

# INTERSPECIES MUSIC

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Interspecies music is a group of artists and musicians interested in the study and human interpretation of sounds produced by other species, and in a broader sense, in the use of all sound sources found in nature as the building blocks of a musical experience.

The group has been active since the fall of 1977, when Steven Aikenhead, Bob Macdonald and Pierre Ouellet started performing improvised music to the accompaniment of the sounds of the Humpback whales. These activities took place at the Music Gallery, in Toronto, during 1977 and most of 1978. Soon other musicians and artists joined us in our weekly sessions. Our only criteria for membership in the group was a willingness to listen to and then play with sounds that came originally from nature. It was at this time that we came to learn more about the whales and began a comprehensive identification of the various sounds produced by the different species.

We were fortunate enough to be able to obtain private recordings of Belugas, Narwhals, Orcas and other species from people who had been on various expeditions to film and record the whales. Some of these sounds can be found on the Music Gallery Editions record entitled **Northern Whales**, and were also the basis of various forms of notation devised for study and performance (see scores).

Air is our medium and our brains are designed in such a way as to receive and interpret ten times more information from our visual sensors than from any other source, such as touch and hearing. For the whales, the situation is reversed. In the water, audio information is transmitted four times faster than in air and travels, roughly, four times further. The whales' brain has thus evolved so that it may receive ten times more information from audio sources than from any other single stimulus.

Based on underwater recordings of humpbacks and other species of whales, researchers and scientists put forth the theory that whales do indeed communicate with each other. In controlled environments, where the actions of a whale could also be monitored, this theory gathered added momentum, and it was surmised that these extremely rapid communications had predictive and descriptive value. Such transmissions of complex information had once only been thought possible amongst humans.

Further experimentation also uncovered that whales also use ultra sounds in order to construct a mental image of their environment in much the same way as we use our eyes. The ultra sounds are also used to probe the bodies of other members of the pod, penetrating through the skin in order to monitor the physiological rates of the various organs in the body. This would give the whale instant information about the emotions and health of other members of the pod, or even prey and adversaries. This may explain why Orca only attack larger whales who are injured or sick, in much the same way as wolves rid the caribou herds of the weak and aging members. The sounds and ultra sounds are projected through the head, from two air sacs connected by a thin, lip-like membrane, that vibrates as the air passes through it. There are two of these sound producing organs in the head of the whale, and he can beam sounds in two directions simultaneously. He can also, in theory, communicate two different messages simultaneously or obtain a three dimensional reading of an object in space. As the sounds hit a surface, they are reflected back to the whale who receives this information through sensors in his head and in various areas of his body.

The audio range of the whale is truly astounding, and it is estimated that some sounds produced by whales exceed one hundred and fifty Khz. We became aware that, along with the sounds heard on recordings, many other communications may be taking place, which we simply cannot hear and whose very existence audio tape and microphones cannot even ascertain.

There has been a good deal of speculation about the intelligence of these fascinating creatures. It was once believed that the ratio between body mass and brain mass was a correct measure of the intelligence of a species. With the discovery in the late nineteenth



Pierre Ouellet playing flute to dolphins and young orca at Marineland, Niagara Falls, 1977.

Steve Aikenhead playing clarinet to young orca at Marineland, 1977.



and early twentieth century of extremely large and complex brains in dolphins and whales, this theory gave way to other speculations, none of which, however, considered whales as anything else but bright animals.

At any rate, this information, along with many other observations, became one of the shaping forces in the musical experiments of Interspecies Music. A logical extension of our activities seemed, now, to visit whales, both in captivity and in the wild. Overall, we were disappointed with captive whales because of the conditions in the aquariums, where they are treated as performers and devoted most of their time learning new routines and feeding.

During the summers of 1978 and 1979, we travelled to the Gulf of the St-Lawrence and during these trips we were able to photograph, film and record different species of whales, such as the Finback, Beluga, Minke and Humpback. After these two summers, we had gathered a body of information on the lives and habits of whales in their own environment and with the help of our capable guide, understood much better the various forces, social, economical and political that shaped the whales' existence just as surely as they shape ours. At this point, a serious moral question arose. What would man achieve by communication with whales and how would advances in this field benefit whales? This question is still unanswered.

It is our concern that as a species, we developed keener perception of the sounds around us, of the reasons for their existence and of the everpresent impact on our senses and behaviour of the soundscapes that we create and live in. Our work with whales, and other species, is an attempt to redefine our relationship with our environment and the other creatures with whom we share our planet, for surely, if they do not survive, we shall not either.