

ness and an aggressive distrust of humans who venture too close in boats?

There is yet another example which may be the most significant in terms of the upcoming darting program. It involves the Orca pods which reside just a few hundred miles north of San Juan Island in Johnstone Strait, British Columbia. In the summer of 1983 a fisherman was seen taking some pot shots at two Orcas. Both animals were wounded, neither one died. In the days that followed, local Orca researchers seemed to agree that the entire pod went into retreat when humans attempted to draw near. Once again, the whales communicated a message which the humans were capable of reading. But then, as the days turned into weeks, the message seemed to get hazy. The ability to receive it became more dependent on the methodology utilized by a researcher. Those scientists employing "invasive techniques"—zooming up to the whales in powerboats, following the pods for hours at a time, etc.—observed that pod behavior had returned to normal. But those researchers who employed "benign techniques"—observing from a stationary base, permitting the whales to initiate contact, etc.—continued to note subtle changes throughout that entire summer. One benign researcher believes that the pod never recovered from that shooting.

If this distinction between "invasive" and "benign" seems overstated and arbitrary, then let it be known that it has become the subject of an ongoing and sometimes emotional debate within the halls where marine mammal science is discussed. It is the stuff from which paradigm shifts are known to spring. The International Whaling Commission sponsored an entire conference on the subject just a few years back.

The split demonstrates its greatest significance when we realize that the field methodology of choice biases both the ability to observe as well as the actual behavior of the whales themselves. For example, if the whales do not choose to draw close to a stationary base, then some forms of benign research cannot exist at all. Thus, benign research might best be understood as a method that permits the whales the role of active participant. Therefore, the research itself is much more sensitive, if not vulnerable to subtle mood shifts in behavior. By contrast, an invasive researcher is nearly always able

## CETACEAN SUNSET

The whales smile  
as the still crews gaze  
with lowered sails while  
the whale calf plays.

flip flops  
pirouette  
spy hops  
silhouette

sunset glows  
and stains the water  
like blood flows  
from whales at slaughter

flip flops  
pirouette  
spy hops  
silhouette

But these men pray  
"May your kind increase,"  
and sail away  
on winds of peace

flip flops  
pirouette  
spy hops  
silhouette

Paulette Callen

to motor up on an Orca pod to carry out whatever study he/she wishes to undertake. But one recent study has begun to show clear evidence that the whales, for example, do not vocalize as much when there are noisy motorboats nearby. Whatever data an invasive researcher is able to buy through the power of a fast motor, he/she must pay for with a diminished perception of the whale's own signals.

The darting program certainly fits into the invasive camp. A crew motors up along-