I INTRODUCTION

Scientific research is a critical tool for successfully navigating our complex world. Without it, we would be forced to rely solely on intuition, other people’s authority, and blind luck. While many people feel confident in their abilities to decipher and interact with the world around them, history is filled with examples of how wrong they can be when they fail to recognize the need for evidence in supporting claims. It is through systematic scientific research that we divest ourselves of our preconceived notions and superstitions and gain an objective understanding of ourselves and the world around us. Only then, we can establish a well-based design for the development of our world. It goes without saying, therefore, that all acceptable approaches in architecture require careful preparatory research, continued throughout all subsequent phases, to provide guidance to decision-making and implementation. The ways, however, in which we ask questions when conducting a research, are important, as they predetermine the outcome to a significant extent. One fundamental question for the research, though, according to Lucas and his book on Research Methods for Architecture, is where we place ourselves with regards to the etic and the emic. In the etic approach, the researcher analyzes cultural phenomena from the perspective of one who does not participate in the culture or activity being studied, whereas in the emic approach, the researcher is not solely an observer, but a participant himself. This distinction, which was also emphasized during our lectures, as well as our preparatory meeting for the lecture of Marieke Berkers on Praxeology, made me think of where I position myself in the research process, and how each approach defines the outcome. Overall, there are times when the etic is appropriate (outsider), and times when the emic is the most useful (insider), and it is up to the architect conducting the research and the following design, to make the appropriate choice. The role of both approaches for my research is further analyzed along with my chosen research methods.

In the context of the H&A Shared Heritage Lab, which I am part of, crucial built heritage issues are investigated in the city of Bandung, Indonesia. Bandung has many Indonesian-Dutch heritage sites and buildings as a result of the long period of colonization by the Dutch. They are part of both Dutch and Indonesian history and have become part of the expanding cities and changing landscapes of modern-day Indonesia. The challenge is to give new meaning and use to this environment, taking past, present and future into account. In this context, my research question focuses into “How can adaptive reuse be used as an asset not to create gentrified new areas in the city, but to create the necessary environment for cultural resilience and development of the existing diverse communities in a smart and healthy way?”. Resilience is understood to be found in the interaction of socio-cultural conditions, which include economic systems. The built environment acts as facilitator, where emergent qualities of a site are related to the latent (intangible) qualities of a place. My area of focus is a former military site which holds both tangible and intangible values of the shared past and can be transformed to serve current societal needs. The greatest challenge, however, lies in addressing change while maintaining and augmenting the dignity of the place. In a Heritage & Architecture design approach, a meaningful interaction with the existing buildings and sites, that constantly evolve over time for human needs, is stressed. The design-result should actually be developed in a thorough understanding of the existing spatial, cultural and socio-economical context of the (built) environment.

II RESEARCH-METHODOLOGICAL DISCUSSION

Therefore, an extensive and designed, value-based research that requires deep study of the past, the present and the future of the place is necessary. The site visit, which we conducted during October offered to us a personal experience of the place in its current state and provided us with valuable information regarding adjacent buildings, urban and landscape environment, current state of the building (damages, additions) as well as information on how people experience the space, and what values they attribute to it. These are all information that cannot be gained from collecting historical and administrative data in an office. Nonetheless, any historical information or drawing regarding the specific site or building, needed to be collected and studied preferably prior to the field inspection, in order to guide it.
This observation-research of the space is time-bound and was generated by all our human senses (sight, hearing, touch, smell, and taste), which makes it inevitably subjective. However, the use of a pre-set questionnaire, or form, and ordinary equipment for recording – sketchbook, camera, compass, measuring tools – as well as maps, historical and aerial photographs assisted in directing the observation. This novel observation done during and after our site visit, will lead through further investigations to a more objective outcome, that will form the transformation framework on which our design will be based.

The next steps require a clearly structured procedure that will help to identify the most valuable features of the built heritage in its current state. “Chrono-mapping”, a tool used to identify the different layers of construction history of the site, visualizes the data by coloring the current floor plans (of all floors), sections and elevations or axonometric drawings to designate the main phases of the construction. “Value-mapping”, used to classify the specific heritage features distinguished in and around the heritage site, gives a qualitative insight into the place by means of a matrix, as this is defined by the H&A department of TU Delft, and analyzed in the book Designing from Heritage of Marieke Kuipers and Wessel de Jonge, both professors in H&A. This research method, well-structured for a heritage-based design, will help us to identify the obligations for conservation, the opportunities for possible interventions, as well as the emerging dilemmas for the continuation of the heritage building, and in the end of this research process, we will form an inclusive position statement, which will guide the following design process.

Parallel to this heritage-based research method, though, a more human-related method was used as well during the fieldtrip. The study of human action and conduct, scientifically described as praxeology, was used in order to better understand the actual users of our future proposals. By interviewing people from the local communities, and observing their daily habits, we tried to identify which are these indigenous characteristics that shape their built environment. After all, people and their actions always defined the space and its evolution throughout the history. When conducting this observation on human behavior, my approach sometimes included me as a user of the space as well. This emic approach during field research, was essential in order to understand the difference between a human being shaped within the context of the colonial past of this city, and someone who had no sentimental connection to it. Developing this appreciation of the story of place allows for a more resilient engagement with it. Following interventions should recognize these invisible pressures, in order to shift the system toward social change, economic development or sustainable targets where necessary.

III RESEARCH-METHODOLOGICAL REFLECTION

Throughout the history of architecture, there are certain moments in which significant focus was given to the human scale of the proposed architectural interventions, and to the general architectural approach for the city. On such moment is in the early 1950’s, when Team 10 proposed restoring the sense of fine-grained context that Modernism had lost sight of. “Up with the short, narrow street of the working-class neighborhood; down with the outsize tower in the park. Up with community meetings; down with the omnipotent architect.” Space was given to people and designed for them.

The process of observing the built environment and conducting value-based research to it, has evolved throughout the years as well, affecting directly the design process. From John Ruskin, and his search for the historic ‘truth’ – by which a monument is seen as a historical document in built form (ethics), and the French architect Eugène Viollet-le-Duc who strove for the recreation of a stylistic unity based on scientific research and documentation (aesthetics), to more current research methods, a lot has changed regarding heritage-based research and design. Important throughout the history is the contribution of Alois Riegl and his essay on the ‘Modern Cult of Monuments’, of 1903, in which his central insight was that any concept of authenticity of a monument should not derive from its origin or from eternal values, but from its present-day perception and the emotional attachment to it, based on moods and feelings in modern society. Later guidelines and Charters further shaped the value-based approach on the built environment, with the most important being the ‘Athens Charter’ of 1931, the ‘Venice Charter’ of 1964 and the ‘Declaration of Amsterdam’ of 1975. The ‘Nara Document on Authenticity’ of 1994,
introduced the idea that “Depending on the nature of the cultural heritage, its cultural context, and its evolution through time, authenticity judgements may be linked to the worth of a great variety of sources of information. Aspects of the sources may include form and design, materials and substance, use and function, traditions and techniques, location and setting, and spirit and feeling, and other internal and external factors. The use of these sources permits elaboration of the specific artistic, historic, social, and scientific dimensions of the cultural heritage being examined.” This document, which was later adopted as a base for the so-called ‘Nara Grid’, is the precursor of what we use today as the value matrix. The spectrum of ways of building observation today ranges from viewing them purely as designed objects expressing the original intentions of an architect, to seeing them as inherited properties with publicly ascribed values, and to considering them as multi-layered structures that need special care to prolong their longevity. The proposed structure of assessing value-based research from the H&A department, focuses along with the tangible layers of a building, presented in the framework formulated by Steward Brand, on the Spirit of a Place, which includes the intangible features of the place as a layer, often invisible but nonetheless possible to be sensed and described. The genius loci of a historical place or a cultural landscape, is perceived when on site, and refers to the distinctive atmosphere of a location. This spirit makes the observer aware of interrelationships between stories and stones; spaces, and light & shade; sounds and smells; time and movement; distance, volumes and scale; openness, transparency and closed-ness; climate and use, and so on. The ‘spirit’ unites the essential qualities that make a heritage building a place with a distinguished identity; in short, the ‘spirit’ imbues a place with a soul. Undeniably, one of the most important values attributed to the selected study area in Bandung, is its genius loci, which makes the use of this specific research method essential. The colonial past of the city has formed not only architectural structures in the inner core of it, but has also shaped its citizens. In order to work towards a resilient future, a good understanding of its notable past is necessary. Urban planners now recognize the link to the past and its influence on the sense of a place as an important dimension of sustainable places, strengthening local identity, contributing to investment, and retaining communities. Heritage fabric with its tangible values, is the vessel of an intangible meaning, which has value and requires curation in order to ensure that it is not squandered or lost. It needs to be investigated and described if it is to form the basis for a design investigation.

IV POSITIONING

As presented by Marieke Berkers in her lecture regarding Praxeology, “Praxeology + studying the historical conditions of the production of the landscape” are essential in order to solve the current problems of the built environment. Her research deals with Casablanca, another city with colonial past, in which she notices that by studying the praxis of architecture one can develop an eye for the actual users of a building, and not the imagined ones. This comes in relation to my approach towards architecture, in which local community values should be taken into account, along with the tangible and intangible values of the existing built environment, for an informed design approach. However, it is arguable of whether a short stay in the study area, is enough to understand the ways in which people live and use a space for centuries.

Designs for change, should be informed by a proper understanding of the heritage values and historical evolution of the built site and its setting, as it is stated in the book Designing from Heritage. It is mentioned, though, that the research process can be conducted from either the restoration architect, or from an independent researcher. It is my firm belief, that in order to result in an integrated design project, informed by the socio-political context and the heritage environment with its attributed values, the architect should be directly involved in the research process himself. Deriving from my current work on the cultural value assessment, and the book which concludes the work done before, during and after our visit to Bandung, in terms of site research, I would characterize this whole process as a necessary

1 Brand, in his study of “How Buildings Learn” distinguishes six general-purpose layers for a building: Site, Structure, Skin, Services, Space Plan and Stuff. (Stewart Brand, How Buildings Learn (New York: Phoenix,1997))
step towards forming the transformation framework for a design intervention, through thorough understanding of the values and mechanisms that created the city. Heritage places represent layers of evolving traditional forms of architecture and city buildings that have together created a ‘sense of place’. Understanding the significance of a structure and accommodating necessary alterations to ensure the continued use and enjoyment of it, should be the principle behind every transformation project. To achieve that, an architect must first develop a profound understanding and knowledge of the qualities of the property, of the cultural embodied energy within it, before developing a design.

Heritage buildings are not something apart. They are structures that have stood still in the test of time and succeeded in showing their significance for our cities. As an alternative to our ever-increasing throw-away society, adaptive reuse offers a sustainable building site with existing infrastructure and materials, which when transformed to cover every day needs of the greater city community, can ensure a long-term resilience. After all, the city has always been the “crucible” of history, where space was constantly transformed, through the sequence of destruction and creation, according to a “wise plan”\(^\text{14}\). Reusing old shells has always existed in historical centers.

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1 OpenStax College. Retrieved from: http://cnx.org/contents/4abf04bf-93a0-45c3-9cbe-2cedf6868cc@4.100:1/Psychology