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# The role of design in discovering speculative futures materials for local revaluation.

## Investigation of the methodology

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**Abstract:** This paper will analyse the role of design in the development future of strategies to re-evaluate non-urban areas through the assessment of indigenous materials and the individuation of speculative, valuable, future strategies. Assemble Studio (UK), Rural Studio (US), Banca del Fare (IT) in collaboration with Calchera San Giorgio (IT) and Breaking the Mould (IT) are examples of design studios and projects that are working with local resources from specific forgotten places, obtaining surprising outcomes that are empowering previously ignored realities. Rediscovery, recycling, reusing and remaking are key words common to all these case studies. As a result, an original experimental methodology for new doctoral research on speculative futures materials for local revaluation is emerging, based on the observation and analysis of the design approaches within the different design studios.

**Keywords:** Territory, indigenous materials, local community, design research method, unconventional future scenarios

## 1. Introduction

While walking in the countryside landscape of different extra-urban areas, often the main perception is that the territory has been neglected and absorbed by wild vegetation. The villages, connected by uncomfortable roads, are empty and quiet, mostly abandoned under a deep layer of dust.

But everyone, walking around little rural old villages or hiking in remote woods, feels fascinated by the discovery of vernacular ruins and previously unencountered artefacts made in former times, by mysterious people and nature. Moving a few kilometres onwards, the landscape change quickly, the natural elements and the material resources change and, instead of old brick ruins, we can find impressive raw stone constructions kept together by mud. Visits to the local museums, proudly set up in every village, reveal dusty, but well preserved, heritage objects manufactured for every unthinkable need of the community.

In the past, many cultures were able to develop ingenious and spontaneous solutions in order to answer to specific needs, with a well-known natural environment. Following real exigencies and understanding the powerful potential of nature in which everything was immersed, as a result of the

interaction between local communities and nature, a rich indigenous material culture was developed (Giaccaria, 2008, p. 23). All forms of vernacular artefacts and architecture were built to meet specific needs and could be adapted and developed over time as circumstances change, completely out of the logics of the market (Archipov, 2006).

The indigenous material culture can be defined as the cultural heritage developed by people over time in order to answer specific needs typical of a specific geographical area, the social context and the material resources (De Giorgi, 2008, p.13). As Alberto Magnaghi said in his *The local project* book, at this point, it is possible to introduce the idea of territory, as fertile dialogue between humans and nature (Magnaghi, 2000). Unfortunately, the current phenomenon of abandonment of isolated and non-urban areas, due to many different reasons, represents an enormous loss of territory.

Nowadays, as we search for future resilience strategies we should have a look back to our heritages and appreciate the resources that nature is providing us. Looking at ancient artefacts, technologies, processes and materials, if still available, can be useful in order to identify possible future design opportunities. More than ever our roots are important sources of innovative solutions (Appadurai, 1986).

A new-born doctorate research program began in Autumn 2018 at *Politecnico di Torino* in collaboration with *MATto*, the material library of *Politecnico di Torino*. It asks what could be the potential of the re-evaluation of the indigenous material culture of specific areas, in order to develop innovative future scenarios. The study will represent the development of an ongoing research project entitled: "Speculative archaic materials catalogue. Design for local cultural heritage revaluation and future materials", that has involved the paper's authors. From a methodological point of view, this previous research has been valuable in highlighting the opportunity to start the PhD research analysing existing interesting initiatives and activities developed all over the world by researchers who work with indigenous materials in order to cultivate local resilience.

This paper's journey will investigate the potential of different approaches that are currently used worldwide by design studios, collectives of creative practitioners, off-campus architecture schools and artisans.

## 2. Why re-evaluate indigenous material culture

Before starting to analyse the different methodological strategies aimed at re-building territory and re-starting the dialogue between humans and nature, it is fundamental to clarify why, nowadays, we can obtain valuable future strategies by looking back to our indigenous material culture.

As Pietro Bevilacqua said the cultural heritage owned by local communities could be seen as a starting point of the socio-economic evolution of different regions and it is considered an example of efficiency in many future scenarios. Old traditions, ancient strategies and technologies developed in non-urban territories in collaboration with the natural resources available in the areas, nowadays, could be considered as examples of virtuous innovation (Bevilacqua, 2007, pp.18-23).

Unfortunately, the socio-economic consequences and climate and landscape changes are seriously compromising the existence of marginal realities (Mercalli, 2014).

The radical changes of extra-urban territory are well illustrated through the local artefacts. In fact, the anthropologist Igor Kopytoff in his essay *The cultural biography of things* published in 1986 in *The social life of things* (Appadurai, 1986), writes that it is possible to "resonate about humans speaking of objects" developing the idea that objects have their own biography able to change according to the times. (Volonté, 2009, p.16).

### 3. How: approaches, methods and results

Based on the rediscovery of indigenous ancient materials and their valuable peculiarities, the individuation of what will be the local material resources of the future, have been already tested worldwide. These strategies have the potential to empower local communities (Lai, 2000). In order to develop a proper PhD research methodology, the paper investigates approaches, activities, goals and results of different dynamic design practices already operating in the field of local resource evaluation. The different realities will be analytically critiqued in order to enhance key points and improve weaknesses.

#### 3.1. The revaluation of ancient materials

As already said previously, the rediscovery of our local heritage could provide us many future innovative strategies. Beyond socio-economic implications, various projects and laboratories encourage the reintroduction of local ancestral natural materials, past working tools, everyday old artefacts, ancient technologies and practices, representing deep values.

*Banca del fare*, is a summer design and architecture school based in *Alta Langa*, a small area in the North-West of Italy rich in heritage but nearly abandoned due to many geographical and economic reasons (Belforte, 1993). *Banca del Fare* in collaboration with a local organisation and one of the last surviving Italian limestones historical laboratories, *Calchera San Giorgio*, is looking to recover a forgotten area with its physical indigenous natural resources, showing the potential of using rediscovered ancient materials. Under the wise knowledge of the few remaining experts who are still able to handle local wood, indigenous stones and limestone plasters, a small number of old vernacular stone buildings have been rescued (Figure 1). Demonstrating the competitive technical efficiency of those old materials, the local organisation aspires to relaunch the entire neglected area and the local community.

Moving to the North-East of Italy, *Breaking the Mould* is one of the projects that acts in the Venice area in order to re-evaluate ancient traditions. The project, *Venice>>>Future*, is driven by a collective of international designers aimed at re-examining the local heritage and experimenting with innovative tools. *Breaking the Mould* together with *Materiaterza*, are looking to adapt the traditional Venice craft to the 21st century in a way that the precious heritage will not be lost, but will be preserved and evolve (Figure 2). The group has to manage the correct balance between the use of old materials and strategies and new technologies (Figure 3). As the curator of the project, Stefano Maffei, said:

They're guided by a simple idea: to create an imaginative combination between two manufacturing processes poles apart. On one hand we have handmade blown glass production: the head, the heart, the lungs and the experience of the artisan build every time a unique repeatable united to the specific peculiarities of the man and of the moment. It's a deep link, dug into the worker's hands, to the story and to Murano island, the territory in which substance takes form. On the other hand there's pottery manufacturing process through 3D printing: a unique standard producible in anywhere always with the same features (Maffei, 2015, p.2).

Indeed, it is important to consider, in every project, the different contexts within which one operates and to be flexible and open to compromise.

From a critical point of view in order to develop a project methodology based on the revaluation of ancient indigenous materials, the methodology should be designed taking into consideration the context in which one operates finding the right compromises between old and new systems. Of course, it is not easy to recover the ancient *known how*. In fact, nowadays, are quickly disappearing

knowledges and people able to individuate, manage and handle indigenous materials and applications. Unfortunately, the current socio-economic landscape which is promoting easy and fast solutions (Patel, 2010, p. 85), is rapidly degrading our heritage.



Figure 1. Banca del Fare summer workshop. Students and experts are working side by side in restoring a vernacular stone building. ©Banca del Fare



Figure 2. When innovation merge tradition: innovative and traditional tools used for Venice>>>Future project. ©Breaking the Mould



Figure 3. From the top: traditional glass blowing and ceramic 3d printing processes. Then the final Venice>>>Future outcomes. ©Breaking the Mould and Giacomo Strelotto

### 3.2. Futures local material resources

In the development of the action plans of the PhD research, it is indeed fundamental to consider, next to the already described indigenous resources, as well the material resources and objects that are not properly native of the area but are imported there by times, geographic and socio-economic circumstances.

“The best way to make real architecture is by letting a building evolving out of the culture and place” said Samuel Mockbee (Oppenheimer and Hurskey, 2002, p.13) explaining how results can come out off every resource available in a specific environment. Starting from the sentence of Samuel

Mockbee, and reflecting upon the work of Igor Kopytoff (Kopytoff, 1986), it is fascinating to consider objects as entities with a proper life that evolves and change according to needs and environments. It is, indeed, necessary to consider resources available in the area, not only those indigenous in origin but, also, different objects, materials and uses that have been introduced at different periods.

Samuel Mockbee in 1993 developed the Rural Studio as an off-campus base of Alabama University in order to design facilities for disadvantaged people of that area. From the beginning the Studio has brought architecture students directly on the stage of designing and making real projects often using the few materials available on-site. All the buildings developed demonstrate that all objects and materials available can have a new life if wise hands are used to transform and adapt them within different contexts. The students, are encouraged to experiment with untried building methods and materials such as waste baled cardboard, recycled materials, cypress timbers from a nearby marshland, lumber from a disused train trestle, brick from a demolished building (Oppenheimer and Hursely, 2002, p.10). Walking around the area it is not easy to recognise car windshields, fences, traffic signs and old furniture because wise hands were able to integrate them with clever ingenious techniques.

While exploring the best methodology to rehabilitate a neglected area, it is necessary to understand not only how to reintroduce indigenous resources, but also to analyse what can be obtained from the materials and elements accumulated by time in a specific place. Considering that the research is further aimed to avoid the death of an area, it is meaningful to consider both the ancient and the new resources that characterize the space.

### 3.3. Social practices

Indigenous local materials and unthinkable new resources can express their full potential if considered in relation to the local community. In fact, as Magnaghi stated, it is possible to start to talk about territory only when there is dialogue between local resources and the habitants (Magnaghi, 2000, p. 76).

Again, Samuel Mockbee considered the Rural Studio workshops as the “classroom of the community”, embedding the creative practices within the life of the community. Each day, students work on construction sites, attend city council meetings and confer with public and govern organisations. Design and architecture are used as tools to “inspire a community or challenge the status quo into making responsible environmental and structural social changes” (Oppenheimer and Hursley, 2002, p. 13).

Pushed by the same spirit, since 2010, Assemble Studio runs a collective of young architects and designers in the heart of East London. As A. Artemed (2015) describes in his article: “Assemble Studio London”, the aim of the members is to work with and for the local communities in order to encourage local rehabilitation. In fact, the main clients of the Studio are abandoned neighbourhoods, neglected gardens and playgrounds, and forgotten uncomfortable spaces with extremely small budgets. Key elements of the Assemble design approach are a collective design approach, self-making by hands and the constant involvement of the local community, in order to empower the community and make them feel the effective core essence of the re-proposed space. Often Assemble work side-by-side with residents, delivering enormous transformations with low tech and simple gestures.

Adopting a critical analysis approach, both the practices analysed demonstrate the importance of the collaboration between the local community and an external group. The first knows the territory deeply but the second can see the resources with a different point of view and can start initiatives.

Unfortunately, it is not easy to involve the community, who are often not aware of the potential of the owned local heritage.

## 4. Back to the land: South-Piedmont case study area

As already defined in the previous step of the research named “Speculative archaic materials catalogue. Design for local cultural heritage revaluation and future materials”, the investigation is focused on a specific case study area in order to evaluate the efficacy before applying the findings to a range of areas.

The current analysis has identified as a first area of intervention the suburban area of South-Piedmont in the North of Italy. From hills to mountains, the selected area is rich in small communities, guardians of the precious local heritage (Pallante, 2013, p. 79). The disputed potential of those solitary environments has been described by Velliga and colleagues: “(...) many vernacular traditions have become associated with the past, underdevelopment and poverty, leading to the perception of vernacular buildings as obstacles on the road to progress rather than as works of architecture that are well-adapted to local cultures, economies and environments” (Vellinga, Oliver and Bridge, 2007, p. 83). The research will help to understand the value of the revaluation of various heritages in a specific environment much as the suburban areas of South-Piedmont.

Utilising different approaches, as individuated in the example already cited, the research will question the value of indigenous silkworm and mulberry culture, the cultivation of hemp and strawberries, the extraction of talc and the use of plaster. Indigenous ancient resources will be merged with the understanding of what could be the new resources, in accordance with the geographic and socio-economic changes of the area.

It is important to be aware of potential difficulties. For example, there are not many written documents that bear witness to everyday local history. Archives of churches and parishes and local libraries can be a useful starting point. But often the only information about the rural material culture can be found in the investigation of vernacular artefacts, collected by local heritage museums. All the materials investigated will be filtered with the help of other disciplines such as archaeological and social studies. Furthermore, it is essential to be aware of the complexity of the various natural environments and the consequential variety of cultural heritages. It could be that the evolution of the research will drive us to restrict the case study area considered and to develop strategies and methods that could be spread across different areas. A strategic toolkit adaptable to different places could be developed and applied. As a long-term ambition, the results obtained should be shared on an international scale, allowing everyone to develop future design solutions based on the past.

## 5. Conclusions

Nature is used to provide us with the solutions that we need. In the past, many cultures were able to understand this and an ingenious material culture was developed. This approach allowed rural people to live in harmony with nature. Unfortunately, the current phenomenon of abandonment of isolated and non-urban areas, due to many different reasons, is representing an enormous loss of roots and identities, which are key to discovering solutions to current problems. Nowadays, looking

for future resilience strategies we should reflect upon our heritage and appreciate the resources that nature is providing us. Looking at ancient artefacts, technologies, processes and materials, if still available, can be useful in order to identify possible future design opportunities. More than ever our roots are important sources of innovative solutions and design “can help set in place today factors that will increase the probability of more desirable futures happening” (Dunne, 2013, p.6).

As demonstrated by the design studios analysed, change is underway and we are discovering how design could drive future solutions looking beyond the conventional.

The doctoral research, utilising design practices as tools, will move towards an experimental research methodology taking inspiration from the examples illustrated in Section 3. The journey starts with a critical analysis of the selected case-study area, from its origins to the current situation and including a future projection. With the collaboration of experts, it will follow the individuation of the indigenous and new resources available in the territory. Advancing proposals of future applications that will be tested, as learned from *Banca del fare*, *Calchera San Giorgio* and *Breaking the mould* workshops. It will be judged by the practical value of the reintroduction of selected resources. As Rural Studio and Assemble Studio taught, the involvement of the local community is essential in order to develop interest in future scenarios through the organisation of workshops and laboratories. As a further outcome, the introduction of the individuated new, past-based, innovations that could be exported on a bigger scale will be evaluated.

Following the writings of Magnaghi it is necessary to recreate a powerful and respectful dialogue between humankind and nature, rebuilding local territories. Our future requires a virtuous relationship between the natural environment and the local culture, always being aware of our roots embedded in history. A rich and powerful cultural heritage is hidden under a layer of modern progress (Magnaghi, 2000). It is important to keep alive knowledges and cultures at risk of extinction, restoring the relationship between nature and with other human beings. Allowing oneself to forget our heritage means to renounce to our future opportunities (Berry, 2015).

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