

Research method and operative approach

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Analysis following the VerSus approach elaborated during the Scientific Workshop in Cagliari, Italy, April 2013 (photo: M. Correia).

The conceptual outline of Project VerSus

The developed Research method and its consequent Operative approach aim to contribute to the awareness of the value of vernacular heritage, especially when it is considered for contemporary sustainable architecture. Going beyond conventional quantitative parameters, VerSus enhances solutions that concern transversal sustainable purposes.

As vernacular heritage addresses distinctive contexts, it was decided to establish a conceptual framework in order to survey, compare and interpret the collected data. The conceptual process should not be understood as a rigid format classification, but rather as an open approach, to be extended and further detailed, if needed, according to the nature of the input, or the perspective of the author. The principle aim is to give a more heterogenic knowledge with a wider possible impact and application. This simple, but rather ambitious premise, defines the development of a conceptual outline that should constitute the main guideline for data collection, and perhaps a preliminary orientation to identify contributions, within a structured and reliable system of analysis.

After several endeavours, the project adopted a four level conceptual structure, with one variable responding to the specific geographical location. Vernacular case studies could be integrated into this conceptual outline, which is based on: Sustainable scope, Principles, Strategy; Specific needs determined by the geographic context; and Vernacular solution/ Contemporary adaptation.

The conceptual structure constitutes the inventory layout of the project's database. It was designed, not only as methodological tool, but also as a communication device. It allows a reverse interpretation, working from the basics, to a selection of representative vernacular examples; or the other way around, guiding the reader from any specific vernacular solution to the factors that originated and influenced them. The apparently simple diagram provides a common ground for interconnection of different scientific areas (fig. 1).

The progressive development of the VerSus operative approach

VerSus project intends to outreach society, not only through the dissemination of the accomplished indicators, but also by showing the sustainable qualities of the identified examples, through the estab-

lishment of an operative approach that can be adjusted to different contexts. The selected approach was initially created, as an intrinsic component to develop VerSus research, stimulated by the definition of a specific systematic process, with scientific interest.

One of the fundamental objectives of the 'VerSus operative approach' is to constitute an instrument to assess the sustainability of built interventions. Despite its relation with the Vernacular heritage - a relation based on its essence and not on an application dependence - the intention was to present an outcome that could provide autonomous and diverse implementation possibilities.

Its premise was to propose a strategic guideline to provide an evaluation for existing interventions, but also to better plan future interventions for sustainable built environments. Another important intention was to provide a guideline that could be easy to interpret and simple to apply, without compromising the technical-scientific features of the related subjects. The operative approach never drifted from the ethical goals of the Project that consisted on creating a reliable technical tool with a high dissemination potential. Therefore, the present result seeks to achieve a balance between the 'fundamental level of technical characterisation' and its 'effective communication opportunities'.

This required a significant effort of synthesis, in order to accommodate the input emerging from more than 1.000 documentary revised references from technical books, scientific articles, conference proceedings, expert interviews, building legislation and assessment programmes.

The lack of articulation of different scientific areas on the subject, and the evolution of the Sustainable concept itself (Correia 2009, p.70), constituted the critical limitation in the groundwork of the operative methodological proposal. The recent superficial and careless use of the term 'Sustainable' in the architectural and urban spheres shows the lack of scientific accuracy concerning the theme. This largely contributes to the discredit of the concept, and most of all, to the unawareness of its potential and outreach, especially when considered as an architectural requirement.

Besides, the review of the literature allowed inducing that close to 70% were descriptive inventories linked to a national vernacular architecture literature. Their sustainable features related mostly to cultural values and ethnographic aspects. Only in a most recent

trend of publications, mainly after the year 2000 which saw an increase in articles from the proceedings of conferences, was there a significant corpus of literature addressing the relation between the Vernacular Heritage and its sustainable potential. It was clear that after this period, relevant knowledge based on bioclimatic/ passive solutions was established, capturing the attention of the Vernacular Architecture specialists (Correia et al., 2014).

The operative approach draft was set after a careful revision of the literature regarding the collected theme bibliography of the most important references within the area. The selection of a multi-criteria perspective emerged following the crossing reference of vernacular heritage bibliography that mainly consider isolated sustainable features, and the documentation related to the impact evaluation of contemporary architectural projects. During the literature review process, studies were identified (Sánchez-Montañés Macías, 2007; Neila Gonzalez, 2004) relating vernacular features to geographical contexts, but also focusing the strategy behind the interpreted vernacular solution, which reinforced the research method perspective entailed by the project.

The revision of literature also addressed the specific evolution of concepts regarding building sustainability. The recent developments on the meaning of 'building culture' and its socio-cultural implications upon the living conditions of the local communities were integrated as part of the conceptual concerns.

After the conclusion of the project's conceptual and methodological framework, it was clear that the first difficulty was to develop an approach that could establish a comparable parameter between quantitative and qualitative features.

Another important aim was to study the possibility to extend the analysis to different scale interventions, from the territorial dynamics to the material detail, allowing the integration of landscape, urban design, architectonic typologies or isolate architectural components within the analytic system.

It was also necessary to consider the importance of combining the distinctive implications of all the built intervention phases, from the territorial interpretation to the building process, the construction performance, the management and the maintenance. To test the efficiency and operability of the VerSus approach, several scientific workshops were undertaken during the partner's ple-

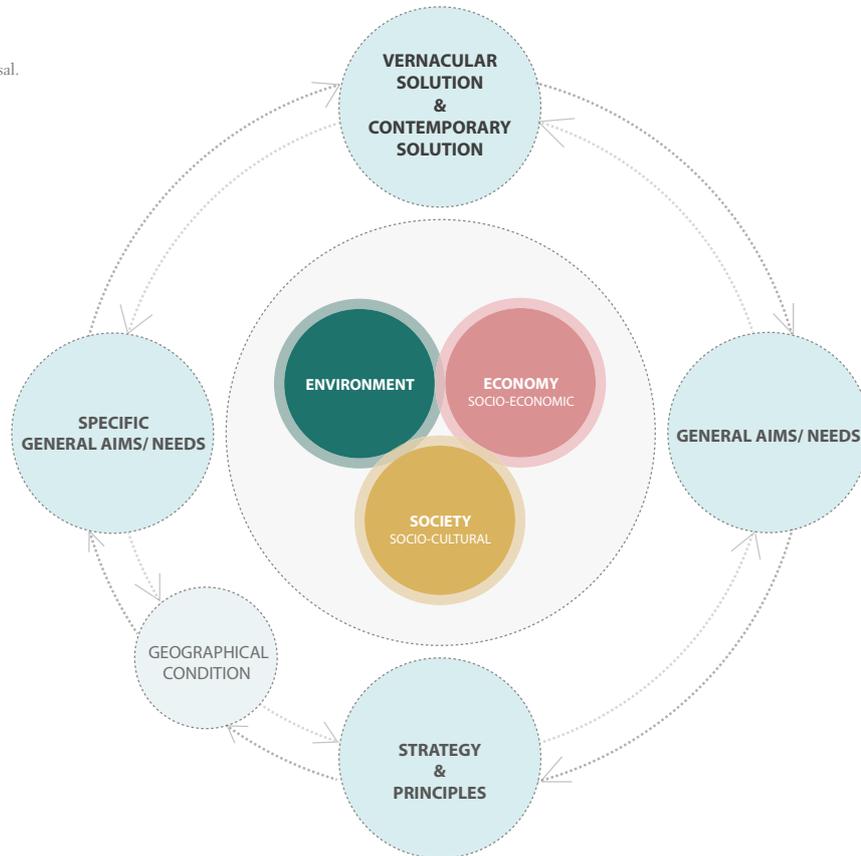
nary meetings. These were specially adjusted to MA and PhD students, who were developing their dissertations and theses on the same field. The workshops were programmed within a progressive hierarchy, following the Project's main activities and their distinctive objectives. The debate generated between the researchers' established concepts and the targeted audience enabled the possibility of a direct observation of the application of the approach, allowing an awareness of its main constrictions and potentials.

Four main workshops, coordinated by the Project VerSus researchers, were developed in Italy, Portugal and France, focusing on the communication expression of the methodological approach, the quality of the student's work and the level of satisfaction of the participants. Although the aims, the given contents and the expected results were the same, the tested procedures were significantly different, in order also to evaluate the implication of the workshop format within the expectations.

The first scientific workshop was organised along with the project's start up meeting, in the Escola Superior Gallaecia, in Vila Nova de Cerveira, Portugal. The workshop was divided into a presentation session and a wide audience debate. All the research coordinators were challenged to expose their own field experiences, presenting clear cases of vernacular examples, where the sustainable features could be explicitly depicted. Naturally, the material was diverse and the contents were not systematised between them, producing isolated points of interest, according to the personal affinities of each participant. The 200 people that attended the event - professors, researchers, students and municipality technicians - were motivated to reflect upon the possibility of transferring this kind of knowledge to actual design studio processes. This was possible, once its main implications and eventual difficulties were considered. In addition to the dissemination of the project, the workshop was mainly driven to identify different strategies of outreach, according to the distinctive perspectives. Considering the intensity of the debate, and the increasing discussion on the actual overvalue of the aesthetic components in architecture, the pedagogical potential of such an interactive method of sharing contents gained significant importance, which in turn confirmed the pertinence of the VerSus educational objectives.

The second scientific workshop was organised at the Università de-

Fig 1 VerSus Project
Research Methods Proposal.



gli Studi di Cagliari, in Sardinia, Italy. The workshop had the intention to clarify the scopes of the sustainable features and to classify them into different theme groups that could be isolated to address specific analyses. To allow a reliable monitoring of activities, the post-graduate students were distributed into groups, monitored by the VerSus researchers. A pre-established schematic layout was applied and students chose vernacular examples to relate to this first draft of the operative method. The proposed layout established more than 100 isolated strategies grouped in 8 distinctive sustainable areas, that concerned all the acknowledged scopes of the literature reviewed. Although ambitious for a two day working session, the main objective of the workshop was to understand the limits of the response capacity of the participants, to observe the average level of technical deepness in their analysis and to identify the spontaneous tendencies to value, or ignore, certain specific features or areas.

The extension and the flexibility of the layout approach, although promoting the diversity of the results, required an intensive and permanent orientation by the coordinators, therefore overlapping with the autonomy of the analytic development of the participants. The interpretation of the structure had definitely to be more intuitive. In order to achieve this, the project's coordinators rapidly engaged on a process of conceptual synthesis and graphical expression improvement. The thematic redundancies were eliminated and all features were related throughout the most elemental sustainable classification. The hierarchic relation between principle and strategy was reinforced by the transversal nature of the identified solutions. It was also relevant to avoid unclear and vague generalisations without any perceptible advantage of application. Therefore, it was established that all the defined sustainable scopes had to present an interpretation of the results through the study of an architectural indicator. In order to obtain an intuitive and flexible data management, and to



Fig. 2-3 Scientific Workshop in Cagliari, Italy, April 2013 (photos: M. Correia).

Fig. 4 Scientific Workshop in Vila Nova de Cerveira, Portugal, October 2013 (photo: G. D. Carlos).



avoid conflicts with the terminology, the contents were classified into three preliminary sustainable scopes that could be reasoned into any built intervention type:

Environmental: This scope addresses the human capacity of intervention, in order to decrease and even avoid negative impacts on the environment. It also implies the ability to compensate the consequences of any artificial action, and the recognition of the overall necessity to nurture the territorial regeneration (Neila, 2004).

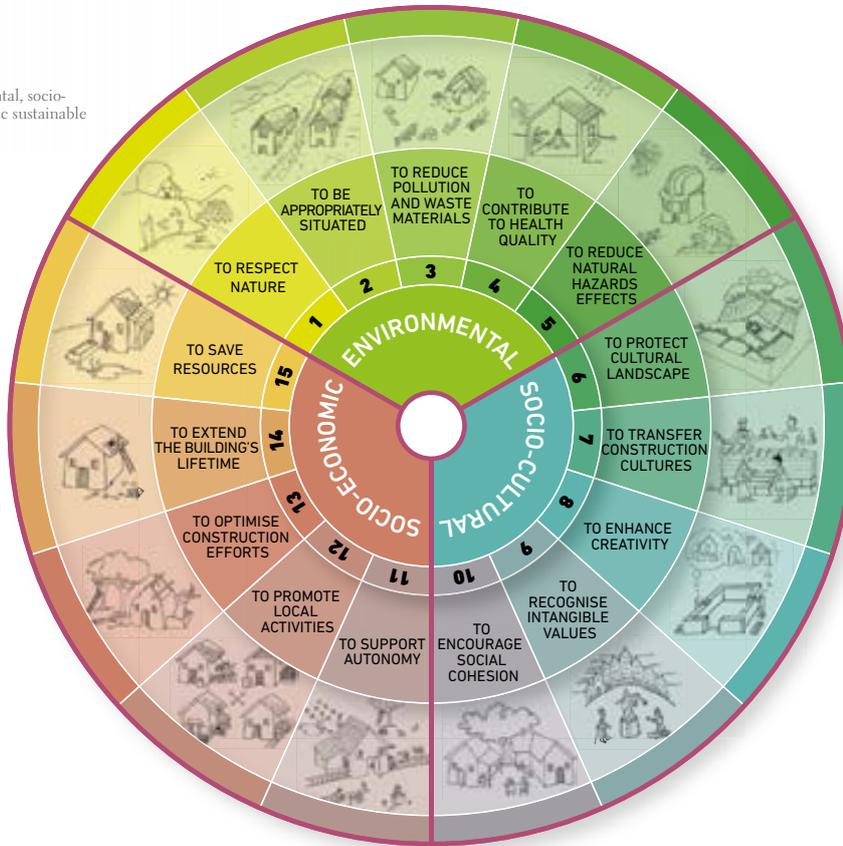
Socio-cultural: This scope should be considered as a milestone of relations, sense of belonging, identity, personal and communitarian development. It tries to gather all the Social and Cultural positive impacts observable on the vernacular solutions (Oliver, 2006). The related features are usually more linked to the processes than to the physic reality itself.

Socio-economy: This scope constitutes the most quantitative scope of the sustainable sphere, conventionally adopting financial and monetary values as basic indicators. Due to the vernacular conceptual implications, the idea of cost is related to the concept of effort, which can be more adequate, when applied to circumstances, where no capital-intensive system exist (Zupančič, 2009).

The third workshop took place once again at Vila Nova de Cerveira, Portugal, during the CIAV2013 Conference, in October 2013. In the framework of the event, organised within the VerSus project, the scientific workshop was zdirected to post-graduate students from the module of *Heritage-Design Studio*, from the MA in Architecture and Urban Design, at the Escola Superior Gallaecia. Several international students also expressed their interest to participate in the session and took part in the scientific workshop.

In a more restrictive format the participants were challenged to apply a grid of approximately 70 strategies, structured under 16 objective/needs, and distributed within the three sustainable scopes. The workshop was divided in two parts: one session, to analyse a vernacular example; and another session to interpret a contemporary project. While the first session produced a set of consistent results, the second session had a very heterogenic outcome. This was mainly due to the diverse information available regarding the contemporary examples that we analysed by the teams. When there was a profound knowledge of the selected contemporary intervention, the

Fig 5 Wheel of environmental, socio-cultural and socio-economic sustainable principles.



results were very interesting and they fulfilled entirely the requirements of the operative approach.

In this workshop the participants were also required to measure the intensity of the sustainable features of every developed case. The aim was to consider a possible rating system, through which it would be possible to observe the balance between sustainable scopes. Although there was an initial theoretical resistance, it was extremely interesting to observe the satisfaction of the participants with the achieved outcome. This entailed a need for a quantitative interpretation of the analysed features, but also of the visual impact they could produce.

The fourth and final workshop, which took place at CRAterre - École Nationale Supérieure d'Architecture de Grenoble, France, in April 2014, embraced a class format for MA students already engaged in similar practical exercises. The coordinators of the workshop benefit from the graphical tools produced within the booklet (fig. 5) to communicate the procedures and the potential results. Combining CRAterre's experience with similar pedagogical tools and the improve-

ments arising from the past workshops, the scientific workshop had very interesting outcomes. The exercise consisted on the direct application and interpretation as a rating tool, of different pre-established case studies, enhancing their most significant features within the sustainable scopes. In this particular case, the examples were previously tested, and a set of materials, organised by the sustainable feature topic, was provided for consultation during the activities. Once more, the operative approach endured a process of synthesis. The objective was to produce a user-friendlier instrument that would allow a more practical interpretation, aiming at a broader audience. Based on the GNSH background (*Sustainable Housing Rating Tool* by CRAterre) within the same area, the operative approach was restrained to a two level circle structured upon the direct relation between principles and strategies. In this last phase, the representative solutions were of the exclusive responsibility of the user. The outline also adopted a more graphical equilibrium, which supposed a terminological update of the subject, allowing a more direct interpretation of the contents.



Fig. 6 Scientific Workshop in Grenoble, France, May 2013 (photo: M. Correia).

In the scientific workshop in Grenoble, almost 50 students were engaged in different work teams (fig. 6). These students were expected to analyse a contemporary project, after the project's researchers exemplified the procedure with a vernacular example. The final phase of the session consisted in a general presentation, where every team had to explain to all participants how their examples embraced all the operative approach strategies originally presented. The overall understanding led to less questions during the application of the operative approach, and a faster resolution of the outcomes. The quality of the consequent analysis and the exceptional level of the student's satisfaction confirmed the evolution process of the operative approach. The interaction of such methods contributed significantly to the quality of the project outcomes, proving that it is possible to overcome the generic prejudice of engaging Research and Development activities within the external community, and to obtain explicit benefits for every evolved part.

The VerSus operative approach is currently being applied in MA dissertations and PhD theses, as a recognized methodological tool. Its application is also part of Curricular Units assessment exercises within the teaching programs of partner Universities. It is also important to state that one of the most gratifying indicators of the VerSus contribution, considering the short period of its dissemination, is to observe how external experts advocate it at international conferences.

There is certainly a strong conviction that the impact of the VerSus project will increase significantly over time. Outcomes can already be seen, which proves that the original aim of the VerSus Research Project, which is to have an impact on students and their architectural education, has already started. VerSus will certainly have a long-term impact, subject to constant institutional support, and encouraged by future socio-economical challenges.