Vivisection in Architecture: an embodied reading of the room by drawing

Abstract: Architects and designers confronted with the complex task of adaptive reuse of an existing (historic) building need to establish a relationship with the host space before they actually start designing. This relationship may be very formal, through analysis of the physical characteristics of the host space, but can also be emotional, focussing on the intangible qualities of the place, the building, the interior.

Our contribution investigates how sketching may be a valuable technique in establishing a formal as well as emotional relationship with the host space. The technique of sketching in the discipline of architecture, more specifically for the first perceptual registration of the existing space, is an underestimated tool for basic and detailed visual data collection.

To gain insight in the technical and methodological aspects of sketching in architecture, we make a comparison with two other disciplines with parallel systems on the perceptual site-specific sketch, the so-called fieldnote: on the one hand, the intense construction of a diary by the anthropologist and on the other hand the sketch for tactical purposes by the military man. This paper develops a double method in this comparison: firstly, the two systems are analysed in relation to the use of sketching in architecture via three drawing terms: position, focus and scale. Secondly the selection process of the elements to include in the drawing is connected with the purpose and image intention of the drawer. We introduce a new term to capture this: vivisection.

Using this comparison with other disciplinary fields demonstrates that the sketch for the architect can transcend the purely aesthetical connotation and the myth of the talented gesture. As such, sketching is repositioned as a plausible and adequate system for research in architecture and a tactile methodology in the context of adaptive reuse. It is a technique for reading the place but also it (re) constructs the memory of spatial qualities.
Introduction: drawing as a tool for exploring the interior

Adaptive reuse, being the act of physically adapting an existing building to changing functional and aesthetic needs, is becoming an increasingly important aspect of contemporary architectural and interior architectural practice. The designer responsible for the alteration needs to gain a true understanding of the host space before actually starting to design, especially when the host space has significant historic, architectural, or social value. This understanding can be formal, through analysis of the physical characteristics of the host space. But it should also be emotional, focussing on the buildings’ intangible qualities, its interiority, or genius loci.

Indeed, particularly challenging in adaptive reuse projects, compared to the design of a new building, is keeping balance between contemporary aesthetics – zeitgeist -, objective preservation of the valuable (historic) features of the host space, and the subjective experience of the buildings’ interiority. In what follows we propose sketching as a valuable technique to help designers in gaining understanding of the host space - its formal characteristics as well as its genius loci.

The technique of sketching in the discipline of architecture, more specifically for the first perceptual registration of the existing space, is currently an underestimated tool for basic and detailed visual data collection. Nonetheless, in the nineteenth century at the Ecoles des Beaux-Arts, drawing was an essential aspect of architectural education and not only as a tool for designing; students were also expected to study historic, mostly antique buildings by making detailed hand drawings based on careful observation. Its goal, however, was primarily analysing the objective and formal characteristics of the building – although it might (unintentionally) have revealed more intangible qualities as well.

Also in other disciplines the perceptual site-specific sketch – or fieldnote – has been used for objective and/or subjective analysis of a place. In this paper we compare the technical and methodological aspects of sketching in interior architecture with two other disciplines: on one hand, the view of the anthropologist with the intense construction of a diary, and on the other hand the strategic and accurate purpose of the sketch for tactics by the military man. Indeed, as stated by Ro Spankie:

…if one accepts the definition of interior design as a discipline concerned with the re-reading and alteration of an existing context, then the borrowing of existing drawing techniques seems appropriate, as does their alteration (2013, p. 428).

Our comparison elaborates on three research questions in particular: Can the act of drawing stimulate observation and generate a more deep and rich experience of the place? Can the hand drawing be used as a medium to record the experience of a particular place at a particular moment? Can the produced drawings be used for communicating tangible and intangible qualities of the place to other stakeholders? Beside a reflection on these issues, we explore the role of the body in the observation methods of each of these disciplines. To conclude we introduce a new metaphor ‘vivisection’, to install a broader interpretation and use of the architectural sketch.
Drawing as a methodology for analysis of the place: the body as an instrument for registration

The anthropological diary

In anthropology, the making of notes and drawings in a notebook is an approved method for data collection. The so-called ‘fieldnote’ is a substantial corpus of a sequential data registration on the field; data that are used afterwards for specific research purposes. The range of types of data and registration systems is very large: handwritten text in a diary, pictures, the transcripts of tapes and video with interviews, computer lists with figures (counting elements on a survey), scratch-notes (very fast personal notes not readable for someone else), and also the sketch made on the field can be considered as fieldnote. The handmade drawing or sketch can also be a part in several of the other mentioned systems.

Is it possible to understand the architectural sketch through comparison with different systems of registration used in anthropology: for example the analytical data collection and the subjective perceptual registration by the data collector? Or are there other comparable aspects in the action of the data collection in the notebook or diary, in our case for the registration of the interior, to understand this type of registration?

From headnote to fieldnote and back
An anthropologist who conducted profound research on the subject of field notes and the connection between the objective and subjective is Roger Sanjek (1990). He concludes that the distinction between ‘objective observation’ versus ‘subjective experience’ is not so strict and in practise occurs often together. Indeed, the collection of the raw (not categorised) data is not only a calculated registration of objects or elements on a certain place but there is among anthropologists a more humanistic approach to deal with all the hidden elements and processes on the field. The title of Sanjek’s book “Living with Fieldnotes” illustrates this aspect. Sanjek explains that this ‘living’ process of data collection stores the observation in fieldnotes. This mnemonic back-up system is made for personal reconstruction and analysis afterwards. The switch between the personal memory and the reading afterwards is an internal communication process. The fieldnote becomes an ‘in-between’ – a transition - for the ‘headnote’ on the field. For Sanjek the collection of fieldnotes is always in tandem with emotion as it is not a competition in rigor but instead may even evoke a ‘visceral pleasure’. Sanjek states “Fieldnotes are meant to be read by the ethnographer and to produce meaning through interaction with the ethnographer’s headnotes.” (p.92)

On the other hand, Sanjek also points to a possible problem in when the headnote is fixed on the paper: “...the contrast between having something written down rather than stored in memory is troubling. The written notes become more separated from one’s control ... and their presence increases one’s obligations to the profession, to posterity, to the natives.” (p.12) This is a first important exploration: the communication with yourself through sketching is a profound registration. The reading afterwards makes a connection with the personal headnotes (body or inner-self) on the field. The interpretation by others – separated from the researchers’ individual headnotes - is the
delicate element in the communication; in this paper, however, we only deal with the sketch for personal perceptual registration. The purpose of such sketch can be, on the one hand be part of a design process, but can on the other hand also be a pure personal exploration and memory process – like a diary (Donlyn & Moore, 1996).

**Inclusion of time and body**

Data for anthropological research are often collected on the field combining several techniques and taken within a fixed period of time. The inclusion of the aspect of time and the (personal) physical experience is essential for the making of the fieldnote. Jane E. Jackson (1990) in her essay “I am a fieldnote” points out the importance of the fieldnote as a ‘mediator’ between the registration on site and the processing afterwards: “... they are a ‘translation’ but are still en route from an internal and other-cultural state to a final destination.” (p.14)

According to her, the diary with drawings is a document that registers what happened, but at the same time it is a device for triggering new analysis. This is a second important exploration besides the mnemonic connection with the headnote: through the action of registration by drawing a new form of data is constructed. In contrast with the ‘hard’ sciences, not (only) the pure rigor of a systematic approach but also the subjective element of perception and registration in time and place is imported. She recalls the example of an anthropological survey in Australia where the continuous and direct contact with the red soil, sitting in the hot desert while making fieldnotes, is essential to understand the living place and the context of Aboriginals.

Jackson also points out that making fieldnotes is not a strict academic methodology but instead leaves room for individual processing: ‘How many drawings? When do you start drawing? Which aspects are obligatory included in the drawing?’ The body is, in the aspect of time and the real presence on the spot, the most important element. Not the definition of rules but the implementation of an embodied personal experience, is the key for a new strategy of data collection.

An example of this embodied strategy and inclusion of time by an anthropologist can be found in the work of the academic anthropologist Carol Hendrickson. In ‘Visual field notes: Drawing insights in the Yucatan’ she analyses her own sketching experience on the field as an anthropologist. Hendrickson refers in this article for the experience and effect of the sketch to Roland Barthes’s experience of the *punctum*, the piercing effect, of a photograph. While sitting in a tent she perceives the surrounding through a triangle shape. Overwhelmed by the elements she saw on that specific moment she made a sketch in her diary. The drawing depicts the situation on that moment in a non-photographic visual way.

Anthropology is for her a direct communication of the analysis of visual works. The connection with a visual method to understand the culture of an object is an obvious field method: ‘.. I can understand the visual processes of coming-to-know that I advocate as part of fieldwork practice’. (p.120)

Hence the connection between headnote and drawing we mentioned before is the core in the non-visual thinking about the drawing:

To these I would add the potential of tacking between the verbal and visual in note-taking, between visual and non visual field methods, and the creation of visual field notes as a
meditating practice between being and observing in some empirical world "out there" and then theorizing and producing ethnographic accounts. (p.122)

She describes some visual elements to enrich the meaning of the perception: focus on the contour, strategic use of colour, collage and bricolage. All these elements can elaborate the generative and iterative process of the fieldwork.

**The military map: scale and focus**

The military system of drawing does not involve a personal absorbing of the place in a contemplative or subjective way. Instead, it encompasses a scan of the area in order to plan a military action. Where the fieldnote of the anthropologist is often generated based on a very personally developed method (Sanjek, 1990), the military man follows a pre-set strategy and a system of strict rules. Where the methodology for fieldnotes in anthropology is ambiguous and permanently under debate, the military approach is very strict and not affected by discussion.

For example, in a little manual dated 1917, captain Loren Grieves constructed a specific guide for military sketching and map reading. The tiny book is build up with fifteen lessons and an appendix for training camps. In the preface of this work he calls it “*a suitable text-book at the minimum price, free from all extraneous matter*” (p.1). This intention towards a straight goal is recalled in the introduction where the purpose of the sketch is explained: “…*the reader is looking for facts, and, if the facts are shown, the sketch answers the purpose.*” (p.3) Nonetheless, the involvement of the body is also crucial in the military methodology, as it is used as a measuring tool. Indeed, the ‘pace’ as a system of counting and calculating distance is an embodied tool.

Next to Grieves explanation of the system to use the length of his own pace he introduces a new term: scale. Scale is the direct connection between the physical environment (and the body herein) and the construction of the map. The step-by-step construction of the map is necessary to define a clear an objective and repeatable system to construct information. This is done in an analytical way with no margin for interpretation of the information. In the military approach, focus is on orientation and direction, with the map as a guide. The surrounding is in the military approach perceived as a connection of points. With the connected points a landscape arises on the paper. For the military men is not the translation of a personal memory but the correct transcript of reality the goal. Scale is essential for the communication strategy; as such drawings allow no room for personal interpretation. Herein, the military approach differs from the anthropological, which does not follow a systematical, step-by-step approach and in which scale is not necessarily included in the methodological system.

The disciplined methodology for drawing by the military has shown useful within other disciplines as well. For example in archaeology this systematic method is also used. The military method has been introduced in the field of archaeology by general August Lane-Fox Pitt-Rivers (1827-1900). He was a professional soldier for much of his life, but as he was interested in archaeology, he organized excavations on his personal estates in southern England. He brought long experience of military methods, survey, and precision to the field of archaeology as he made plans, sections, and even models in order to record the exact position of every found object. In contrast with the standard at the
time, he was not concerned with retrieving beautiful treasures but with recovering all objects, no matter how mundane (Renfrew & Bahn, 2004). His documents or ‘fieldnotes’ generated a more deep understanding of history, beyond art and architecture.

**Embodied reading of the room by drawing**

**Reading the line**

Although we have focused on the differences between the anthropological and military drawing, the final result of both types of drawings, is always a combination of interfering lines. Tim Ingold (2007) in “Lines a brief history” states that there is a direct link between the cognitive aspects and the reading of the line in different cultures. The continuous movement of a handwritten text for example is a direct result of culture. Ingold points out that cartography and the handwritten text with drawing are two examples of such combination of lines; he calls this the ‘experience of weaving’. This act of weaving in military cartography brings you only from point A to B. In anthropology, this aspect of weaving happens on two different levels. On the one hand many different impressions are brought together in a single drawing or fieldnote – visual elements, but also aspects such as smell, sound, or temperature. On the other hand, different methods of drawing are interwoven in the anthropological drawing – the exact analytical drawing of for example a piece of pottery, and the subjective perception of for example a room or landscape.

**Research with lines and body**

In the anthropological approach as we saw, the dialectical relationship with memory and body contextualizes and organises the research. The focus through the sketch, bearing Hendrickson’s mental bath in the Yucatan in mind, is not defined in strict limits but is part of an embodied vista in thoughts and emotions. Also the military approach starts with the use of the human body but as an analytical measuring system. But is it necessary to make the difference so strict? Is it possible to have the best of two worlds: exact information and a poetic translation?

Just as the anthropologist and the military, the interior architect may use his or her’s own body to explore or analyse the room. Christine Cantwell (2013) explains that the essential aspects of interiors such as colours, acoustics and light are highly qualitative, and emotional and that a skilled designer reckons that every decision about changing the construction or outlook of a room may interfere with another persons’ subjective and emotional response to the space. Although the effects of ephemeral elements such as colour or light on the body can be measured by scientific methods, she argues that their effect can more naturally be determined by the human senses. She states that ‘the engaged architect of the interior relies on the ability … to image the body in physical space’, and to do this ‘with a poetic, emotional contemplation of reality that depends on the senses’ (p. 546).
Understanding architecture through a sensory, or embodied engagement with the place has been discussed in the field of phenomenology. Rasmussen, who introduced phenomenology in architectural theory, explains:

Understanding architecture […] is not the same as being able to determine the style of a building by certain external features. It is not enough to see architecture; you must experience it. You must observe how it was designed for a special purpose and how it was attuned to the entire concept and rhythm of a specific era. You must dwell in the rooms, feel how they close about you, observe how you are naturally led from one to the other. You must experience the great difference acoustics make in your conception of space (1959, p. 33)

Therefore in order to come to a more poetic architecture, a personal and more subjective experiencing of the place should necessarily proceed a more rational design phase (Meisenheimer, 2004). As explained by Jackson in relation to anthropology, the making of fieldnotes – including drawing - may be a helpful instrument herein.

**Educating and drawing**

In architecture and design schools today, this method of education - studying existing (historic) buildings through drawing – seems to have been abandoned (Smith, 2008). Nevertheless, we believe that re-introducing such exercises in the curriculum of design education may impart observation, registration and analytic skills to students (Unwin, 2009). We particularly argue that such skills and such an approach are beneficial for interior design students as it allows them to *read* better the physical characteristics as well as the intangible qualities of a space and to communicate them through the slow process of drawing, a medium that seems more adequate to absorb these softer qualities of space. Currently, emphasis is on the very strict registration of the room. However, can a phenomenological – or anthropological – approach to drawing generate new insights in a room?

As an experiment, we organised a workshop with students of the second bachelor interior architecture visiting a modernist church in Flanders and asked them to make analytic drawings of the church interior and exterior. The church was constructed in the period 1966-1967, following a design by architect Marc Dessauvage (1931-1984). It is an exemplary case of regional modernism of 1960's, characterised by the use of modest materials such as concrete, brick and wood, strong relationship with the surrounding landscape, and horizontal composition. Today, the church is abandoned and is waiting for a new use, most likely a municipal library. Prior to our visit, the students, with basic knowledge of modernist architecture, especially of international movements and architects, were given an introduction on Dessauvage’s oeuvre and the positioning of this specific project herein. We also explained the purpose of our visit: analysing or reading the building in general and its interior in particular through drawing. We stayed four hours at the site. During that time, we asked the students to make several sketches (rather than one very detailed drawing) from both the interior and exterior. We also recommended for each drawing to focus on one specific aspect of the building, e.g. materiality, incidence of light, or construction. We did, however, not define their position in the room.
Moreover, we actively participated in the workshop by making drawings as well – we will illustrate this further in this paper.

![Fig. 1 & 2: exterior and interior St Jozef Arbeiderskerk by architect Marc Dessauvage (pictures by the authors)](image-url)

**Drawing the room: the body as a mnemonic tool**

**Reflection on the workshop**

When we visited the church it had not been used in a liturgical way for many years – a local choir used one of the smaller side rooms. The main space feels slightly uncanny: the contemporary designed benches are not any longer in their right position, the statues stand strangely amidst the piled up benches, dust has settled everywhere, windows are untidy and there is slight odour of humidity. The spatial qualities, however, remain intact and are clearly not affected by the overall material negligence.

Although the student’s results from the workshop were not significant enough to make solid conclusion, we were able to make some observations on the act of drawing in a room. A first interesting observation is how students position themselves in the room. During the workshop, the students were free to choose their position relative to the building, and their positioning in the room while drawing significantly changes the viewpoint from which the room is read and experienced. Interestingly, many of them are no longer familiar with catholic tradition and the meaning of church' ritualia and thus did not feel restrained in their bodily perspective-taking by the ‘proper’ use of the building or its furniture. The spontaneous use of the benches by the students – sitting on the back with their feet on the seat – may in that sense be understood as a military approach: they look strategically for the ‘best’ position to have the most complete overview.
We wonder which position an anthropologist would choose when actively participating a church service, attended by the local community, instead of visiting a church not in use anymore? Attending a ceremony is a dynamic experience: sitting on a bench, standing up on certain moments, singing, … This obviously would affect choosing one’s position – following the rituals of the ceremony – but it would also evoke other impressions to be captured in the drawing.

Indeed, next to recording a specific physical position in the space, a sketch also registers a distinct moment in time in a personal and hand-specific way. Comparable to the anthropological field note, not only material aspects, but also immaterial aspects of the interior such as scent, sound, atmosphere are experienced while drawing, and may eventually even be registered for example by combining drawing and writing. The hand, then, functions as a sort of personal scanner of the experienced environment. In the sketch, scanner and printer come together as a punched storage card on which a specific memory or personal experience is registered. Afterwards, by looking in one’s own sketchbook it is almost as if one is projected back to the spot where the drawing was made. The sensation of touching the paper with the same hands elicits a special remembering, revealing a subjective and personal filter on the reality, which is specifically connected with the mnemonic and phenomenological process of drawing. Or as explained by Hendrickson about the way she uses her field notes when drawing up conclusions:

I … kept my field journal during the Yucatan trip and now, writing this article, constantly check back and forth from the journal pages to the books and articles piled around me, then to the computer screen, and back to the journals, reflecting on what is preserved therein to compose these sentences (Hendrickson, 2008).
Reflection on the drawing

A second observation is related to our result of the workshop: the actual drawings made by author 1. In architecture, drawings are usually read in one way: the drawing (sketch) as a blueprint for realisation. But, inspired by the military and anthropological approach, we look at the reversed relationship between the drawing and built environment, and the room in particular.
Fig 6: excerpt from sketchbook author 1: ‘vivisection’ of the church, view towards the entrance

Fig. 7: excerpt from sketchbook author 1: ‘vivisection’ of the church, view towards the altar

Fig. 8: excerpt from sketchbook author 1: analysing the furniture; detailed vivisection of the church bench
Fig. 9: Floor plan and concrete construction is drawn up based by pacing the room; look at the authors notes across, in, and beside the drawing; Sketch right bottom: section through the edge of the room, detail of daylight penetrating through continuus transom windows of the church.

The two landscape pages (figure 7 and 8) and the floor plan (figure 9) from the first authors own sketchbook, are a second drawing experiment in another modernist church from the same period and the same architect Marc Dessauvage.

In the landscape drawings we forced ourselves to choose one position in the square plan of the church to capture the whole interior in only two detailed panorama drawings; the exact position of the drawer in the room is indicated on the floor plan (figure 9). This can be seen as a military approach. The two different vistas, a panorama in the direction of the entrance door and a panorama of the altar zone forms together a total image of the inner space. The big difference with the first experiment by the students is that this church is still in use for services. The benches, exactly the same design as in the first church, are positioned towards the altar in the correct way and every other object is placed with a ritual goal. There was no service on the moment of sketching the interior.

The meticulous drawing in perspective of the walls, beams, benches and ceiling is supported by handwritten text. Small numbers refer to information written in and around the drawing. This information comes from different sources: The own direct conclusions (by experience as an architect)
on the concept of the concrete construction, an indication and impression of the materials, the specific way daylight penetrates the room; and even the direct information about the church told by the priest on the spot, during the making of the drawing. The information is situated in a broad spectrum. Technical information is combined with the subjective interpretation as an architect. Notes of the history told by the priest, the specific context of the church as a memorial for the first world war, makes that it is not only an architectural sketch of a place but the anthropological, phenomenological analysis of a room. The practical use of watercolour as a very fast technique emphasizes and suggests at the same time the different elements in the drawing. The suggestion of the benches with a warm brown colour is more than an aesthetic colouring. The material is analysed in the context with this technique.

This reflection on some results of the workshop resonates with a strong undercurrent in contemporary architecture: the phenomenological approach of a total spatiality in time. (Pérez Gómez et al., 2000; Holl et al., 2006). The smell of the “burned interior” in the well-known Field Chapel of Zumthor is equally important in the perception of the space. It is like the calculated softness of the charcoal drawing - Zumthor draws intuitive ideas always by hand – has been stored in the final architecture. The connection between drawings and architecture goes much further than a purely technical means of communication.

**Vivisection**

We suggest a new metaphor that may be used in relation to drawing interior spaces, and the room in particular: ‘vivisection’. The word vivisection comes from the Latin *vivus*, meaning ‘alive’, and *sectio*, meaning ‘cutting’. Webster describes vivisection as ‘the cutting of or operation on a living animal usually for physiological or pathological investigation’. Da Vinci and Vesalius’ curiosity for understanding the operation of the human body led them to vivisect human bodies. In a parallel manner, designers may feel a similar sense of fascination how the internal organisation of a space operates, as well as gaining understanding in its ‘interiority’. As such, they ‘interweave’ the military approach with the anthropological.

Interiors can be seen as ‘living tissue’ as they cannot be preserved in a fixed, unchanging state. Instead, interiors are transforming based on ageing, changes in context and surroundings, changing patterns of use, … By executing a ‘vivisection’ on an interior, specific living aspects of the interior can be studied, such as the incidence of light, relationship between objects, users, etc. As such, drawing aspects of the room may be compared to the anatomic drawing of the inner body, showing only a fragment of the body, such as the muscular tissue, nervous system or skeleton. All elements unnecessary or disturbing to the subject of study are eliminated from the drawing.

As it is impossible to capture the room entirely in one drawing, it seems a logical methodology to unravel different aspects of the room. Thinking about the building as a ‘living organism’ puts emphasis on a development of sensitivity by incising through a drawing, i.e., a tactile non-destructive sample of reality. Through the action of drawing can be an added value creation: a connection with tradition, methodical work and a systematic approach but still emphasizing the (own) sensitivity.
Not only confrontation but interference from yourself with a space, an interference that you cannot build up by studying a neutral image – for example photos taken by someone else - generates more info for the designer transforming their heritage. Sketches are in this way gates to the possible.

**Discussion**

To resume our specific reflection on the role of the hand drawing in the process of adaptive reuse, we can make some preliminary conclusions:

1. The intention of drawing the host space of the anthropologist (exploring) and the military (planning) do overlap with the intentions of the architect or designer for drawing.
2. The methodologies for drawing that exist in anthropology and military, which are both deeply connected with the body, are inspirational for embodied drawing in architecture.
3. The anthropological and military approach were also applied in some of the analysed drawings made by an architect (author 1), although unconsciously. This partially reversed conclusion points out that further investigation of these interdisciplinary overlaps is valuable to generate an embodied reading of the room in the early process of adaptive reuse – the analysis of the host space.

So far, we have only done a small workshop with a limited number of students from second bachelor Interior Architecture. We believe, however, that working in an interdisciplinary team of teachers and students – including architects, designers, anthropologists, archaeologists, etc. – may help in further elaborating on the embodied reading of the room by drawing, in order to reveal the hidden aspects of the host space – what we have called 'vivisection'.

**Bibliography**


