ORCINUS ORCA: NO PARALLEL OUTSIDE HUMANS

Howard Garrett, Orca Network

IAVIORAL AND BRAIN SCIENCES (2001) 24, 309-382

Culture in whales and dolphins

Short version at: www.orcanetwork.org/nathist/symbolsshort.html

howard@orcanetwork.org www.orcanetwork.org

Full paper at: www.orcanetwork.org/nathist/symbols.html

Abstract: Recent theoretical studies of culture in whales and dolphins have reviewed experimental research on captive animals and patterns of behavioral variation found in wild populations. Captive studies of cognitive processes in dolphins indicate the capacity for symbolic communication in dolphins. The ethnographic approach, based on evolutionary ecology, has found evidence that the vocal and behavioral cultures of killer whales (Orcinus orca) appear to have no parallel outside humans. To date, however, no published theory has provided a synthesis that accommodates both the experimental findings and the ethnographic evidence and clarifies the form of social learning that underlies both.

The theory of symbolic interactionism, borrowed and adapted from sociology, provides a conceptual framework for integrating

the experimental "process-oriented" and the ethnographic "product-oriented" perspectives. Symbolic interactionism may help account for the divergent and complex cultural traditions found in sympatric orca populations. Prevailing theoretical paradigms (behaviorism, evolutionary ecology, cognitive ethology) do not address whether any non-human animal uses symbols extensively in normal communication, or if use of symbols substantially affects behavior. The theory of symbolic interactionism synthesises experimental and ethnographic observations that suggest cultural transmission and may clarify the learning mechanisms used by cetacean species.

SYMBOLIC

We act toward things on the

The meanings of such things

interactions one has with others;

derive from the social

basis of the meanings the

things have for us;

INTERACTIONISM

Herbert Blumer

These meanings become

modified through an

interpretive process;

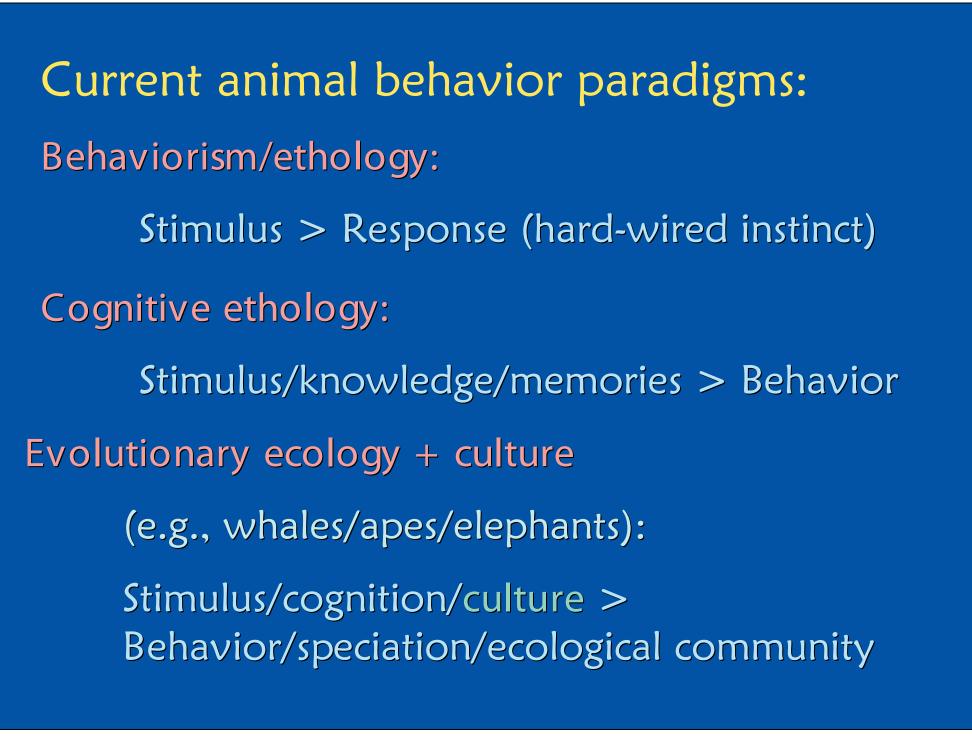
account, or *empathize*, with

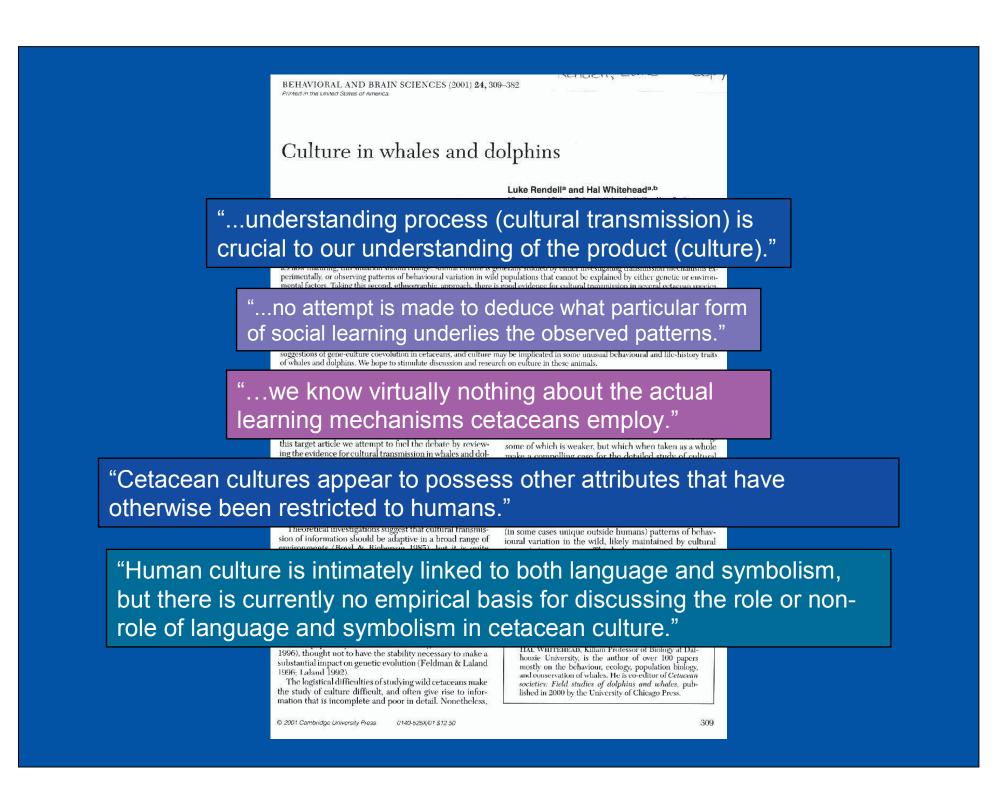
Society is constructed by a

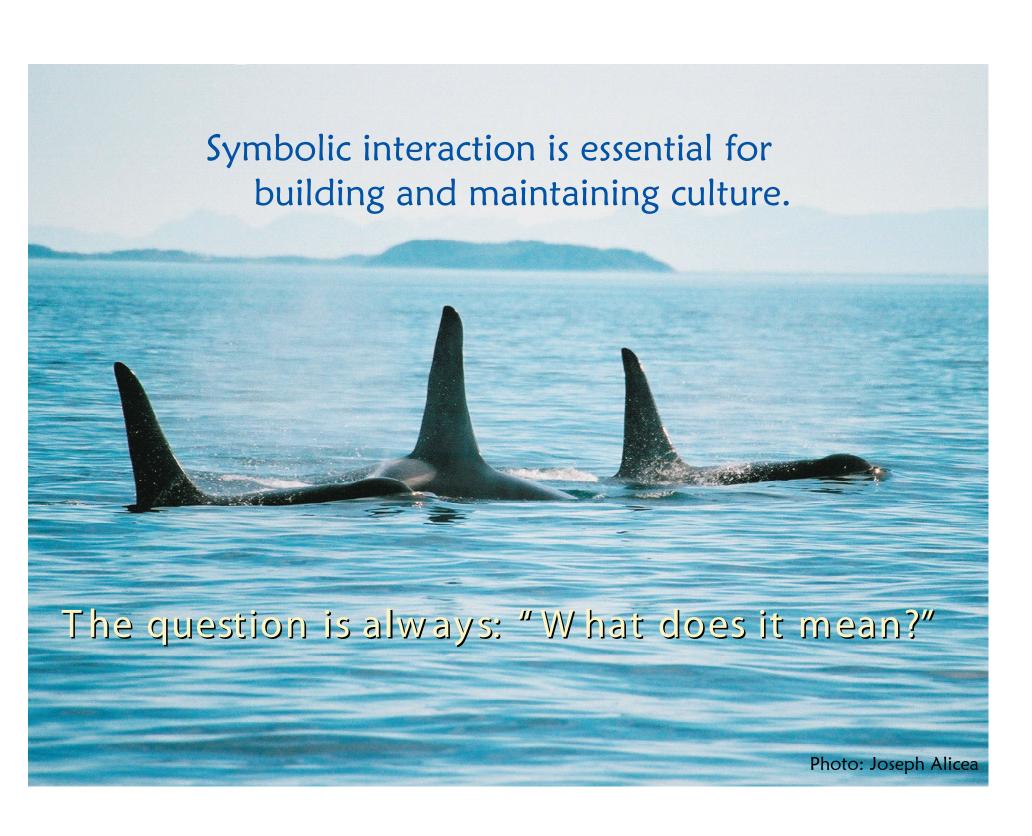
process of interpretation and

other individuals; and,

symbolic interaction.











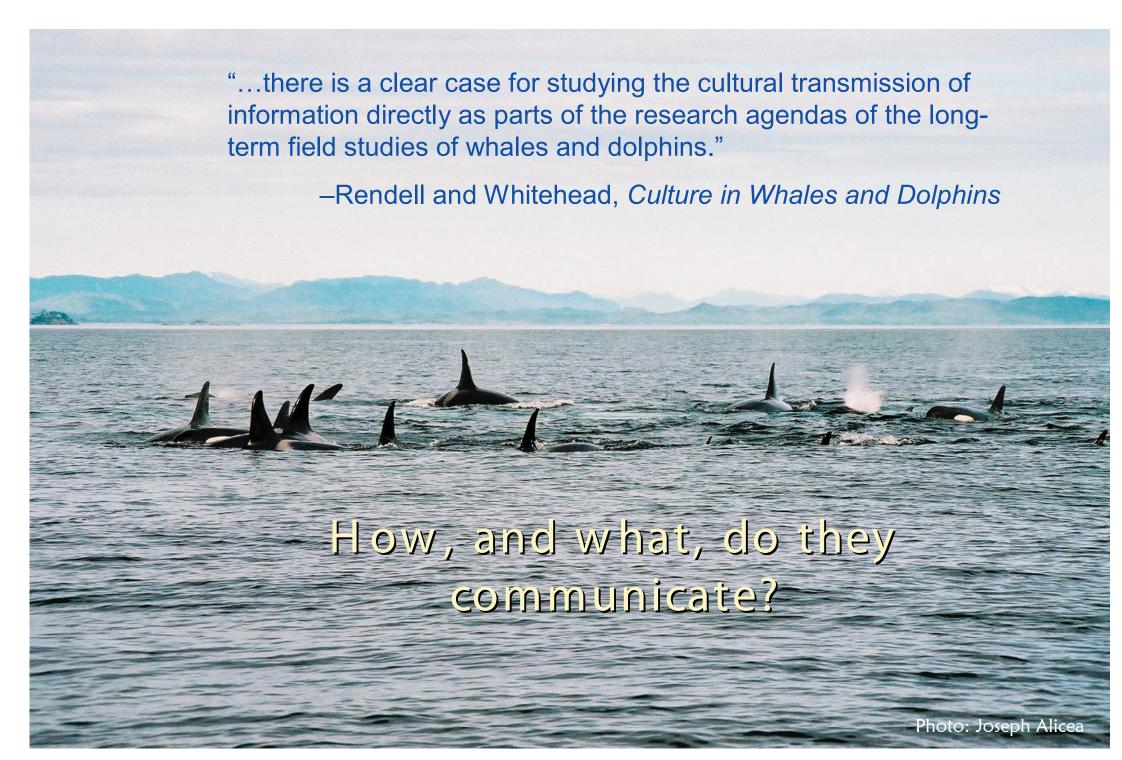
Suggested new paradigm

Symbolic Interaction model (combining cetology and sociology):

Symbolic Interactionism:

Stimulus/cognition/environment/culture > Meaning/interpretation > Behavior/speciation/ecological community





Greater awareness of such highly evolved adaptations in orcas, without parallel except in humans according to published research, could enhance public appreciation for orcas and help motivate efforts to restore their population and protect their habitat.