



UNDERWATER MUSIC FACTS

By Michel Redolfi, "Underwater Music" Composer

Interview with Kevin Mc Guinness, Walt Disney Studio Home Entertainment, Sept 2008

SECRET SONGS OF THE OCEAN

Beside the calls of the large mammals, there are about 20,000 thousand (*a familiar number*) different sounds in the ocean. Many shrimps and fish rely on sound to "feel together" and move together in the deep. It's a noisy world, so intense in some oceans that it actually blocks man's electronic communications. In terms of acoustics, it's just like on the ground. There are beautiful shallow settings (coral reef) with a "dry" and lively background noise. It is a kind of garden where all the species are actively talkative. And, on the other end, there are large echoes coming from the deep, bouncing in virtual tunnels made by currents. Eerie stuff but the whales have fun screaming into those dark "sound channels" (this is where they produce their well known reverberant songs).

THE BEST INSTRUMENTS TO PLAY MUSIC UNDERWATER – WHAT SOUNDS BEST

To my experience and with some common sense wind instruments (including the human voice) just...bubble under. Strings get stopped by the pressure and even regular metallic percussion: cymbals, chimes, small bells etc. produce a deceiving « click ». I did many experiments with bronze makers and I came out with a special mix of titane and aluminum which are the best resonant metals. I started to develop underwater metalophones back in 1989. The one we will demonstrate in Monte Carlo is of the last generation with heavy resonating blades that are pressure proof. The resonance comes within the core of the metal.

HOW MUSIC IN THE WATER CAN HELP PEOPLE OVERCOME THEIR FEAR AND SWIM?

Music in the water fills the void of the silence. Sound means life and when music is broadcast underwater, it's a playful life sign. In addition, your sensory system is boosted by the bone conduction listening, which is very energetic and soothing at the same time. Music in the water opens the body and mind.

HOW YOU CAME TO UNDERWATER MUSIC:

If there was a competition to be the first musician to play on the moon, the list of volunteers would be gigantic. You will have to play without the means of air (tricky but interesting), you will have to deal with a gravity-less floating public (tricky but fun), you will have to demonstrate that you can be the (first) one to reverse the motto that no one can hear a thing in space. I couldn't afford the test on the moon, but as I was living by the ocean in California the moon for this musician was the ocean.

Being a composer in the water medium means that you have to reinvent about everything. The instruments, the sound systems, the electronics...and the score. The listener in the water is a...Martian. You have to compose for bone listening, as the ear does not function. Not the same tune as in the air. Not the same tempos (people floating hate beats), not the same relation (being undressed in a cultural context). Not talking about the excitation of understanding all the psycho acoustic tricks of perceiving sound waves by your body.

THE BIGGEST AND SMALLEST CONCERTS I'VE DONE IN THE WATER ?

Biggest in terms of location: **Shark Bay in Sydney!**

Smallest: **In a bath tub!** This was for Luc Besson's movie « le grand bleu », where a character is obsessed with listening to underwater music at home. In fact I may develop in few months a home system for tubs, Jacuzzi or garden pools. Some systems already exist since the sixties, but the technology is obsolete and the rendering pitiful.

BEING 'ECO-FRIENDLY' WITH SOUND / HOW DO YOU TAKE SEA LIFE INTO ACCOUNT ?

I have taken sea life into account from the very first concert in La Jolla, California. The Cove Creek is one of the most beautiful marine reserves and I worked for months – back in 1981 - with the Scripps Oceanographic center to design systems that will enhance the visit of the kelp forest and at the same time will not stress or even distract the inhabitants. Including the beautiful Nemo look-a-like Garibaldi fish. I had a scientific committee who gave me advice on many things... including tips of sound activities that may attract sharks from the deep canyons of the San Diego bay.

I always choose marine locations that have an exceptional seascape, so the listeners dive into a wonderland. Doing this I can bring an exceptional level of awareness, so the participants who enjoyed the experience feels all the beauty, but also fragility of their environment.

HISTORY OF THE UNDERWATER CONCERTS:

I produced concerts in more than 150 underwater locations. The most important ones in terms of location, technological breakthrough and size of the public gatherings were:

- **1981** « Sonic Waters » First underwater concert in the Pacific at La Jolla (San Diego County), California. First multispeakers sound system ever installed on a sea bottom. Followed with a tour of university pools in the States and Canada that lasted 3 years.
- **1989** « Nucleus » first concert in the Mediterranean Sea. First bronze instrument played in the deep by Alex Grillo.
- **1992** « Crysallis » an underwater opera with Japanese soprano Yumi Nara singing inside a transparent bubble (Olympic pool of Grenoble, France)
- **1996** Sydney Festival: Ocean Concert at Shark Bay & a week long series at the famous pool under the bridge.
- **Summer 1998** « Mare Sonans » Beach concert at night in Cannes with underwater lightings. 600 hundred participants dive in for an homage to Jules Verne. Movie actor Michael Lonsdale portrayed him on the shore.
- **2000** « Gravit  Zero » in Lyon. First concert with 16 tracks system broadcasting over and under the surface making a 360° musical zone in which you float gravity-less.
- **2006** « La Citta Liquida » in Venezia for the Biennale in the only pool (San Alvis ) of the water city. Premiere of the Thevenium, (*This is the new metal instrument that will be played in Monte Carlo for the Little Mermaid Ariel's Beginning event.*)
- **2006** « Oniris » the longest underwater concert ever, for la Nuit Blanche in Paris. From 7 pm to 7 am on the new city pool floating on the Seine.

2008 « Mermaid Bay » twin concerts – open sea and pool – in two Monte Carlo palaces, the Beach and the Bay hotels. Produced by Walt Disney Pictures for the European press release of their animated movie “The Little Mermaid 3”