



B.B. POLAR

JEAN GAUMY

From 2013 to 2017 Jean Gaumy follows scientific teams of B.B Polar through their field reseach.

INTRODUCTION

An international team of marine biologists (French, German and Norwegian) is working to establish a long-term observatory in Ny-Ålesund on the island of Spitsbergen (Canada) to study photosynthetic molluscs in Arctic coastal environments during periods of change in available light.

In this first «feasibility study» phase, researchers strive to describe oceanographic conditions in the recent past using bivalve shells as a memory of the sea. This pan-Antarctic approach is novel in several matters.

Danish (Groenland) and Norwegian (Spitzberg) waters were selected for this calibration phase because they display rapid changes; also because of the strong social issue involved in those territories; ultimately because biologists have identified there bivalves which will be models for their studies.

The B.B Polar group comprises bio-geo-chemists, ecologists, geo-chemists, bio-mathematicians-modellers, physiologists, a photographer and a painter.

Beyond scientific goals, the true originality of the project lies in its trans-disciplinary approach. It aims at better understanding temperate coastal ecosystems and better interpreting geo-chemical signals stored in bivalves shells.

Light (its variations through the water column) as well the research and creation process will be common focuses for scientific, literary and artistic works of group of researchers.



First trip : Spitzberg
Ny-Ålesund



Second trip : Groenland
Zackenberg

STATEMENT OF INTENTION

YEAR 2012

«A scientific team is going to work in the Arctic, studying the traces of climate variation stored as geochemical signals in the calcium of mollusk shells. This scientific team forms hypotheses about the importance of light in glacial oceanic regions with regard to the future formation of seabeds and the consequences on life and on living matter.

There is a clear parallel between the scientific team's research and the nature of the work that I propose to undertake with them : to collect – to analyze – to synthesize, to deduce a form. My photographic and cinematographic work has addressed and continues to address that which occurs in enclosed spaces, the human presence (and influence) at the heart of inhospitable territories, the landscapes of genesis, an ongoing reconnaissance of the ancient and new boundaries of the planet.

This approach can complement the scientific project itself. Of course, with this approach, personal experience and mythology creep in – a fantastical representation of the polar world, of the "matrix", of the "original" earth founded in a shared cultural imagination, constructed for the most part of readings and images from childhood or adolescence.

So many landscapes, so many frames and visual constructions elaborated upon unconsciously, which relate to the genesis of the world and which, inevitably, in silence, come back to you.

This is what I have experienced at sea and in the mountains.

I take a photographic approach which is more that of a "documentarist" than that of an artist. I do not necessarily reject the latter. This involves describing the terrain modestly, absorbing it, being enthusiastic, accepting to sometimes be bored : to be unsettled. It involves reacting in front of an apparent gap, of transmuting the ancient world from your imagination. To make "something else" hatch from within you. Facing oneself, with one's own inner resources.

And for this, I have never believed in anything but my experiences in the field.»

STATEMENT OF INTENTION

YEAR 2014

As we could anticipate in 2012, the photographic treatment of the first trip in Spitzberg offers two approaches apparently opposed: one descriptive, the other one radically contemplative.

The experience of the field led me naturally for now toward three photographic treatments different but complementary. I would like to keep it:

- A black & white treatment, 24 x 36, following the tradition of great magazines from the sixties and seventies. Here the human presence is a counterpoint of the radical contemplation led by other treatments. However I would like to punctuate this human activities with cornering forces more strange and dreamy so I could avoid a simple illustration.
- Another treatment in black & white – medium format. “Sketches” of landscapes and details made with a medium format camera very basic such as Iphone’s style. These sketches could be presented here through a mosaic picture format.
- Eventually, a large format in color. Here I would like to be as contemplative as possible to cease every opportunity reality can give me, precisely... move ahead from reality.

JEAN GAUMY AND B.B. POLAR

Known by the IUEM and IPEV teams for his reporting on marine life (*Men at Sea* and *Le Livre des Tempêtes à bord de l'Abeille Flandre*), for the links he has forged with scientists in polar environments (boarding the research icebreaker CCGS Amundsen in 2007), and for his documentary work* aboard a nuclear attack submarine, Jean Gaumy was chosen as the photographer who would follow the team of international researchers during the first three years of the project while the arctic wildlife observatory, APOLOBIS, is established.

There is a clear parallel between the nature of the project and the work that Jean Gaumy proposes to carry out within the team of researchers of the APOLOBIS project : the work "will consist, like theirs, of collecting – analyzing – synthesizing, and then deducing a personal and "subjective" approach...The experience that I have gained, my way of approaching such situations, should complement and enrich the scientific project itself."

This photographic mission in Ny-Ålesund may give birth to a personal photographic and cinematographic work by the photographer.

* The film *Sous-Marin*, created from 2005-2006, documents a four-month dive in the Arctic seas. Five 26-minute episodes. Premiered on Arte TV.



SPITZBERG

Ny-Ålesund
78°55 N 11°56 E
01/10 - 12/11 2013



CONTEXT

STUDY SITE

Ny-Ålesund, located on the island of Spitzberg, part of the Valbard Archipelago, is the first step of the trip, it is the most northern town of the world. The people who live there are between 30 and 150 inhabitants, mostly part of the scientific team. Created in 1916 by the mining company King Bay Kull AS, it stops its activities in 1962 after an explosion in a mine that killed 21 workers.

Ny-Ålesund has been the starting point of Arctic expeditions for a long time, including the one by Roald Amundsen, Lincoln Ellsworth and Umberto Nobile in 1926. In 1966, an international center of research and environmental monitoring is opened there.

THE SCIENTIFIC PROJECT

In B.B. Polar, the aim of the scientific project is to use polar marine invertebrates as biological archives of the environmental variations of coastal marine arctic ecosystems. Sclerochronology and sclerochemistry tools developed in Brest will be implemented to reconstruct past environmental variations of these arctic ecosystems at different time scales (from the daily to the decadal scales) and at different spatial scales (from the single fjord to a pan-arctic view) by using two bivalves species, *Chlamys islandica* and *Astarte* spp. Simultaneously, these research belonging to arctic ecology will be associated to artistic works belonging to visual and plastic design. This project is the occasion for scientists and artists to work together around the climate change issues, transgressing the limits of their own disciplines.

THE TEAM

- Laurent Chauvaud : Research Director at the National Center for Scientific Research (CNRS), (LEMAR, CNRS/UBO, European Institute for Marine Studies-IUEM). Diver. Coordinator of the mission.
- Yves Marie Paulet : Lecturer in Biological Oceanography at the UBO and Deputy Director of the Marine Environmental Sciences Laboratory (LEMAR, CNRS/UBO, European Institute for Marine Studies-IUEM).
- Joëlle Richard : PhD (LEMAR, CNRS/UBO, European Institute for Marine Studies-IUEM). Diver.
- Erwan Amice : Dive Technician at the CNRS (LEMAR, CNRS/UBO, European Institute for Marine Studies-IUEM). Photographer.

- Jean Gaumy, photographer www.magnumphotos.com
- Sandrine Paumelle, artist www.sandrinepaumelle.org



























GROENLAND

ZERO - Daneborg - Zackenberg

74°30 N / 21°00 W

The mission will take place in 2014



CONTEXT

STUDY SITE

Zackenberg Research Station is an ecosystem research and monitoring facility at Zackenberg (74°30'N / 21°00'W) in Northeast Greenland 25 km north-west of Daneborg. A branch facility is situated at Daneborg. Zackenberg, coordinated with the monitoring program Nuuk Basic in West Greenland, is owned by the Government of Greenland and is operated by the Department of Bioscience, Aarhus University (Denmark). Zackenberg Research Station can accommodate a maximum of 24 scientists and staff only during summer.

THE SCIENTIFIC PROJECT

The present project is closely associated to the BBPolar program which aim to assess the effects of climate change on the arctic ecosystems by using bivalve mollusks. The SCLERARCTIC project focuses on the species belonging to the genus *Astarte*, a longevive species, allowing the covering of the period of the last five decades. Through the use of such species, we study the evolution of the coupling between the pelagic production of microalgae (phytoplanktonic bloom) and its ingestion by bivalves after its export by sinking to the seabed. Such microalgae may develop either in the water column or just attached to the ice (seaice algae).

The Yung Sung is of special interest because the ice cover period is extended (more than 280 days per year) and it thus constitutes a reference site where seaice algae, potential main source of feeding for the bivalves, dominate.

No diving is planned during the survey and bivalves will be collected from an 8m coastal boat through the use of dredges and grabs. One other goal of such field trip is the fine characterization of the trophic environment and that implies the sampling of all potential feeding sources of the mollusks. Seawater will be collected by Niskin bottles, sediment samples by a Kajak corer and macroalgae with a hook. The treatment phase of collected samples will be a major part of the work with seawater filtering, bivalves dissecting etc... We also will realize a complementary work on the microbial compartment and will sample worms of the Syllidae family.

THE TEAM

- Dr Frédéric OLIVIER, oceanographer, Professeur du Muséum National d'Histoire Naturelle, département Milieux et Peuplements Aquatiques
- Silvia DE CESARE, ENS PhD student
- Jean Gaumy, photographer, www.magnumphotos.com
- Mikael Kristian SEJR, oceanographer





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