Book Reviews

The Anthropology of Warfare

War in Ecological Perspective. Persistence, Change, and Adaptive Processes in Three Oceanian Societies. ANDREW P. VAYDA. Plenum, New York, 1976. xiv, 130 pp., illus. $14.95.

Few aspects of human social behavior seem to have been more neglected by anthropologists than war. Partly this neglect derives from the fact that most 20th-century anthropologists have engaged in fieldwork in situations where colonial powers already had ended native political autonomy and suppressed indigenous warfare. Beyond this, many anthropologists have tended to emphasize harmonious aspects of primitive social life, as, for example, in the classic structural-functional approach inspired by Emile Durkheim. Lately, however, some significant anthropological research has begun to focus on warfare, its causes and consequences. Unfortunately, this new concern comes somewhat late in terms of opportunities to gather new field data from non-Western, nonstate societies. Almost no truly independent primitive societies are left on the planet. Even two decades ago, only a few isolated natural sanctuaries, notably in New Guinea and tropical South America, preserved the ecological and military-political autonomy of some nonstate societies. It is on these cases that recent anthropological research on primitive warfare and its ecological relationships is particularly dependent. This work by Andrew P. Vayda, therefore, assumes some importance since it includes data the author began collecting in 1962 among the Maring of New Guinea, only half a dozen years after indigenous warfare had been terminated by the Australian government.

The approximately 7000 Maring dwell in eastern highland New Guinea, subsisting through slash-and-burn horticulture, pig husbandry, and some hunting and gathering. Vayda found there that primitive warfare may be a much more complex process than is commonly realized. In particular, he discovered that three phases of war escalation involving ever greater intensity could be distinguished among the Maring: nothing fights, true fights, and routs.

The "nothing fights" took place at prearranged fight grounds on the border between two opposing groups. In this phase, fighting was restricted to the use of the bow and arrow, and at the end of each day's fighting the warriors retired to their home villages for the night. With the warriors protected by large wooden shields, deaths were rare, and sometimes these fights continued daily for weeks until the combatants, shouting across the border at one another, either arrived at a settlement of their dispute or escalated hostilities to the second phase, the "true fight." A factor in the decision to escalate was whether one side had discerned significant weakness on the part of the enemy during the nothing fight.

In the true fight, combat took a more serious turn, with the introduction of hand-to-hand combat involving axes and jabbing spears. Even so, the close-combat weapons were employed only to dispatch the occasional unfortunate enemy warrior who had been hit by an arrow or throwing spear. Thus, this phase of warfare could go on for months without heavy casualties. Each morning the two opposing forces met at the fight ground except in the case of rain or when, by mutual agreement, they took the day off to rest and repair their shields. Sometimes they took a respite of several weeks to clear the forest for new gardens.

During this true fight phase, the opposing sides were commonly assisted by allied forces from neighboring groups, who, being usually less committed to the conflict, were often instrumental in negotiating a settlement or armistice. If the true fight stretched out for some weeks without an armistice, the allies of one of the two sides would sooner or later go home to tend to their crops and other work. The side losing its allies first then was likely to be routed by the more numerous enemy, who would destroy the houses and gardens of the losers and indiscriminately kill any men, women, and children who had not fled. The defeated group usually had to relocate itself at some distance in order to avoid further hostile contact with the victors.

Vayda emphasizes that the escalation of war from one phase to another was not inevitable, and that the groups could return to a status quo ante-bellum at the end of any of the three phases. He also points out that the immediate causes of entry into war, such as revenge for murders, were not the same as the causes of escalation between phases, nor were they directly connected with the consequences of complete escalation, such as the acquisition or loss of territory. There are obvious parallels to processes of war in the modern world.

The author discusses not only the warfare of the Maring, but also the less recent practice of warfare among the Iban people of Sarawak and among the Maori of New Zealand. Using data from these three cultures, he suggests that warfare has an ecological connection in that "war processes can be effective in counteracting stresses associated with population pressure." Specifically, he ascribes a homeostatic regulating function to the traditional war processes.

In taking this position, Vayda represents a school of ecological anthropology that hypothesizes the self-regulation of traditional primitive populations as part of living systems. In this approach, which is inspired by the ecology of nonhuman populations, it is assumed that there is some maximum environmental carrying capacity for a primitive human population in its particular locale and that mechanisms that regularly reduce population pressure, even including limited, regular warfare, have an adaptive function in maintaining the system. The assumption that there is a maximum carrying capacity of the environment with regard to primitive human populations, however, has by no means been demonstrated to be valid, especially for peoples who are domesticated food producers and therefore capable of increasing the carrying capacity of their environments through further intensification of plant cultivation or animal husbandry. All three groups described in this book, the Maring, the Maori, and the Iban, are domesticated food producers. Therefore it is not at all clear in these cases what relation the regular reduction of population pressure through limited warfare has to the survival of the human populations involved. When Vayda talks about the adaptive value of such limited warfare, it seems that he is referring to its value for the homeostatic maintenance of the pre-

existing ecocultural system. This kind of use of the concept of adaptation, in which the maintenance of the system seems to assume greater analytic reality than the survival of the population, seems particularly dangerous when applied to warfare. It is a weakness that can also be discerned in approaches used by some general systems analysts with regard to contemporary defense planning.

This problem aside, however, Vayda's book makes a significant contribution to our knowledge of primitive warfare by bringing together data of considerable interest. It must also be noted that his approach, however questionable its assumptions, has been instrumental in the gathering of important kinds of ethnological and ecological information that most other anthropologists either have overlooked or have investigated inadequately.

MICHAEL HARNER
Graduate Faculty, New School for Social Research, New York City

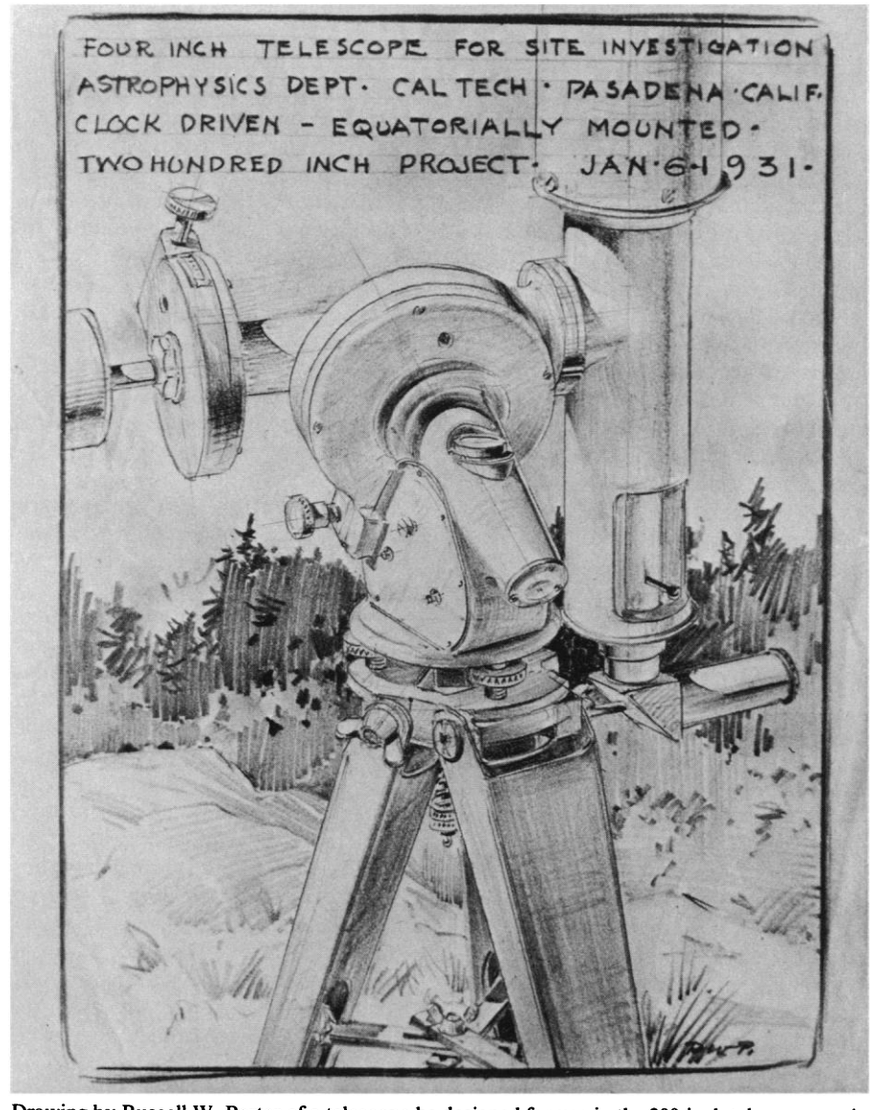
Adventure and Telescopy

Russell W. Porter. Arctic Explorer, Artist, Telescope Maker. BERTON C. WILLARD. Bond Wheelwright, Freeport, Me., 1976. xiv, 274 pp., illus. $12.50.

To many people Russell W. Porter is best known for his superb drawings for the 200-inch Hale telescope. Others remember him as the "patron saint" of amateur astronomers. Yet long before he became interested in astronomy, Porter, an architectural student at the Massachusetts Institute of Technology, was pursuing the "white goddess" that led him, as artist and surveyor, in search of the North Pole. His explorations took him from Greenland (with Frederick Cook) and Baffin Island (aboard Robert Peary's ship) to Franz Josef Land with the Baldwin-Ziegler expedition, then with Anthony Fiala on a whaler that was crushed in the arctic ice and sank, stranding the explorers for years. During those long winter nights in the "land of desolation," as he made astronomical observations to determine time and position, Porter gained an enduring love of the stars.

Berton Willard, an explorer and member of the Springfield Telescope Makers (an amateurs' club founded by Porter in Springfield, Vermont) has told well the story of his subject's varied and adventurous life. His account of Porter's polar explorations is based on Porter's own account, "Arctic Fever" (shortly to be published by the University Press of Virginia under the title *The Arctic Diary of Russell Williams Porter*), and is illumined by Porter's fine drawings, watercolors, and photographs. Willard tells how Porter, on his return from the arctic, became fascinated by the art of making mirrors and telescopes and, with his contagious enthusiasm, inspired countless others to flock to Stellafane, the Springfield Telescope Makers' headquarters. This story not only will interest those amateurs who have been caught up by this hobby, it should also inspire others to follow in their path. "Nothing," said Porter, "gives me more satisfaction than realizing that I have helped towards giving thousands of people the pleasure of creating with their own hands a tool to unlock the wonders of the heavens."

Through their common interest in telescope making, a friendship developed between Porter and Albert G. Ingalls, editor of the *Scientific American*. This led to the publication of the volumes of *Amateur Telescope Making*, edited by Ingalls, to which Porter contributed several chapters. This, in turn, led to a meeting in early 1928 with George Ellery



Drawing by Russell W. Porter of a telescope he designed for use in the 200-inch telescope project. Porter's first task as a member of the staff of the project "was to design a small telescope to be used for 'seeing tests'. . . . This was a four-inch refractor with a magnification of 750 diameters. A telescope with such a large magnification allows an observer to study the diffraction rings about a star image and to measure image motion due to the turbulent atmosphere. In this way he can assess the ability of the atmosphere to pass steady and sharp images at any desired site. As a matter of convenience Porter designed the refractor to look only at Polaris. Ten or twelve telescopes were finally made and used for testing sites throughout the southwestern United States in 1929 and 1930." [From *Russell W. Porter: Arctic Explorer, Artist, Telescope Maker*]