

Sounds You Can See: Communication From Our Dolphin Neighbors  
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I've always found dolphins to be absolutely fascinating and brilliant creatures. One of the reasons they have most certainly stood out is due to the complexities of their communication. For years scientists have been attempting to gain insight into the intricacies associated with these majestic creatures' levels of intelligence, how they process information and furthermore how they communicate this information.

Communication defined is essentially the transmission of information. It has been previously understood in the scientific community that dolphins use various audible and non-audible forms of transmitting information. Within the audible vocal cues of dolphin communication there are three identifiable types constructed of a variation of pure tones and pulsated sounds; whistles which are how they are thought to identify themselves, chirps which contain various components of language and click trains which are complex forms of echolocation.

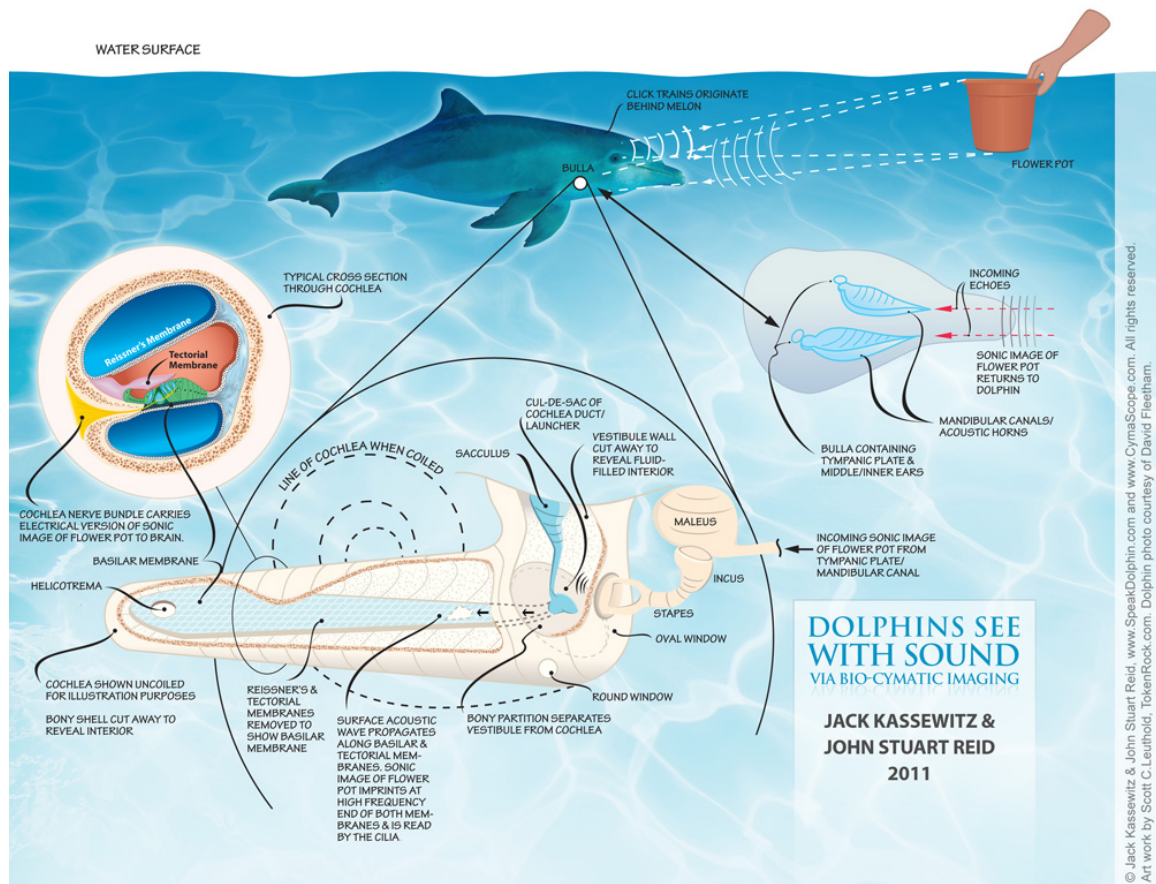


**Left:** cymaglyph of adult dolphin voice, **Right:** cymaglyph of a baby dolphin calling to its mother

Over the last few years through the introduction of cymascope based research, the SpeakDolphin.com team has come to the conclusion that these sounds are so complex that they do not merely travel in simple waves but in bubbles and beams containing a holographic complexity of information. This could be likened to the detailed messages embedded within the harmonic structures, rhythms, timbres and energies built into a musical composition or even to the pictorial messages of information embedded within hieroglyphs.

“Jack Kassewitz, of the Florida-based dolphin communication research project SpeakDolphin.com said, ‘There is strong evidence that dolphins are able to ‘see’ with sound, much like humans use ultrasound to see an unborn child in the mother’s womb. The CymaScope provides our first glimpse into what the dolphins might be ‘seeing’ with their sounds.’”

These cymatic images have been predominantly captured within click train echolocation cues which fall in the over 20,000 Hz range and are far more beam like in their transmission. In essence, dolphins’ pictorial communication and sono-picture way of communicating is thought by some to be a ‘Rosetta Stone’ of sorts and far surpass the evolution of human communication. “Dolphin sonar outperforms any man-made system, particularly in shallow water, where reverberation, water turbulence and suspended sediment make sonar particularly challenging.”



What’s even more amazing is not solely that researchers have been deciphering these images but they have been able to successfully speak back to the dolphins. This has also led to the beginnings of a dolphin language library. In one study Kassewitz captured the cymaglyphs generated by the dolphin clicks when reflected off various mediums; even off of a toy duck. When he replayed the sound pictures to the dolphin in the form of a game, the dolphin was able to identify the objects with 86% accuracy. Further shedding

light on their echolocation abilities. In another study, dolphins placed in two separate research centers were presented re-created sono-images and in both centers understood the words presenting further evidence that there is a universal standard of communication in place.

This opens the door to so many more questions as to the nature of dolphins, as they are often seen as highly intelligent and mystical creatures and really the nature of communication overall. From the understanding of why and how brains process information in the manner that it does (humans included) to further emphasizing the fact that communication far surpasses what we as human beings may hear or see at first glance. Also, I mean really why in fact are their brains so big in proportion to their body size and in comparison to other animals? Is it possibly because of the complexity of their language and processing abilities? Perhaps they process auditory data in the way that we process visual data. And of course this only gives us more insight as to how to improve our systems of echolocation and sonar technologies.

Is this possibly a way to enhance an understanding with our porpoise friends and become allies? Dolphin assisted therapy for human beings has already been a growing form of healing, may this facilitate further healing situations? Also, being that we have only a tiny grasp and understanding as to what occurs in our oceans perhaps this can create a conscious understanding as to what really is going on in our waters. And at the very least but still exceptionally important perhaps we can now listen to our oceanic neighbors and truly understand their concerns and needs in regard to caring for our waters and for their self-preservation.

Sources:

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