



« Yo ! » Sunset– Tahanea
 3 August 2013 – 3 August 2014 : Happy birthday to Yodyssey !

Done with volcanic islands! In Polynesia « Heiva » is a partying opportunity corresponding to the middle of the winter period – as a matter of fact, the date has been slightly moved to fall on the very day French celebrate July the 14th, the National Day ; same as with most of religious holy days that managed to take over pagan traditions.

“Yo!” is now exploring the Tuamotu Archipelago, an enormous arc of more than 76 atolls spread over a 1000km distance.



Tuamotu Archipelago

Most of the tropical Pacific islands had their origin as volcanic peaks (e.g. Marqueses), which partly eroded with coral reefs forming around the periphery (e.g. Société) then much later fully submerged volcanic island entirely (the lagoon) surrounded by coral reef whose formation keeps pace with erosion: there are about 70 true atolls (e.g. Tuamotus, Cooks), in the Tuamotu, the largest being as big as 50 X 100 km.

Generally, one finds some small islands on the Northern part of the coral reef, named “motus” in Polynesian, garnished with coconut trees and eventually a small village; excluding human buildings (and even so), the maximum height is the one of the tallest coconut tree, around 20 meters, hence the difficulty of spotting the island with the radar further than 7 nautical miles away.

The Southern part is exposed to the big swells that are generated by the roaring forties, erosion took its toll and only broken reef subsides, invisible except when waves are crashing onto them.

About two thirds of the atolls benefit from a natural opening in the reef, (a pass, whose origin has to be sought with fresh water flowing from a river running down the volcano hill... a long, long time ago), such passes allowing to get inside the lagoon, where near perfect shelter from the rough seas can be found.

There is a drawback of course: quite often the lagoon is packed with threatening coral heads whose main objective is to encounter a nice, sliding vessel hull.



Makemo Atoll – Arikitamiro pass – On the right, the church and the lighthouse!

Scattered over a wide area, difficult to see, uneasy to enter, exposed to large currents the Tuamotu Archipelago is known as “the dangerous archipelago” within the yachties community. A while ago, Magellan himself, in 1520, lost in the Pacific during his quest of reaching the Molucca, landed on Napuka atoll and was so disappointed he baptized the islands group “Islands of Disappointment”. Much later, Thor Heyerdahl, trying to demonstrate that the original settlement of Polynesia originated from South America (hypothesis now proven wrong) grounded his vessel, the “Kon Tiki” on the Raroia atoll (simply looking at the amount of plastics originating from China found on the reef is sufficient to invalidate Thor’s views...).



« Pearl farm » buoys which can be found on any windward beach in the Tuamotus. Snapped on the anchoring chain, they help reducing the wrapping of the chain around coral heads.

Tough environment and tough climate result in low population density (16 000 inhabitants spread over 40 atolls). Except for fish, coconut and some locally grown veggies that resist salted atmosphere, all food is imported. Fresh water exclusively comes from rain, each house is equipped with collection systems and tanks. On a regular basis, a tropical depression or a cyclone comes close with more than 15 meters waves washing out the motus and... everything starts again.



There used to be 2 villages on Tahanea atoll. They are abandoned nowadays as the coral reef is getting too thin to protect from the swell. A small temporary settlement is used during the coprah harvesting season.

Last but not least, as if the day to day life was not tough enough, the French, ejected out of North Africa in the early 60's, elected the Mururoa and Fangataufa atolls as "relocated" nuclear testing sites.... on the windward side of the archipelago thus ensuring everybody would benefit.

With a good GPS and some precise charting, with some serious pre-navigation work, with continuous attention paid to changing environment, with a water maker and stocked up fresh products, gasoline, cooking gas, with no internet network readily available, the archipelago then turns out to be a fascinating hide away, where one is alone in a 30 kilometers diameter atoll, just alone whilst being only two days away from Tahiti, the shining city, heart of the South Pacific.

Since July the 10th, “Yo!” sails the Makemo, Tahanea, Fakarava & Toau atolls and, for sure, the difficulties associated with such navigation generate quite some stress as well as forcing us to implement some specific rules:

- landfalls by daylight exclusively to the extent of waiting long hours under sail outside the lagoon or slowing down the boat – very little buoying system
- in/out via the pass at or around slack water (of low tide preferably) and avoiding at all cost wind against current



Current in the Arikitamiro pass - Atoll of Makemo. Speed estimated around 8knots (15km/h, no chance going against it!

Hence precise timing of the slack ensures a stress-less passage through the pass into the lagoon, this is, in theory, the moment where currents are at a minimum and even better at low tide slack the reef and isolated obstruction are even more visible.

Tahiti is an amphidromic point – that is a technical word to say that the tidal waves generated by the moon are neutralised and that only the sun generated tide is to be taken care off and as everyone is aware off, the sun accounts for only 1/3rd of the tide amplitude, so far so good.

Consequence is, that in the Tuamotu, tide are around 50cm, ridiculous, no need to worry BUT.... In fact a lagoon is easily 50 X 20km= 1000km² i.e one billion m², times 0.5m tide result in 500 million m³ (a thousand VLCC's) which have to enter then exit the lagoon twice a day but the pass is 100 m wide times 10 or 20 m depth hence a section of 1000m². End result (for the mathematically disabled) is a current alternatively in or out between 10 and 20 km/h, more than Yo!'s speed. Just to make things simpler, it sometimes happens that a large swell (generated in the roaring forties for instance) breaking on the reef fill up the lagoon on a continuous basis, causing the current to be always flowing out, and if a strong wind happens to come opposite the current, a fantastic standing wave is generated right in the middle of the pass.... brrrr.

Practice and observation show, once again, despite Reverend Bayes and the Marquis de Laplace (the first one to come with tide calculations « without Good's help" as he used to say), that tide calculation is not an exact science (with a marginally better performance for the SHOM – French – against NOAA – US – or UKHO – British-) all the more that amongst the Tuamotu, only 4 atolls are referenced. This demonstrates the strong interest raised by those tiny, microscopic islands despite the fact they raise France to the second position (after the US) in terms of controlled maritime area on a worldwide basis. The same holds with respect to maps, so imprecise, as well as with respect to wind prediction, quasi constant over long period of time: 20kts South East rough sea... scattered showers...

We then manage on our own, we get our met? info via telsat, trying to avoid gale force Ma'aramu, this South Easterly wind occurring in the middle of the Austral winter (July/August) which has such a bad reputation as it raises high waves even within the lagoon protected area ; we load Google Earth type imagery using Russian based systems allowing to spot coral heads within the lagoon and, as far as tide and currents are concerned... we play it live.



Manual drawing of the Malemo's pass, visible from the cockpit as once engaged, things are happening fast, very fast .

Strategy: starting with official tide tables, we come in front of the pass, preferably in the morning as the light is better, a bit before the expected slack, look for standing waves, current and if things look ok, proceed through the pass. If not, we wait eventually until the day after. We have been once through a middle size standing wave and would prefer not to anymore.

Same problematic appears when scuba diving in the pass. As the atolls are uninhabited, the only possibility to scuba dive is on your own, hence drifting with the current without any surface support. A bit stressful experience all the more that:

- there are sharks everywhere in the pass (they too have noticed there is much more fish in the pass)
- misestimating the current (incoming versus outgoing) result in being expelled from within the lagoon into the ocean with no way coming back swimming, gasp.

The best timing is roughly one hour before the estimated end of incoming current as it brings the clear ocean water into the pass and is not too strong. But beware the incoming/outgoing inversion which may occur within 10 minutes... the fishes in the pass are good indicators and when you see them changing orientation... better get out of the water to the dinghy.

« Paradise is an island. Hell too » (Judith Schalansky – Geography of lost islands)

In our WEIRD (Westernised, Educated, Industrial, Rich, Democratic) unconscious, the island, isolated on turquoise waters, is kind of an absolute where dreams come true; the myth of Paradisiac Island is strongly shared.

But once people are settled in a tiny restricted space, with clearly delineated boundaries, island turns out to be a prison. One has to cope with the continuous swell, the wind, get used to impermanence and scarcity and acknowledge being abandoned miles away from the mainstream world. In such cases, the island becomes the receptacle for non-desirable, crazy behaviors. When little authority is present (government or church) terrible acts happen and in the South Pacific, tales keep on going with mysterious deaths (Floreana-Galapagos), tyrannical plays (Clipperton), rape and murder (Pitcairn) to name a few.

Last but not least, far away from the medias, big organizations (states, companies) feel free to indulge themselves with human rights, do not care about environmental damages or have fun with atomic bombs.

The Tuamotu Archipelago is right within this scheme.



Paradise ?

Anchorage in front of the former Makemo's village, destroyed by a cyclone back in 1907. It has been relocated since then on the North-Est pass and the College has, recently, been rebuilt according anticyclonic norms.



Anchorage on the South-Eastern side of Tahanea atoll, only protected one in case of strong Ma'aramu.



Anchorage are shared.... Number of deaths by sharks is extremely low, definitely below road fatalities or bee stings. One may wonder this is because this predator does not really attack the human being or whether, being exposed to them, human behave with increased attention?

In the Kalahari desert, lions and hyenas represent very serious threats, nevertheless the !Kungs deal with them and with simple wood sticks get rid of them whenever they are competing for an antelope carcass (the expected proteic benefit outweigh the fatal risk). We are facing similar trade off whenever we catch fish and are speeding up in order to get it out of the water before the shark join 😊

In the Tuamotus, it is frequent (90%) for young women in their 18's to already be mothering once if not twice, they are not even graduated – we are in France in 2014. Ultra violence (axes, clubs) is quite common, exacerbated by alcohol consumption and intolerance (7 liter of Hinano per person man or woman is the standard for a simple evening party).



L'ensemble du conseil municipal de Pouheva – Makemo est présent lors de la célébration de la Fête du 14 juillet. Au programme : Matin : danses et chants, prières – Après midi : jeux pour les enfants – Soir : grand bal – destruction des neurones garantie.

Curious people will learn French and source the following book « Paganisme ancestral ou dérapage chrétien en Polynésie » de Bruno Saura (Editions Cobalt), which deals with the very sad story of the “Faaité stake burnings”.

Faaité is one of the central atolls in the Tuamotus, the mayor and the priest being away in Tahiti, came three priestesses from the “Charismatic rebirth”, an arm length subsidiary of the Catholic church tasked with bringing back souls lost the competitors (e.g. Pentecotists), these priestesses abused the locals to the point of burning alive 6 inhabitants on grounds of sorcery.. This happened back in 1980 – court judgment in 1990 – 30 years ago, on French controlled territory, frightening.



Church of the Otao's village – Tahanea.. the island is uninhabited. Priest have an overwhelming influence across the archipelago, Catholic or Protestant they hold the « Mana » symbol of the power and represent authority.

Islands specific challenges as stated above, have, in the case of French Polynesia, been exacerbated by the almighty CEP – that's not the nickname of a local divinity but the acronym for Centre d'Essai de Polynésie, the French Nuclear Testing facility implemented in Tahiti/Fangataufa/Mururoa from 1963 i.e. when France was kicked out of Algeria and lost access to Sahara desert testing facilities.



Code name Canopus

Date : 24 august 1968. Place : Fangataufa.

Purpose : H2 nuclear device, 2.6 megatons.

Pass forced open with dynamite to allow vessel entrance in the lagoon.

Sun glasses handed over to inhabitants and surrounding atolls.

Observations: giant clouds of sprayed water, tsunami type wave, then nothing, no more houses, no more trees, nothing.

Instructions : evacuation on the ground of extreme radioactivity for at least 6 years.



Prez Jacques Chirac's orders

Date : 29 january 1996. Place : Fangataufa.

Purpose: final stop to the nuclear testing campaigns

Instructions : Keep your mouth shut.

All in all, 193 nuclear tests have been conducted on the atolls of Mururoa and Fangataufa, the last one in 1996. As of today, the threat of serious of the atolls reef si not excluded with diffusion of radioactive material in the ocean (as is the case in the US test base of Bikini). Stats of birth “problems” or cancers relating to radioactivity on neighboring islands (e.g. Gambiers) are not available – “classified “.

Huge financial transfers occurred during the 30 years of the CEP, relating to infrastructure setup as well as operating expenses, including expat salaries for the experts coming from mainland France; this to such an extent that, at one stage, Tahiti was the place in the world where the per capita consumption of champagne was the highest, so impressive. In the real life, such enormous amount of money increased corruption, perverted traditional relations within the family, with friends and turned upside down the concept of “hard work”.

To mitigate the consequences of the CEP withdrawal from Polynesia, the central (Paris) and local (Tahiti) governments agreed to extra transfers for the period 1996-2006, which partly increased corruption but also allowed to expand social support well beyond the scope of the initial PPP concept (cheap basic food available to everyone at extremely subsidized prices), these were initially sugar, flour, oil, but they nowadays include sirloin steak from NZ for instance. The consequence of the PPN had been an apparent increased spending power (TV and cars everywhere) and is now coming into force via the full blown obesity epidemic, diabetic from 35, insulin dependent from 45 years old is the norm. French Polynesia is a “developed country” by the standards of living, but the mortality chiefly comes from cardio-vascular diseases as opposed from cancers or other ageing illnesses on the mainland.

Don't worry, medical coverage is free to the French Polynesians, the Government keeps an eye, there are airports on nearly three quarter of the atolls, and the plane is free in case a medical visit to the central (Tahiti based) hospital is required. A visit to the dentist = a round trip to Papeete, yodliho! This drives behavior, no surprise, and superimposes over the Polynesian background whose language does not even have a “future”, a sort of built in reminder that a big wave may wash out everything without notice.



How come a « modern » country like France generated such big a mess ?

Some elements are helpful in understanding the conflict between, on the one hand, the reality (predator system setup by the WEIRD expansionist system supported by its armies of colons, priests, beachcombers and nowadays, tourists) and on the other hand, the dream, patiently designed by generations of “explorers” (Polynesia, tropics, nice, partying, friendliness, abundance, languor....)

In different societies, threat, frustration express in different manner depending on how are basic needs covered. For instance, hunter/gatherer societies will primarily be concerned with daily food sourcing but won't be too bothered about sexual fulfillment within the group. On the opposite, our developed societies have, over centuries, extended food security (crop and cattle domestication, storage) and therefore have little concern for daily food intake; the main source of attention is shifted primarily sexual needs coverage, eventually via symbolic representation such as power plays and so on.

What could we observe relating to the Tuamotu?

- an historically isolated archipelago exposed to violent climatic threats
- population adapted to the high resource volatility by controlled growth rate (infanticide used to be common there) and to the food storage difficulty by, probably, extra ability to store greases at cellular level (which also implies nowadays the trend towards obesity as resources suddenly appeared infinite)
- a cultural shock aiming at replacing old values by the one stated in the Bible, notwithstanding slavery; the end result is a society whose traditional values, control and arbitrage have vanished, it is no surprise to find latent violence against the foreigners
- a recent (within the last fifty years) switch to technologically supported way of life with the associated capitalistic behaviors
- a quasi-instantaneous abandon (20 years ago) by the running power, i.e. mainland France, but the trends was set, high demography, dependency on trade (cheaper to buy imported chicken than local fish) and aspirations are at par with the “modern” world.

Quite a dark picture overall, we nevertheless have encountered extremely resilient and friendly people, quite “detached” from the painful experiences they might have been through, as if everything was painted in blue, the sea, the sky....and the cheese for the tourists...

Best wishes, Sanity, Sobriety

Stéphanie / Christophe

Toao / Pape'ete – French Polynesia

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www.yodyssey.com