

## Residency at Periferry 1.0

December 2009 < March 2010

*Preliminary Conceptions*

*by Bartaku – October 2009*

*Fused by: 'PhoEf: the Undisclosed Poésis of the Photovoltaic Effect.'*

*A research project by Bartaku - <http://libarynth.org/luminous/phoef>*

### **A.Slow.Flow - A micro-intervention in the Periferry-system**

*Bartaku's residency at Periferry 1.0 is perceived as a micro-intervention: natural dye sensitized solar cells will be inserted in the autonomous stand alone system, the Periferry boat: a petrol powered boat on the Brahmaputra nearby the city of Guwahati, in Northeast India. With the connection of an icon of the industrialized petrol powered era with a biomimetic, highly inefficient photovoltaic technology and permaculture techniques, social, aesthetic, functional and other transformations will be explored.*



*Hippophae Rhamnoides*

*Nutrition value: 432kJ/100gr*

*Electrical Energy: 117,5*

*Wh/100grDSC Power: 0,015W/8m<sup>2</sup>*

*Bartaku Calculations - July 2009*

### **Periferry-Static**

The Periferry boat is a petrol powered 'stand alone system' that most often is sustainably immobilized due to the high cost of energy

consumption. This provides an exciting contrasting habitat for a low power solar energy harvesting device like the natural dye sensitized solar cell (DSC), probably the greenest but also amongst the least efficient of all photovoltaic technologies; a single home-made cell (4x2cm) provides 0,015Wh for max. one hour.

### **Due to a Slow Flow**

Using the DSC-tech might cause a profound impact on the boat's users, its aesthetics and its social relations. One can imagine a DSC-lab -and production room, storage facilities, spiral gardens for the growing of the plants that provide the dyes and interconnected DSC-cells that 'decorate' the boat.

### **Photovoltaics meets Permaculture**

The spiral power plants are the means -not only to make efficient use of limited space for growing plants (dyes) – to intervene in existing social habitats. With the image of a DSC-powered boat in mind, a substantial amount of plant spirals is required, which means that collaboration with people/communities nearby the river will be needed. As such the spirals with edible, medicinal plants will pop-up, micro energy units from where new kinds of power lines -or rather paths- will transport the fruits and vegetables to the Periferry for transformations into electrical energy.

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*Bartaku is affiliated with interdisciplinary lab FoAM (Brussels, BE; <http://fo.am>)*

*Photo: Producing Dye Sensitized Solar Cells with Cranberries – Bartaku, Bru/BE, 2009*