THE CULTURAL TOPOGRAPHICAL MAPPING OF BATTIR, VILLAGE OF PALESTINE, A UNESCO WORLD HERITAGE SITE, SINCE JUNE 2014

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Abstract
Presentation of the unprecedented topographical adventure of Battir (village of Palestine, five kilometers to west-Bethlehem) recovering a socio-anthropological study, supported by Unesco, including a survey and measures of every objects of the landscape on 12Km2 of this occupied territory, to produce series of topographical maps to analyze, to understand and to share the riches of an heritage of several millennia, to call to its recognition. A set of remarkable works, led on the ground from 2007 till November 2011, within the framework of the Battir Landscape Ecomuseum (BLE), created for that purpose: ‘THE PLAN OF THE LANDSCAPES OF BATTIR’, the first plan of this kind in Middle East. The survey has been implemented by a local team of professionals, out off our world of geographical or cartographical information, working on an aerial hight resolution photography, with the tools of architecture. Data they collected opened up a complete mapping communication program.

Keywords: Battir Cultural Mapping, Topo-socio-anthropological study

INTRODUCTION
It is at first the whole cultural program of ‘THE PROTECTION PLAN, MANAGEMENT AND VALORISATION OF BATTIR LANDSCAPE’, which was operated at the Battir Landscape Ecomuseum, the local institution created after the Second Intifada to be the executive frame of a socio-anthropological study.

The study aiming to understand and to make understand the stakes of an heritage of several thousand-year-old, to implement its restoration and to call up to its international protection, facing the imminent threat of its eradication, as everywhere else in Palestine Occupied Territories. Years of professional efforts, thought collectively in the interest of the 6000 villagers, inhabitants of Battir, opened up, since May 2012, an unprecedented international collective works in cartography.

From 2007 till 2011, a survey was carried out on the 12Km2 of this terroir, in order to produce topographical maps (the very first topographical maps in the region), in order to broadcast at the same time the understanding of antic building techniques and hydraulic engineering, in passing it on to future generations, but also to envisage all the tourist, landscaped, educational possible development projects, putting in share the culture of the peace.

By a combination of circumstances, I manage the topographical data of Battir and these maps, from Paris, since 4 years.

These cartographic files were entrusted to me, in May, 2012, by their unique author Battiri, Mr Hassan Muamer, civil-engineer at the time still committed to the Ecomuseum, in the purpose that, together, we did live these maps in the interest of his village of course, but more beyond, to offer the opportunity to other villages extending the survey to their own lands, and to document worldwide information with accuracy.

22 ‘Les Cafés-cartographiques’, association under the Law of 1901 created in Paris en Mars 2013. Founded in Octobre 1999 by Jasmine D. Salachas, ‘les Cafés-cartographiques’ offer to meet around the riches of cartography (our Web Site is in construction) Facebook pages of our activities are at disposal, free of personal account.
https://www.facebook.com/CafesCartographiques/info/?tab=page_info
Actually, alternately, in the course of these 4 years, on the riches and the impact of these works introduced to Battir, my colleagues mobilized also graciously, to demonstrate by our sides the professional value of these data and always enriched them.

Today, these maps live in the eyes of the world of multiple manners.

On the 12 km² of topographic data sets of Battir, this local experiment enabled to develop an unprecedented program of professional training in civilian topographical cartography.

The Battiris are the owners of their own topographical data, making this topographical adventure a unique case in history of cartography.

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**Battir, State of Palestine, Unesco World Heritage Site since June 2014**
*(Photo Hervé Quinquenel & JdS, April 2014)*

**THE THREE AGES OF THE APPOINTED ‘#MappingBattir’**


(2007- until November 2011): survey carried on 12Km², study and production of topographical maps implemented at Battir Landscape Ecomuseum (cartography drawn on the aerial photography of the site)

2. **Professional collaborative mapping**: since May 2012: Creation of the Battir®Illustrator file in order to work on graphic semiology, designing art maps. By side, at the National School of Geographic Sciences: Integration of the orthophotography of the site, geometrical rectifications of heterogeneous data in order to produce geolocated information.

Amendments and updating, keeping all files retrieved for each local network a cartographic platform to the other.

3. **Extended participative mapping**: since January 2015 Battir geolocated data has been registred under ‘OpenStreetMap’.

*(Amendments and updatings are in process).*
Battir Cultural Forum, Battir Landscape Ecomuseum (Photo JdS, April 2012)

« The Battir Landscape Plan as a means of defence of territory and human rights. The initiative for the safeguarding of the landscape of Battir relies on the inventory of Palestinian cultural heritage sites initiated in 2004 by the Ministry of Antiquities and Tourism in cooperation with UNESCO. »

Giovanni Fontana Antonelli, Urban Architect

‘A Laboratory of Ideas for the safeguarding of the landscape of Battir, District of Bethlehem, Palestine’, Mars 2014.


Implemented with a pioneering spirit, this study has been managed by a team of professionals, without any support from the institutions related to geographic information. Palestinian urban architects, Italian anthropologists and other trades have been able to reproduce exactly what specifically characterises “Civilian mapping”. By completing the so-called “base map” – namely the map of the territory from the measurement of the field and the analysis of its objects at the 1:1 scale. They offered access to the same quality of information to each citizen, whoever he was, wherever he was located in the works perimeter. Large-scale maps, generated from those measurements by generalization, enable an in-depth reading of this territory and its intermingling issues. This is, to this day, unique in the Middle East.


Mr Hassan Muamer, civil engineer, sole Battiri author of those visionary works, forwarded us the keys and


https://www.facebook.com/CafesCartographiques/photos/a.753533418003166.1073741887.431879503501894/753533964669778/?type=3&theater

The survey, its ins and outs, as well as its authors and their respective functions, are presented within the synthesis written by Giovanni Fontana Antonelli, (major actor of the Battir Landscape Plan, first of its kind in the Middle East, who fuelled it from the Unesco cultural office he led at the time in Ramallah): « Battir, a Laboratory of Ideas for the safeguarding of the landscape of Battir, District of Bethlehem, Palestine »

Eng. Hassan Muamer is the Battiri participating to this survey, last member of the team still working at BLE in 2012.
original digital files, so we could together make them live within the “Cafés-cartographiques” activities. The latter having the primary objective of enabling free access for all publics to all sorts of links regarding cartography, which as scientific discipline is at a crossroads with all the others, which opens up exchanges, fosters communication and knowledge sharing, our answer to Mr Muamer needs – in its path – has been immediate.

Dedicated at that time to the Eco Museum of his village, Mr Muamer directed in the course of 2012, the restoration of the valleys and historic centre of Battir.

As of May 2012, when we came back to Paris after the first stay in Battir, we created, as agreed with Mr Hassan Muamer, the first Facebook pages about our activities to promote and share the deployments of this topographic brief, an unprecedented work in the history of cartography.« Battir is a Palestinian village situated on the line that, from 1948 on, divides the West Bank from Israel. The integrity of its historical and archaeological landscape characterized by cultivated terraces and ancient irrigation systems, still in use, is being threatened. A Landscape Plan becomes the strategic tool to preserve both the places and the human rights. The initiative for the safeguarding of the landscape of Battir relies on the inventory of Palestinian cultural heritage sites initiated in 2004 by the Ministry of Antiquities and Tourism in cooperation with UNESCO. »

Giovanni Fontana Antonelli,
A Laboratory of Ideas for the safeguarding of the landscape of Battir, District of Bethlehem, Palestine (Mars 2014)

Mapping-workshops – Battir colleges and school: Drawn dialogue: “Living in one’s village” (April 2014)

BATTIR, CLARITY OF SENSATION – a film by Nabeel Abu Laban (2013), where three authors of this study explain the context of the works (Hassan Muamer – civil engineer, Samir Harb and Giovanni Fontana Antonelli – both Urban Architects), https://youtu.be/oKn1TaMA5ag

25 The 7 Facebook pages associated with the “Cafés-cartographiques” activities are accessible to all, without any obligation of registration on this social network, where our information is classified by album https://www.facebook.com/CafesCartographiques

The traditional social organization, called ‘Maa’dud’, establishes this distribution. The quantity of water accumulated every night is measured in the small hours by two representatives of the Village Council, to be shared equally every day of the week between each of the eight large families of Battir.

In Battir, where nothing is really as it is elsewhere, there are therefore eight days a week to establish equity.

Water, the long history of its shaping of landscapes marked by the riches of past civilizations, this Battir environment, inherited, preserved and restored in 2012, the tenacity of some to the service of all, all this allowed the village to join the Unesco World Heritage as an endangered site (Doha, June 20, 204)

Source ‘Ein Al-Balad’, Battir historic center (Photo: Ari Rossner, October 2013)
BATTIR. Villagers in their Gardens of Paradise  (Photo: Ari Rossner, October 2013)

The Battir Landscape Plan allowed defining each element of the landscape, deciphering its history, its systems function, in order to restore and preserve the sites. Heritage of the antique hydraulic engineering, those 550 kilometres have been measured and studied: the stretch of dry stone walling and water lines around flowered gardens, orchards, fruit groves, every sort of cultures and terraced olive groves... the sources were studied and their devices cleaned and restored (BLE, 2012).

Water, source of life, remains, in those valleys of Palestine, the source of all human balances, whether economic, social, cultural or political. In Battir, this water irrigates far beyond soil and crops; it defines social ties. It unites, it offers perfect spots to sit and enjoy the resonances of a thousand-year history, artfully preserved over generations up to the present day.

Restoration works led by Eng. Hassan Muamer in the valleys and historical centre of Battir (BLE, 2012)

Ein-Emdan Spring before its restoration, Battir.  
Photo: Jds, Battir April 2012

Ein-Emdan source, Makhrour valley (Photo: Hassan Muamer, summer 2012)
The topographic maps offer the correct reading distance of a space on the border line of times: 5000 years of world history to share, on 12Km² of data collected, measured, interpreted, organized to be studied, prioritized by theme, correlated with one another, represented to speak to us. Such a precision of information is not available elsewhere in Palestine.

Representing to transmit: collecting data, measuring, interpreting, hierarchizing, organizing, and mapping to publish and share. From the design methods to the generation processes, to cartography at such scales does not allow any improvisation and requires precise competences. This discipline demands, from the organization of the field surveys to the map editing, an infinite series of time-consuming operations for the gathering of information, the verifications, corrections… Back in June 2012, in response to the citizen mobilization of Battir and the quality of this topographic project, a chain of good wills and spirit of collaboration was formed, all of us mutually sharing our expertise, in order to maintain those maps and their data ; in order to secure lasting value of this topographical patrimony and promote its proper use.
Since then, a cartographic adventure began, opened to all, following the rhythm of rectifications and updates of data and topographic maps, accompanied by continued publications.

BATTIR, Aerial photography of landscape.

Transmission of the study and its digital cartographic data, Eng. Hassan Muamer, BLE Mai 2012. (Photo: JdS)

The second age: a professional collaborative mapping since May 2012, the reconstructed mapping of Battir.

It has been a first issue to rectify these collections of data, to map them on the orthophotography of Palestine territory, then to produce the rectified topographical maps of Battir, with a view to extending, why not, their production beyond Battir, towards the surrounding villages.

Location of Battir on the Orthophotography of Palestine Occupied Territories, West Bank.
The process of mapping at such scales, not intuitive, requires a lengthy and complicated implementation with specific tools and competences, along with multiple exchanges and validations to manage it. 4 years of exchanges and sharing allowed to open new programs of studies and research from these amounts of data collected in Battir, that we finished to overview. Eventually, we obtained a collection of new tools to offer always more pedagogy to teach the process to produce topographical maps.

Summer 2013, it has been a first stay on site with Sylvain Gonnet, still student at that time, for measurements to complete the modelisation of the antic irrigation system of Battir and organising cartographic workshops.

It has been also the production of 3D Videos merging the landscape and the cartographic data, created by Ali Muammar, Civil-Engineer living in Battir, who spent several weeks working and helping us to amend our files.

Spring 2014, Hervé Quinquenel designed orienteering maps adjusted and updated by a rapid fieldwork survey, to share all together courses on Battir, that were designed to explore the village and the surrounding valleys with their cultural, historical and remarkable natural heritage. By side, I amened and updated the art mapping files under ®Illustrator, meeting the Village Council members and several teachers to render the work as much as possible.

« Battir topographic data and files have been used to design innovative and motivating pedagogical projects at the National School of Geographic Sciences in Paris. One of the main outcomes has been to diffuse this information on web collaborative open-platforms, thereby giving back to Battir citizens the use of this precious works »

Hervé QUINQUENEL

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During these four years, taken over session after session, data have been corrected and adapted on various softwares under licence or free, merging from ®AutoCAD (software of architectural drawing) to different Geographical Information Systems.

**Mapping Battir:** from the survey to the map, from the Geographic Information Systems to the art mapping.
Works tutored by Hervé Quinquenl & Jasmine D. Salachas, cartographers (#MappingBattir 2012/2016)

Collections of data have been first gathered inside the ®Illustrator file, aiming to produce the art pedagogical an communication mapping. Then, our rectifications allowed to complete the data on each cartographical system. First ArcGIS of Esri, then Geoconcept, QGIS (free and open source Geographic Information System), OCAD+ (the Software used to produce the orienteering maps) - up to the Art Maps redrawn on ®Illustrator since April 2012, systematically rectified too, integrating Graphic Semiology.
Topographical map, updated under OCAD System and re-oriented for training activities by Hervé Quinquenel and Jasmine D. Salachas, cartographers (Battir from April, 19 until May, 24, 2014)

The third age: extended participative mapping, OSM Battir geolocated data (since January 2015)

Then, to keep opened the initial project as it has been forwarded at BLE, in May 2012, the rectified data has been registered under OpenStreetMap, the participative international project aiming to create a free editable map of the world, allowing any representation and 3D model of this village. Under each system, these maps, which were transformed by integrating, have acquired the available geolocated updates.

#MappingBattir under open source OpenStreetMap worldwide participative project. Today Battir is modelised in 3D.

http://www.openstreetmap.org/search?query=Battir#map=18/31.72899/35.13977
http://demo.f4map.com/#lat=31.7139010&lon=35.1394439&zoom=16
CONCLUSION

Such executive frame must be clearly understood, in order to extend what was made for Battir in the general interest, to share openly, and freely, this culture of the peace that we claim, and that topographical maps help us to build. Cartography recovers several universes, but first of all, to produce any “honest” works, all must start by a survey, namely the map of the territory from the measurement of the field and the analysis of its objects at the 1:1 scale, which specifically characterises “Civilian mapping”, as citizens produced it at Battir.

A map is a communication tool. Maps are tools to document our curiosities, to express our creativity, to share our sensibilities, to complete our education: to federate our citizenships. This is also the deep meaning of the works implemented at Battir, for onto 12Km2, today a complete model to teach our procedures and methods to create a topographical map, and why for, to who we do map.

« In order to make known throughout the world the value of these collective works, in order to promote them, to sustain their practices, their impact in the longer run and to preserve their memory, the association « les Cafés-cartographiques » submitted to the vote of the Norwegian Nobel Committee their nomination to the Nobel Peace Prize. »

This collective application recognizes the work of the Battir Landscape Plan Team, its visionary initiative for peace (within the UNESCO project framework, supported by Norwegian Funds, World Heritage Fund, UNESCO Regular Programme’s funds, and the Italia Cooperation funds through the Palestinian Municipalities Support Programme, 2007-2011); the support of Mr. Akram Bader, as the Head of Battir Village Council and representative of the people of Battir; and the engagement of each one of the working team, here represented by Mr. Hassan Muamer, the Battiri team member, author, main actor of the field survey, restorations management, and initiator of the sharing of the outputs of the work in 2012.

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BIOGRAPHY

Jasmine Desclaux-Salachas, cartographer - photo-identification
(National School of Geographic Sciences /ENSG-IGN), Teacher of cartography - Training in the classical techniques of map design, enhancing skills in digital cartography,

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PhD Student « CARTOGRAPHY & EDUCATION »

Founder of ‘les Cafés-cartographiques /maps&talk’ in October 1999. Association under the law of 1901 since Mars 2013: informal events opened to students, professionals, researchers, amateurs, anyone interested in cartography.

Map publication collaborations – from map design to topographical production – all types of cartographic illustration, publication and digital distribution.

Since may 2012, Battir#Mapping Design & Communication is followed under the agreement of the Village Council, Mr Akram Bader (Mayor of Battir), and Itidal Muammar (Battir Village Council)
Co-vice-president of the French Cartographic Committee (http://www.lecfc.fr)

Commission Chair « Cartography & Communication »