

# TO JUDGE THE PAIN OF WHALES

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On San Juan Island, Washington, a researcher has recently been granted a permit



## SCIENCE

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by the Marine Mammal Protection Agency to shoot "cookie cutter" darts into forty-five Orcas over the next five years. The 1/4 inch wide, 3/4 inch deep sample lifted from within the skin and blubber of the whale will then be analyzed to determine the level of pollutant chemicals as well as the genetic relation among the forty-five. The researcher, A. Rus Hoelzel, hopes "to provide direct evidence that the gene pool of Orcas is much smaller than could be determined by simply counting fins." The forty-five constitute about half of the current population of Orcas who reside in Puget Sound.

Not surprisingly, the issuance of the permit has generated, perhaps, the greatest amount of protest around the Sound since the Oceanarium captures were at their peak a decade or more ago. The objections run the gamut from an outright defense of these whales to exist without any more human invasions to the issue of whether or not the science involved has any lasting merit beyond serving a Ph.D. candidate in his striving for a higher degree. At the heart of the controversy lies the fact that these whales are seen and loved by hundreds of thousands of people. The very image of a scientist poised on the deck of his boat with bow and arrow taut and aimed at the hide of one of "our" Orcas is a matter for intense concern, no matter the science involved.

Both the Protection Agency and Hoelzel have tried to allay public criticism by strongly accentuating the permit provision that requires the presence of an expert on board whose job it will be to judge any negative reaction on the part of the darted whale. If there is, then all parties agree that the project will be immediately terminated. Yet, unfortunately for the advocates of this project, that secondary image of some objective observer with special access to the pain of whales has opened up another whole can of worms. What within the Orcas' behavioral store, the critics want to know, is going to constitute a negative reaction?

Of course the whale may simply ram the boat. Or perhaps it will veer away from the archer at high speed. Some students of Orca behavior worry that the departing Orca may, in fact, keep on going, leading its entire pod away from the darting area for a long time to come. There is a precedent for such concern. Certain Orca haunts were once fa-

vored for mounting oceanarium captures. Now, twelve years later, the whales still avoid them.

Actually, there are many examples of cetaceans reacting clearly and succinctly to harassment by humans. Near Maui researchers have recently documented the Humpbacks shunning a former nursery site soon after commercial water skiing operations were begun. And in Alaska this same Humpback stock has been well-documented in its exodus from Glacier Bay. The issue there was presumed to be aggressive and noisy whale watching boats. Power boats were banned, and the whales started to return. In both cases the whales communicated a clear message which the humans were able to read.

But what if the message is not so clear? What if, for example, a darted whale, a formerly friendly whale, never again ventures within a quarter mile of humans in boats? What if this behavior is first noticed two weeks or a month after the darting occurs? Would anyone be able to state unequivocally that the behavior was a direct result of the dart? And given the off chance that such a conclusion was reached, would it be enough reason to terminate the entire project? Or let us consider the case of the Gray Whale in Baja California who surfaced just underneath a whale-watching boat, spilling all of its human occupants into the sea. One man suffered a heart attack and died.

Some longtime observers of Gray Whale behavior have concluded that the huge animal was probably just acting frisky, if not friendly. After all, there are many instances of the Grays venturing right up alongside small boats to permit the human whale watchers a chance to stroke their skin. Other observers are not so sure. They point to the fact that the species was once called "Devil-fish," a name given by nineteenth century whalers who often witnessed the Grays ramming and capsizing their longboats. Here is a case of similar behavior observed in two instances a hundred and fifty years apart by humans who held very different intentions towards the whales. And although many researchers believe that the whales are intelligent enough to read the different messages, who is capable of pooling the information at hand, to render an objective verdict?

Who can judge the difference between friski-

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-

side an Orca, draws a bow, shoots a tethered arrow, observes any immediate response, and finally returns to shore again. The official monitor will, thus, be privy to any short term and outwardly dramatic communication on the part of the whale. But inevitably the subtle and more longterm variations on that theme must elude him/her. Under the burden of such a conclusion, it seems that both the darting program and the Orcas themselves might benefit from the added input of a simultaneous study that employs the more sensitive techniques of benign research. Unfortunately, there is a catch here. These Puget Sound Orcas travel far and wide within the confines of a very expansive body of water which is constantly brimming with the presence of human beings following them in motorboats. Such an environment severely limits the value of any research that must wait for the whales to visit a stationary base.

By comparison, the Johnstone Strait Orcas reside within a relatively small and unclamored area, which is exactly the reason why so much benign research is practiced there. It is there that the studies in both unraveling Orca language and in the intricacies of interspecies communication between human and whale are currently taking place. Many of the Johnstone Strait researchers are quick to point out that the environment of Puget Sound is much too busy to permit any kind of subtle study. There are simply too many distractions.

It seems relevant to add that out of seven research groups strung out along Johnstone Strait, six of them recently cosigned a letter sent to the Marine Mammal Protection Agency on the very eve of the darting decision and asking that the permit not be granted. Yet despite the fact that the letter reflected a veritable roll call of active Orca researchers, the permit was granted anyway. It also seems worth noting that the sole abstaining signature belonged to a man who had had his own permit rescinded just the year previously. The reason, unnecessary harassment of Orcas, perpetrated in the cause of collecting scientific data.

Thus, the split in methodology is also revealed as a split within the scientific community about what does and what does not constitute valid whale preservation. Consequently, and no matter what the value of either form of research, the actual behavior

of the whales is going to vary tremendously depending upon the school of the observer. It is the classic tale of Rashoman applied to marine mammal science: witnesses to the same crime each report a different event, each chooses a different defendant. Except it may be even more confusing than that. In this case, the event itself must stand accused of fluctuation.

Given this built in confusion, this subjectivity as it were, the very idea of a scientist arriving at a judgment based on "objective evidence" has to be held highly suspect. After all, one might go so far as to define field biology as the objective observation of animal behavior. Where there can be no objective observation, there can be no field biology. Given that impasse, it seems that no one may be capable of rendering a fair judgment about an Orca's subtle and longterm reaction to being darted, especially an expert in marine mammal science.

Under the weight of that too-human conclusion, it seems an overly brash statement of public relations for Hoelzel to defend his project by stating that, in his opinion, the darting will most likely have no effect on the Orcas whatsoever. For example, he claims that when Orcas in Alaska were recently shot at repeatedly by fishermen with high powered rifles, the animals still refused to turn away from the nets for which they were headed.

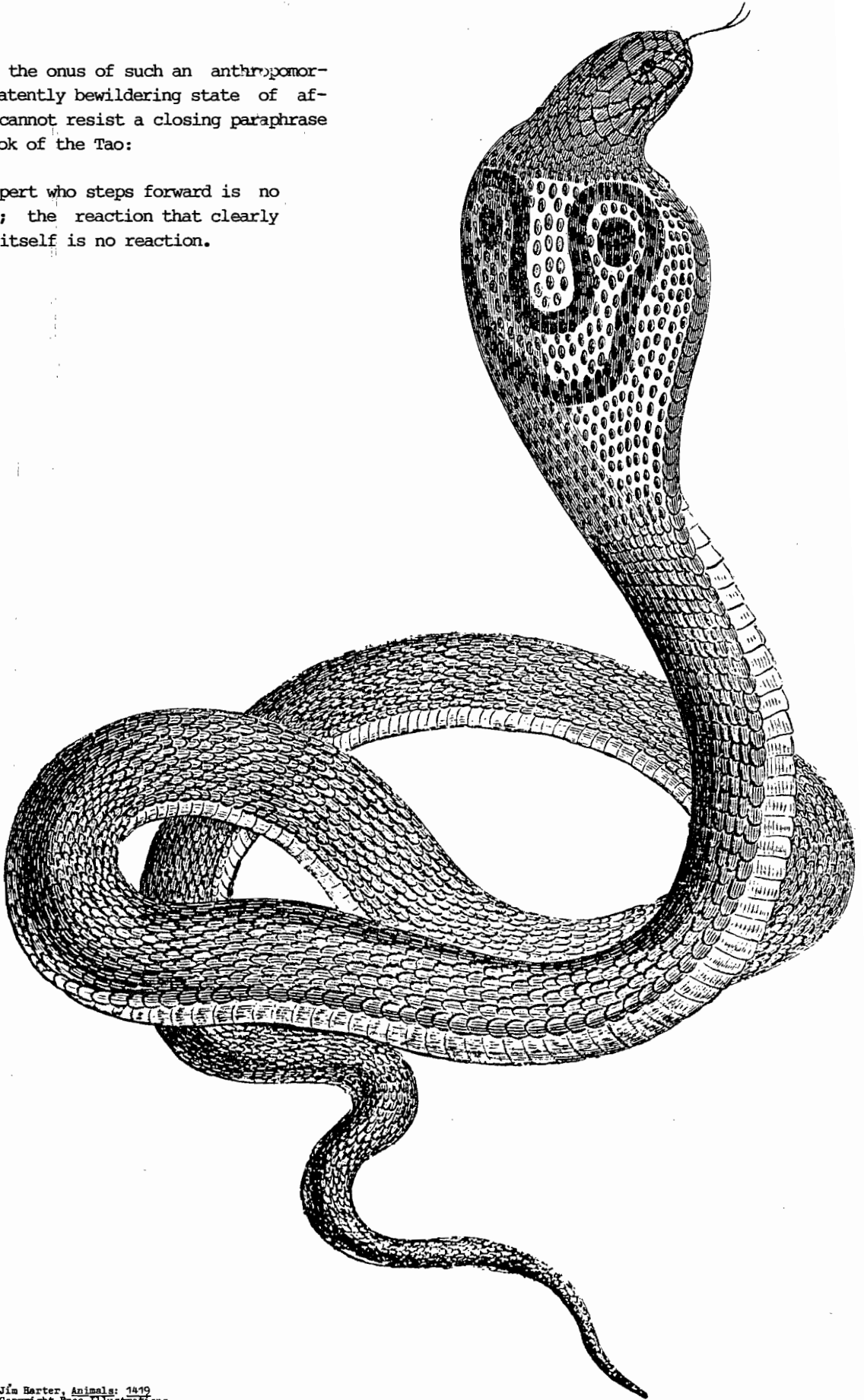
This may certainly be construed as inexplicable behavior on the part of a very beleaguered Orca pod. Given that, might we not do better to presume that here is one more case where the true behavioral reaction might have eluded the grasp of the observer? After all, the fishermen who reported this incident were obviously looking for a reversal in direction. Similarly, one may not feel great confidence in Hoelzel's own ability to serve as one of the judges of the pain of whales.

One must also look askance at the intentions of the Marine Mammal Protection Agency. They are attempting both to safeguard the Puget Sound Orca population and to mollify a suspicious public by proclaiming the presence of "an expert" whose job it will be to judge "a reaction." Who is this expert? Certainly none of the cosigners of that protest letter. What reaction? The whale's reaction or the

judge's?

Given the onus of such an anthropomorphic and patently bewildering state of affairs, one cannot resist a closing paraphrase from the book of the Tao:

the expert who steps forward is no expert; the reaction that clearly shows itself is no reaction.



Jim Barter. *Animals*: 1419.  
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