditional warriors, the Maring have for the past quarter of a century been at peace, a peace they perceive as lasting and durable despite the memorable accounts of conflict which are emblazed in their oral history. Nonetheless, violence is never out of the question altogether and occasional homicides still do occur. More importantly, many clansmen are again coming to see violence as an effective political and economic tool. Indeed, I have heard it said that the success of the Mt. Hagen Melpa in gaining concessions from the national government lies in their return to warfare. In 1980, both Banz and Kol, the two cardinal centers which lie between Mt. Hagen and Jimi Valley, were trapped in political dispute, spilling over into violence. And talk of warfare again has a place at the night fires when men of power talk about the problems and politics that beset them. For now it is "tok tasol," the mere whirring of the imagination, but within this decade it may be a reality if government initiates do not release the social pressures which well within Maring society. Economic development and the encroachment of modern institutions are generating pressures for which there are no peaceful indigenous solution.

Traditionally, war erupted when a clansmen of one cluster killed a member

of another cluster. In such cases, a principle of balanced reciprocity prevails and the clan cluster of the victum is compelled to seek revenge. This principle also encourages the continuation of violence, as a side which has suffered more deaths in a particular round of warfare feels obligated to initiate a new round of fighting. More than a strictly military affair, warfare activates the ritual system. Warriors try to align themselves with the Red Spirits, or the spirits of those who have died in previous battles, by performing a complex ritual in which fighting stones are hung from a center post of the special ritual house. The ritual formally states that the relationship between combatants is one of sanctified enmity and that it is moral to kill the opposition.

In many instances, the war dragged on sporadically for months. Oral histories tell the occasional rout of one of the parties, and the destruction of enemy grounds by the victor. This entailed the uprooting of pandanus trees, killing of pigs, burning of houses, to cite only the most prominent. However, warfare does not lead to an appropriation of the lands of losers, because victors are fearful that the spirits of their enemies will seek revenge if they use the territory.

In terms of its social position, the material, psychological and ritual preparations, the staging of the battle, the impact of victory or defeat, warfare was central to the making of Maring society. The status and self-image of a clan cluster rode on its military prowess. For men warfare was integral to their construction of gender identity. It was a wholly make undertaking that was not only a statement of power but a performance, made more significant by the fact that in local epistemology the truth of the word remains ever unknown until the deed.⁵

Warfare was the culture's social means of exemplifying maleness just as gardening is its natural means of exemplifying femaleness. Accordingly, men say in moments of candor that the distance between male and female lines converges as

one moves into the present. One aspect of this more remarkable statement, which is no less than a summation of sexual identity in modern times, is that men fought not only to display power and dispell any traces of uncertainty as to their manhood, but to insure the certainty of its rewards: for the economy of power increases with and in proportion to its expenditure.

National government was imposed on the Maring in 1955 and the last wars date from this period. These wars were apparently the most violent ever fought, the death toll sometimes eclipsing a hundred as tactical innovations, such as ambush and flanking maneuvers, were brought to bear. Not surprisingly, the clan clusters who were driven from their land have not easily forgotten their wounds.

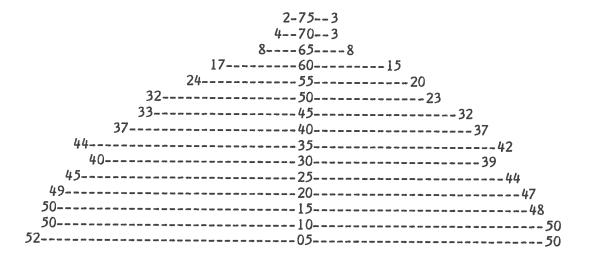
The first order of business for the Australian government was the institution of a permanent peace, the surpression of warfare rightly perceived as the key to local submission to a higher polity. Increasingly and with less reservation people came to accept formal legal remedies, and acquired the skills to use them to their own best advantage. Almost overnight, the court became a political arena in which old wars were renewed on new terms. A persuasive ideology flowered around this promise of legality; the attitude towards violence was used to draw a sharp horizon between traditional and modern life, as if "the law" was a ladder to a higher social world. Thus the equation so often announced at pulbic meetings: tradition: warfare: modernity: peace. In fact, there is much historical revision afoot, for the negotiation of dispute and the levy of compensation have always existed, though not in such a codified version. More to the point, traditional enmities have not died peacefully; and a hard-eyed assessment is that the court room, the local government council chambers, and the gaming boards are the current battle grounds. In essence, the new ideology belies a more enduring tradition.

All of this does not mean that the culture must choose between war and

legality, for there is always the option to integrate them into a more encompassing set of strategies. Indeed, this is always the case with practice which uses the generative schemes of culture to shape itself to everchanging social conditions. Warfare must thus be seen as an articulate cultural response that draws on many social resources and traditions. It is what I call a consolidating or assimilative practice, one whose major purpose is to fashion elements from separate domains into a social form capable of accomplishing the current cultural objectives. There is both a theoretical and practical implication to this understanding. Without going into detail, a structuralism which perceives warfare as a conspicuous outpouring of social anomie, or a functionalism which looks to an underlying ecological reality, always underestimate the totalizing significance of war. The problem is not to discover the causes of warfare—any more to discover the causes of ancestor worship, an axe, or a kin term; all are instruments in the service of goal-directed behavior. The task for indigenous advocates of peace, as well as outsiders, is to find ways of accomplishing the same objectives at lower social cost.

THE PRESSURE OF MODERNIZATION

The size of Maring groups, especially those in the vicinity of a health center, is on the upswing. Consider the demographic profile for the Kawatyi cluster whose pyramidal structure indicates a population boom. The advent of health facilities, changing attitudes towards



Totals: males 496 females 470

hygenine and medicine, and the belief that numbers translate into social power have ignited this trend. Significantly, the benefits of watchful sanitation, health care, and good nutrition have all become associated with the modern world view, the campaign for these improvements publicly promoted by elected officials. By the same token, family planning has received little notice, both because Western medicine is traditionally clinicly oriented and because clansmen hold that the power and prestige of a group demand an upward population spiral. In addition, health centers are under the auspices of the Anglican church which is never anxious to encourage birth control.² Population growth is a function of the convergence of indigenous and external beliefs and practices.

The relationship between population size and land pressure is defined by the principles of land use and their practical manipulation to serve social ends. Onr aspect of pacification was that the boundaries of clan clusters were frozen at that point in time. Seemingly necessary, and fair besides, this act has proven troublesome (LiPuma 1982b). Formerly, boundaries fluctuated with the expansion and contraction of neighboring groups. Spatial discontinuity at the border made it possible to encroach on foreign land. Moreover, the borderland was often

ambiguous, thus encouraging the use of neighboring lands on the grounds that it was one's own, if not for gardens at least as a source of raw materials. This zone of ambiguity, once a social mechanism for modulating man-land ratios, is now the scene of much legal confrontation. Often it is very possible for both sides to claim legitimately that their forefathers cultivated a certain tract of land. To make matters worse, because it is usually impossible to establish primacy the issue cannot be easily resolved through legal channels.

Modernization has also seen the advent of cash cropping on a major scale, with coffee dominating production. From the standpoint of the community's welfare, coffee is protein on the vine inasmuch as growers use the monetary return to purchase tinned fish and meat. As a Maring diet is deficient in protein (Buchbinder 1973) this is clearly a boon to nutrition so long as vegetable foods remain available. But coffee not only aids and abets population growth, it consumes appreciable and valuable garden land. I estimate that producers allocate as much as 10% of such land for coffee production. Cash cropping in conjunction with population increase means that greater and greater amounts of land must be put under cultivation. And Maring are very much aware that fallow periods are falling rapidly, dropping as dangerously low as three years for some. This shortening of fallow naturally reduces fertility which forces more land to be cultivated. So the inevitable cycle of less yield for more acrage begins, a cycle which induces land pressure in the absence of countervailing measures. The current local thinking is that the Jimi Valley people must mobilize enough political muscle to convince provincial authorities to send them fertilizer. Such action is unlikely and would not, in any case, resolve the contradiciton.

Many clansmen, particularly those belonging to the larger clans, admit that they face a severe and growing land shortage. A scarcity of land takes on a deeper significance because its effects reverberate throughout the system. In that

land is the social issue on which the organization of kinship and marriage depends, any specific disruption to the practices of land use undermines social reproduction in general. Land is instrumental to the construction of kinship. Maring believe that the confluence of male semen and female blood creates a child in the image of its parents (LiPuma 1980). Bodily substances and tissue diminish or weaken with time and thus individuals must replenish these substances for the sake of their wellbeing. food is the principal means of renewing the body; it is the object of mediation which transmits the substance of the land to those who live from it. Thus persons who eat the same food or food sown on the same land bear a cosubstance relation. And, as the culture defines kinship in terms of co-substance, it follows that co-consumers are to varying degrees kinsmen. Within the clan, the free rotation of land, labor, and planting material is a primary means of binding its constituent subclans: of constructing a consubstantiality that defines agnation. Unfortunately for some clans, land shortages have seriously impeded this flow as the subclans vie to protect their rights and interests; some talk of second and third generation immigrants being asked to return to their original (and certainly now foreign) homeland: and there has been a rising incidence of intra-clan land disputes: all unheard of scarcely a generation ago and all telling signs of social disruption.

The transfer of land is also crucial to the making and maintenance of affinal relations, for along with pigs, money, and military assistance, land is an indispensible element of affinal compensation. Such gifts usually take the guise of cultivation rights to some choice parcel of land, and the prospects of obtaining this return is a leading motive for the contraction of marriage. The flow and counterflow of land is part of the maintenance work which keeps the affinal relationship on course and running smoothly. The implications are magnified because the intermingling of gardens, cooperative production, and the trading of cultigens

serve to unify the clan cluster. It oils the exchange relation at the same time that it promotes a co-substance tie. Thus, from all points of view, a land shortage disrupts social reproduction, making it all but impossible to fully realize the symbolic and material interests of the clan. To further inflame the situation, the end of warfare has permitted marriage relations to expand so that marriages between geographically remote clans now occur. This distance precludes the possibility of land transfers and thus access to needed lands. This confers a greater significance on those land exchanges which can be made, and just at the point when such exchanges are most difficult. Thus it is that symbolic and material conditions conspire to make land pressure a pressing and progressively growing problem.

LOCAL PERCEPTIONS AND PERSPECTIVES

Although Maring tend to embrace modernization, perceptively aware they are making a virtue out of necessity, they are less than enthusiastic about the present state of affairs. They are particularly vexed by the fact that both national and provincial government display little concern for their well-being, offering neither political recognition nor practical assistance. The general feeling is that the people of the Jimi Valley have no political representation to speak of, no real voice in the making of their own future. This disaffection has crystalized around the conspicuous failure to complete the proposed road linking Koinambe with Mt. Hagen, thus cutting them off from economic and social benefits they hold dear. The road is an elegant and appropriate symbol of this knawing disaffection in that modernity is often called the "new road." Its absence is thus a symbol of the failure of an idea as well as practice. It it quite understandable, then, that the

Jimi Valley people have expressed a wish to withdraw from the Western Highlands and become part of Madang Province. In essence, Maring believe that the government has turned a deaf ear to their pleas for recognition and essential service, concerned only with townspeople and never the rural communities.

With the development of rural education, a growing knowledge of the outside world, and a taste of the material benefits which lie ahead, the social expectations raise people's vision of the minimal conditions for a good life. Where before nearly everyone was content with the labor of cultivation and a sparse technology, today modern goods and services are in demand. What several years ago was a luxury item is now seen as a necessity, the content of the economic categories shuffled upwards—and quickly acquiring not only a cognitive but an emotive basis in the psychology of desire. The lines redrawn on the economic plane continue into the social, heavily affecting the processes of socialization.

Perhaps the most significant example is that school leavers (usually from grade six) are seldom content to make their life in the village even when they have little chance of finding employment elsewhere. The result is a floating contingent of young men with no future in town and wanting none in the village. Concomitant with modernization and rising expectations is a dependence on exogenous conditions and organizations beyond local control. So, there is a growing sense of impotency as people see the bottom fall out of the coffee market or the price of imported goods skyrocket. The Maring have been forced to strike a bargain with the modern world: a better standard of living in exchange for a lower standard of control and personal involvement.

CONCLUSIONS: SPECIFIC

One way to assess the future of violence is, that given the prevailing social conditions and current interests and objectives, warfare is a highly practical response, especially should the state of affairs continue to edge the system closer to its social limits. Consider that the wisdom to abandon the ways of war, at first imposed on an unwilling people, was later embraced wholeheartedly by them as the practical road to a better life. Just as warfare was a pragmatic judgment, a decision that cultural objectives could best be achieved through violent means, so the swing of the pendulum towards a peaceful legality was made for the very same reason. The awful possibility is that a return to warfare might again be thought practical, and not with the intention of forsaking the gains of a legal system, but of including both as complementary means in a more encompassing political strategy. The possiblility is that people will again see violence as a means of resolving the imbalance between a desire for more land and its unavailability; of reviving the now dying distinction between men and women; of finding a sense of purpose for the young men now adrift between traditional and modern lifestyles. Also, the influence of the Anglican mission, always a strong voice for peace, is waning, itself associated with the failing promise of the past two decades. Understand that my purpose here is not to justify conflict, less to see it as anything but destructive to community and country alike, but to appreciate from a Maring point of view why conflict may reignite in the Jimi as it has in so many other areas of the Highlands.

It should be clear from the foregoing discussion that if future conflict erupts the following factors will be implicated:

- 1. population expansion of a kind previously unknown.
- 2. increased land pressure as clansmen devote more and more land to cash cropping, and fallow periods fall.
- 3. rising community frustration over the impotency of the local leadership

to obtain government support.

- 4. the disruption in food and land redistribution reverberating through kinship and marriage practices.
- 5. the symbolic linkage between warfare and definitions of manhood and status (See Lowman 1971).
- 6. a tradition of warfare coupled with the perception that war will be effective in ataining desired objectives.
- 7. lack of employment opportunities for semi-educated youths.
- 8. the unpredictable and uncontrollable fluctuations in the price of commodities, particularly coffee exports.

It is certainly not too late to ventilate the pressures which are brewing within the Jimi political sphere. It may even be the case that local leaders will find within their own culture the means to prevent violence—whether or not the government plays an active part. But the most likely scenario is that government failure to address the growing problems, such as promoting birth control and employment opportunities through road construction, will allow the political system to continue on its downward trajectory into violence.

CONCLUSIONS: GENERAL

A Maring warfare is organized in terms of kinship and principles of social organization. But the relations of kinship differ greatly from those of biology, and there is only a general correspondence--based, of course, on different principles--between genetic affinity and military alliances. In fact, a common feature of Maring warfare is that a clan which is allied to two other clans, who are themselves enemies, may wind up with its membership on both sides of the battle field. sometimes this serves to repress or inhabit fighting as the "relatives in between" will act as intermediaries. But often as not, the conflict occurs.

For Maring as for other groups, warfare is a named species of event; indeed it is subdivided into types of warfare based on the relationship between combatants and the severity of the fighting. There is clear-cut difference between homicide and deaths due to warfare. This differences, which has great consequences or practical action, may be generated by a linguistic performative. That is to say, there are certain grammatically distinct linguistic forms which have the power (when uttered in the correct social context under the aegis of the proper authorities) to declare a change in the state of affairs. The ability of such words as "This country declares war" to generate such changes is rooted in conventionally understood criteria and the structure of the grammar of the language in question.

The example from New Guinea also illustrates the broader point that, even in the most circumscribed cases, warfare synthesizes a variety of motives. Maring fight because they possess a sense of honor and live in a society where acts of honor have economic and political implications. And, given the power of society to define the terms of peoples' dispositions, this sense of honor which compels clasmen to seek revenge possess clansmen as much as clansmen possess it. Warfare is also the activity which exemplifies what it is to be a man. The rituals of war which differentiate men from women also, because they reverberate throughout the social economy, differentiate men's tasks from women's tasks. By the same token, wars were fought for reasons more familiar to the West, such as disputes over the ownership of a tract of land.

There is also clear evidence that as two groups move closer to warfare, the level of aggression between individual members needed to ignite the conflict, becomes less and less. Indeed, what counts as aggression is itself part of the semiotics of social interaction. These may include a hostile gesture, increased military preparedness, a spoken word, and much more. Observe that what counts as

an act of aggression depends on the coordinated intentionality of the parties in question. An ally who courts a woman is making a gestured intended to deepen the alliance, an enemy who courts a woman is committing an act of hostility. Similarly, the state of war may itself by signalled through a variety of signals, such as the sacrifice of a pig to the ancestor spirits of war, which bear no intrisic connection to the act of war itself. To summerize what I have said, human systems of warfare and aggression are based on a structure of mediations; that is, they are mediated by historical, linguistic, semiotic, economic, and psychological factors, and as importantly, by the interaction of such factors in specific contexts.

FOOTNOTES

- Valley and 4 months in the Simbai Valley under grants from the National Science Foundation and Wenner Gren. A preliminary version of this paper was delivered at the University of Papua New Guinea. I would like to thank Sarah Meltzoff and William Heaney for comments which have served to improve the end product; and Gou whose patience and understanding improved the original one.
- 2. Much of the anthropological literature has focused on the relation between warfare and social organization. The evidence indicates that warfare may be instrumental in promoting cohesion, stratification, and disorganization depending on both circumstance and culture. There is a general concensus that warfare is linked to the maintaining of identity and social boundaries, to the increase of internal cohesion, to the definition of the group and the relative involvement of the members, and to a redefinition of power and authority. Note, for example, that Chagnon (1968) describes how a village headman will attempt to subdue internal warfare or conflicts because he fears that a fragmentation of the village will render it more vulnerable to attach. Similarly, Goldman illustrates how warfare was a major contributor to stratification in Polynesia. Benedict (1959) argues that warfare may have very decisive disorganization effects, noting that in many indigenous societies warfare is relatively non-lethal with respect to the existence of that society.
- 3. Mead (1968) has spelled out the social and psychological sanctions surrounding homicide as opposed to warfare. In fact, she considers the legitimization of murder for war as one of war's primary defining features.
- 4. Speaking generally about theories of war, Otterbein (1973) writes that "sixteen approaches are used to classify the various studies of primitive warfare. As half of the approaches treat war as a dependent variable (i.e. as a phenomenon to be explained by independent variables) and the other half treat war as an independent variable (i.e. as a phenomenon that explains certain dependent variables, the theories can be grouped into two major categories: (1) causes of war and (2) effects of war. It is possible to pair the approaches and discuss a cause of war approach and then an effect of war approach.... The paired theoretical approaches are these:

Causes of War (Dependent Variable)

Innate aggression
Frustration-aggression
Diffusion
Physical environment
Goals of war
Social structure
Military prefaredness
Cultural evolution

Effects of War (Independent Variable)

On species
Ethnocentrism
Acculturation
Ecological adaptation
Patterns and themes
On social organization
Survival value
Origins of the State

- 5. Rappaport (1968) has described Maring warfare with detail and depth though perhaps underplaying the complexity of the motives involved. Vayda (1961) has also written about Maring warfare from the highly reductionist standpoint of ecological adaptation.
- 6. Other major anthropological studies of warfare include Bell (1935), Bram (1941), Ekvall (1964), Ellis (1951), Leach (1965), Paul (1968), Richardson (1960), Kiefer (1969), Hunt (1940), Kock (1970), Service (1962, 1970), and Wallace (1968).

REFERENCES

- Bell, F.L.S., Warfare Among the Tanga, Oceania 5:253-79, 1935.
- Benedict, Ruth F., The Natural History of War, In An Anthropologist at Work, ed. M. Mead, pp. 369-82, Boston: Houghton Mifflin, 1934.
- Bram, Joseph, An Analysis of Inca Militarism, American Ethnological Society Monograph no. 4, 1941.
- Buchbinder, G., Maring Microadaptation: A Study of Demographic, Nutritional, Genetic and Phenotypic Variation in a New Guinea Highlands Population, Unpublished doctoral dissertation, Columbia University, 1973.
- Chagnon, Napoleon A., Yanomamo--The Fierce People, Natural History 76:22-31, 1967.
- Divale, William T., An Explanation for Tribal Warfare: Population Control and the Significance of Primitive Sex-Ratios, New Scholar, Fall, pp. 173-92, 1970.
- Ekvall, Robert B., Peace and War Among the Tibetan Nomads, American Anthropologist 63:1119-48, 1964.
- Ellis, Florence H., Patterns of Aggression and the War Cult in the southwestern Pueblos, Southwestern Journal of Anthropology 7:177-201, 1951.
- Goldman, Irving, Status Rivalry and Cultural Evolution in Polynesia, American Anthropologist 57:680-97, 1955.
- Kiefer, Thomas M., Tausug Armed Conflict: The Social Organization of Military Activity in a Philippine Moslem Society, Philippine Studies Program, Research Series no. 7, Chicago: Department of Anthropology, University of Chicago, 1969.
- Koch, Klaus-Frederich, Cannibalistic Revenge in Jale Warfare, Natural History 79, no. 2:41-50, 1970.
- Leach, Edmund, The Nature of War, Disarmament and Arms Control 3:165-83, 1965.
- LiPuma, E., Economy and Society Among the Maring, Anthropology Tomorrow 1:1-15, 1979.
 - Sexual Asymmetry and Social Reproduction among the Maring of Papua New Guinea, Ethnos, 1-2:34-57, 1980.
 - The Spirits of Modernization: Maring Concept and Practice, In <u>The Use and Abuse of Alcohol in Papua New Guinea</u>, Ed. Mac Marshall, Boroko, Papua New Guinea: IASER, 1982a.
- Lowman, C., Maring Big-Men, Anthropological Forum 2:199-243, 1971.

- Mead, M., Alternatives to War, In <u>War: The Anthropology of Armed Conflict and Aggression</u>, ed. M. Fried, M. Harris and R. Murphy, pp. 215-28, Garden City, N.Y.: Natural History Press, 1968.
- Meggitt, M., <u>Blood</u> is <u>Their</u> Argument, Palo Alto, California: Mayfield Publishing Company, 1977.
- Paul, Benjamin D., The Direct and Indirect Biological Costs of War, In War: The Anthropology of Armed Conflict and Aggression, ed. M. Fried, M. Harris and R. Murphy, pp. 76-80, Garden City, N.Y.: Natural History Press, 1968.
- Rappaport, R., Pigs for the Ancestors, New Haven: Yale University Press, 1968.
- Service, Elman R., <u>Primitive Social Organization</u>: <u>An Evolutionary Perspective</u>, New York: Random House, 1962.
 - War and Our Contemporary Ancestors, In <u>War:</u> The Anthropology of Armed Conflict and Aggression, ed. M. Fried, M. Harris, and R. Murphy, pp. 160-67, Garden City, N.Y.: Natural History Press, 1968.
- Vayda, Andrew P., Expansion and Warfare Among Swidden Agriculturalists, American Anthropologist 63:346-58, 1961.
- Wallace, Anthony F.C., Psychological Preparations for War, In War: The Anthropology of Armed Conflict and Aggression, ed. M. Fried, M. Harris, and R. Murphy, pp. 173-82, Graden City, N.Y.: Natural History Press, 1968.