



Drawing about images: textual and non-textual interpretation

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Context and Conditions

This paper addresses a familiar situation from a novel point of view. The familiar situation has two aspects: (1) that writing about architecture and drawing architecture produces two different types of outcome that are difficult to reconcile; and (2) that drawing about architecture does not produce uniform results and those experts who are used to interpreting drawings can identify a number of different languages within the visual medium; for example, drawing as a record and drawing as a medium for thought. The problem underlying these situations concerns how to decide which aspects to value in a particular drawing, especially when comparing across media, i.e. comparing a drawing to a text about the same subject, or a drawing of one type to a drawing of another type. This paper proposes that one can say more about these variable interpretations than merely attributing them to variable levels of expertise, or different aesthetic preferences.

The authors currently collaborate on an international research project that investigates non-traditional knowledge and communication in academic research.¹ This paper reports on some of the debates amongst the team concerning the values associated with certain non-traditional outputs, in this case architectural drawings, in academic research. The drawings were the outcome of a novel didactic exercise. The exercise has been undertaken annually with 5th semester architecture students over a 3-year period, and as a result approximately 1200 have taken part in the activity. In the exercise, students were introduced to a particular historical house typology - 'The *Bandeirista* House' - that can be found throughout Latin America. This is a typology that dates from the colonial period, more precisely between the 1600s and 1800s, and presents elements of Palladian architectonic composition. However the building techniques that were employed - namely mud walls - are also determinant of its configuration. The debate amongst the team focused on the interpretation of the students' drawings and why each of us valued what we valued in them.

After a theoretical lecture on the subject, the students were set a two-part in-class activity. In the first activity, students were given a text about the *Bandeirista* house and were asked to write a short essay based on it. The aim of the activity was to enable students to conduct a critical analysis of the typology through reading and writing, i.e. through text-based media. In the second part, they were presented with a set of images projected on a screen - two photographs of one of these houses, the floor plans and a cross section - and were asked to produce a freehand sketch that represented their three-dimensional tectonic understanding of the typology. Our focus in this paper is on the second part of the exercise - the non-textual reading to non-textual representation.

Theoretical Framework

In the 'non-traditional knowledge and communication' research project, the authors have adopted a framework that looks particularly at theories of worldview and research paradigms. In doing so we make reference to the work of Guba (1990), Guba and Lincoln (1994), and Heron & Reason (1997); and earlier work by Goodman (1978) and Kuhn (1970 [1962]). The terms 'worldview' and 'research paradigm' need some explanation. A worldview is basically a set of beliefs that one holds about the nature of the world and one's place in it. A research

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paradigm is a framework for activity, that would be meaningful to do in pursuit of knowledge within a particular worldview, and has the potential to make a significant contribution.

If we think of the model from classical physics: the classical physicist believes in an external world, and facts can be found out about that external world. Because it is external, it is independent of the emotional responses and interests of the researcher. It is an objective world and one can say objective things about it. One can find evidence for it, and anyone else can find this combination of evidence and objective statements. As a result, they will conclude broadly the same things about the nature of the world. The more repeatable the outcomes, the more the statements and claims are held to correspond to what is actually out there. Such a worldview creates a research paradigm in which certain activities are relevant: reaching for evidence and setting up repeatable experiments becomes meaningful. But of course this is not the only worldview. If we compare this to the world of literary theory: the literary theorist does not approach the world in this way. They do not believe there is something objective out there, for example, the fundamental interpretation of a text. Their worldview is much more engaged with the reading of the individual person, i.e. with the subjective experience of the reader in constructing the text. The individual's interpretation is at least as meaningful as anything that one might claim the author put into the text.

The fact that the world may be regarded as a construction of the individual, contributes to Goodman's (1978) concept of 'world-making'. Goodman regards worldviews as a representational problem whereas Guba and Lincoln refer to the relationship of the researcher to the world. Guba and Lincoln (1994) originally identified four main worldviews, but responded to the criticisms of Heron and Reason (1997) and later described five (Guba & Lincoln 2005). This amendment suggests that there may be many more worldviews between the extreme Realist position of the classical physicist, to the anti-Realist or Constructivist position of the literary theorist and others.

According to Guba and Lincoln (1994: 108), worldviews centre around three principal questions: an ontological question, an epistemological question and a methodological question. The ontological question asks about the nature of the object of study, about the nature of the world and whether it is out there or inside us. The epistemological question asks about what kind of relationship we can have with that knowledge; and the methodological question asks what we can do to find out more about this object of study. According to which of the many ways these questions may be answered, so there are as many appropriate research paradigms in which there is a connection between the worldview and the research paradigm that is constructive and functional, and in which one could say that research actions were appropriate. This use of the term paradigm differs from Kuhn's (1970 [1962]) earlier use. For Kuhn, a paradigm is a large-scale set of dependent concepts that determines a view of the world across a wide range of subjects. It forms a way of thinking that pervades enquiry in all fields until it is replaced by a new paradigm. For Kuhn, paradigm shifts occur when the existing way of thinking becomes stretched to breaking point. For Guba and Lincoln, paradigms do not shift. For them, a paradigm is a way of addressing the world according to a worldview, which means that at any one time there are many different paradigms in operation.

As one introduces different responses and answers to the ontological, epistemological and methodological questions, so one defines a range of possible worldviews and paradigms. Issues such as the role of evidence become very strong in a Realist position and as one moves towards an anti-Realist position, the role of evidence changes. It is not that evidence stops being meaningful, it is that evidence stops being significant. The anti-Realist does not look for evidence in the sense that the Realist does, or at least the meaning of the term evidence changes radically as one moves into more interpretative or Constructivist paradigms.

In Europe, different worldviews, and hence different models of research, are regarded as valid and the discussion now is not whether one can conduct research in a different way but what that way is. Instead of asking whether non-traditional models of knowledge and communication exist, currently what is asked is: would research models that are used by

creative professionals in their practice constitute a new or alternative research paradigm. This equilibrium regarding the validity of alternative research models has perhaps been reached more slowly in the USA, and not at all in some countries, for example Brazil. Furthermore, we believe that one worldview is not better than another and one research model is not more scholarly than another. In other words research models are different but equal and present equal potential for high-level scholarship: there can be unscholarly scientific research and scholarly artistic research. Thus adopting the appearance of 'scientific' practices does not guarantee the rigour of a research model.

Drawing, Representation and Interpretation

The worldview held by the architectural practitioner community includes a particular role for drawings that is integrally linked to the design process. Savignat (1983) conducted a historiography of architectural drawings in which he established parallels between the development of construction techniques and drawing techniques. In the same year, Lebahar (1983), considered the role of drawings in the contemporary architectural process and proposed that they express the knowledge in use when the architect faces the design challenges. Schön calls this 'knowing-in-action' (Schön 1991). This suggests that, particularly in the architectural domain, freehand sketching is an efficient tool for manipulating the external world through representing it. However, rather than being only a mechanical way of recording, freehand architectural drawings also reveal certain peculiarities that are context specific. They hold different connotations depending on whether we consider them as social production, cultural act, or as historical manifestation (Robbins 1997). Therefore, the interpretation of drawings is linked to the context within which we analyze them.

One of the authors had contributed to an earlier research project on the production and interpretation of architectural drawings (Perrone et al. 2006) which informed on the value system held in the architectural practice context. That study suggested that the act of sketching in the process of architectural design reveals something that writing cannot reveal. This position contributed to the development of the exercise as it was presented to the students, but at the moment of interpreting the output, it also informed the value of these drawings. Hence a multi-layered conflict emerged as the drawing could be interpreted either within the academic or the practitioner context, and within the latter, it was important to consider the interpretation of the non-textual both as simple recording and as a means of 'finding out what we know' (Mitchell & Weber 1995: 132). The notion that a drawing is an object to be interpreted as well as a means of knowledge creation represented the two distinct value systems held by us.

It is also important to consider the problem of representation when discussing the relationship between the interpretation of the textual and the non-textual. Language is the way in which we normally make sense of things. Language, like drawing, is not a simple representational or recording medium, and there is a rhetorical dimension to language that determines what we can think and how we think about things (Biggs & Büchler 2008: 15). Drawings function as a type of language that will facilitate, condition or limit, not only one's representation but also one's understanding of principles of architectural construction; and will ultimately determine the extent of the meaning-content we each construct for ourselves (Hall 1997). The skills, grammar and rules that accompany the use of non-textual media help define the interpretation we make of the non-textual. Therefore, along with the system of values that one holds, one's fluency in the non-textual language will contribute to one's interpretation of the non-textual outputs.

For Jonson (2002), one characteristic of freehand drawings that makes their interpretation complex is that they do not promote a singular interpretation which would suggest that, compared to the written text for example, this kind of drawing is more ambiguous and less precise. Valued as equivalent to text, the non-textual will always be at a disadvantage. At the same time, sketches are often seen as a form of visual improvisation, that allows designers to explore content and potential meaning (Jonson 2002: 246). In this sense, drawings can be of the 'recording' type (Farthing 2008) but can also be of the 'ideational' type (Rosenberg 2008)

therefore understood as a mode of knowledge construction and, as such, validated as a tool in the process of construction and communication of academic knowledge. Very often an architectural sketch does not correspond to the form of a building, but to a form that describes how certain elements interact in light of the present knowledge and verifications. Such sketches do not resemble the shape of the architecture they refer to; neither are they visual metaphors or metonymies. In this sense, there may be no recognizable visual link between the drawing and the building. When a correspondence is made between the two it is the result of cultural conditionings, which is in turn a matter of interpretation (Massironi 1983: 139).

Drawings as Representations of Values

In the case of the particular discussion that arose when considering how the freehand drawings could be interpreted, we found that, although holding similar training and background, and being part of the same research group, when it came to our academic alliances, we held different worldviews. The discussion on what it was that was valuable in these drawings and why, helped us to identify some criteria as belonging on the one hand to more established worldviews and therefore more traditional research models, and on the other hand to identify some criteria belonging to the non-traditional category as far as hegemonic research models were concerned. Because we were agreed that no system of values holds priority, what we sought was scholarly coherence between whichever value system we adopted and the interpretative criteria we employed. As a result, we did not have to defend that drawings are valuable in a particular worldview but we did have to identify what criteria the drawings met that gave them value in our worldview. For example, to a Realist a drawing might have to accurately represent understanding, whereas to a Constructivist it might have to express original interpretation.

As academics, we wanted to separate out the subjective values that we held as individuals from values that we thought belonged to the appropriate scholarly interpretation of the drawings. Using the description above, we could see that our academic judgement was linked to our worldview and system of values. An academic position is composed of coherent epistemology, ontology and methodology, meaning that when these are clear, sound interpretation can occur. Rather than debating whether or not drawings had value, we explored what the value of drawings would be according to our worldview, and consequently to what research model and interpretative framework they should respond. We expressed this as the relationship between *equivalence* and *coherence*.

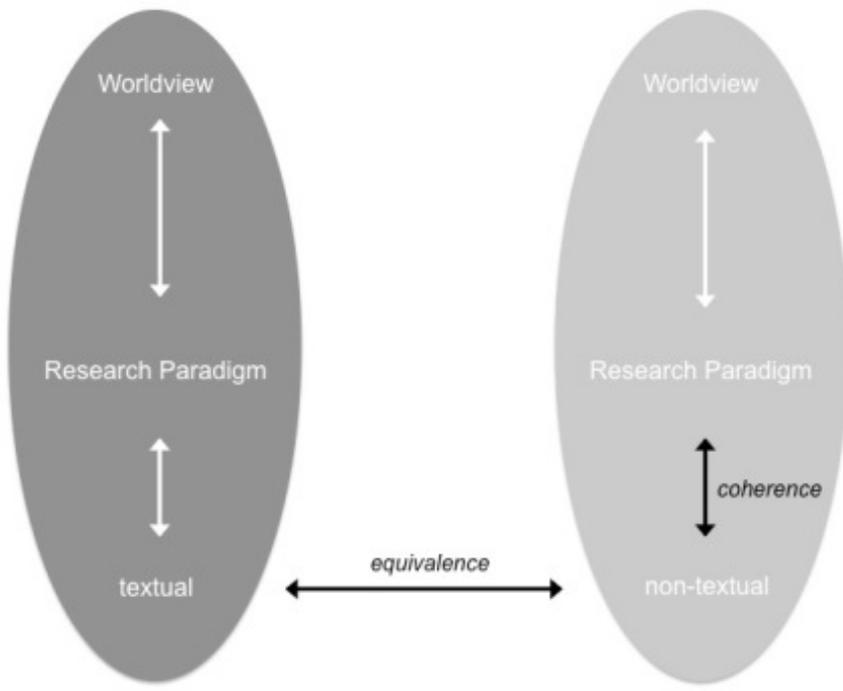


Figure 1. Diagrammatic representation of the relationship between worldviews and research paradigms, in particular the text-based medium that is adopted in one as opposed to the non-textual medium of the other. Depending on the research paradigm, so the interpretation of the non-textual will seek equivalence to the textual or will alternatively seek coherence with the values of the worldview within which it has significance.

In areas of creative practice, the non-textual is at the core of the value system - it is only seen as a problem when evaluated as equivalent, or not, to text. When the validation of the non-textual, in this case the architectural drawings, is done in terms of the textual it is required to respond to the values, and consequent requirements that are put on text, i.e. rules, grammar, skills, etc. In this equivalence mode, the non-text has a role in terms of the text, either as demonstration of evidence, illustration of examples, as object of study on which to base a text-based interpretation, etc. In Figure 1, the non-textual can be interpreted as being equivalent to the textual, or alternatively it can be interpreted in terms of how coherent it is to the values of the community in which it has significance, i.e. evaluated in terms of criteria germane to non-textual media.

Interpreting the Drawings

When discussing the output drawings from the class exercise, we repeatedly disagreed as to which were the 'best' ones. We then explored what it was that each side was claiming for the value of these 'best' drawings. Some drawings were upheld for their 'accuracy' and 'precision' whilst others were defended as showing 'insight' and 'originality'. From these disagreements we concluded that we were adopting two different value-systems for the interpretation of the drawings. We attributed these different value-systems to the use of different research models, one deriving from a worldview of drawing as accurate recording, and the other of drawing as an expression of a thought process.

When interpreting the drawings, it was possible to refer to traditional research models in which text is the chosen media for academic communication. In this case one would expect that the drawings were equivalent to the text-based medium and they should do what the text can do. To interpret a drawing within this research paradigm, one would consider the requirements imposed on written text such as the expectation that the communication produce something equivalent to 'detailed accuracy'. Farthing calls such drawings 'recordings' (Farthing 2008). It would also be possible to regard the drawing as a different but

equal medium to the written text. This would occur within another research paradigm in which the non-textual is the preferred medium for communication of new knowledge. In such a context, the drawings should respond to the practitioner community values and, rather than be interpreted according to the text-based criteria, should respond to the value system in which that drawing had significance. Perhaps to an architectural practitioner, a drawing that revealed the draughtsman's thought process would be more valuable than one that slavishly and uncritically depicted the work in question. Rosenberg calls such drawings 'ideational' (Rosenberg 2008). Ideational drawings have greater value, and greater meaning-potential in one research model than another.

The argument in favour of judging the drawings in terms of how effectively they communicated the architectonic understanding of the typology prioritizes text-equivalence criteria such as accuracy and recording. According to these criteria, the drawings in Figure 2 are successful in faithfully representing what was called for in the exercise: a three-dimensional tectonic representation that reflected an understanding of the defining characteristics of the typology. Both drawings reveal an understanding of the building technique by using appropriate wall thicknesses, of the internal configuration by representing the mezzanine, and by precisely differentiating the internal and external wall heights they manage to express the structural particularities of the timber roof structure. These students have reinforced this content by choosing a technical architectural grammar, using axonometric views and split-level drawings. By adopting traditional architectural drawing techniques the particular grammar is not under scrutiny and the informational content can be made explicit and accuracy can be more easily communicated.

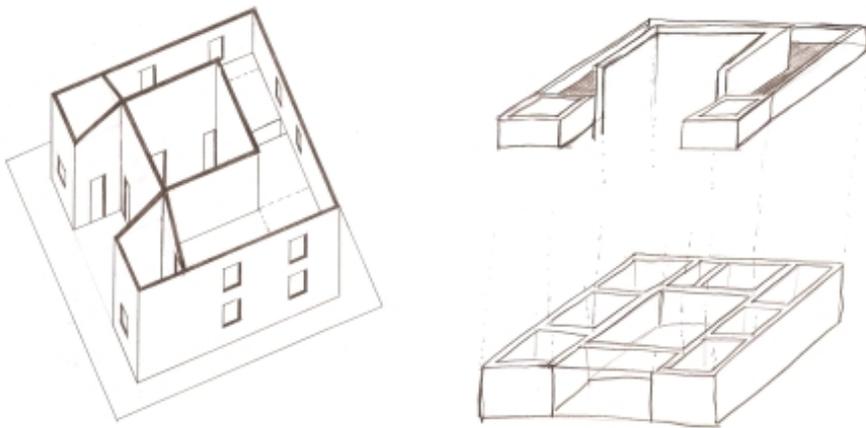


Figure 2. Two drawings that communicate accuracy of informational content.

Accuracy is a criterion that is coherent with the textual medium. However, if the non-textual is not to be judged according to text-based criteria, then it has to be coherent with the worldview-research paradigm within which it has significance. Thus the argument valuing the drawing as ideational would judge the drawings in terms of how successfully they expressed creative thought and critical reflection. Within such a research paradigm, where the drawings do not have to accurately communicate informational content, what is of value is the critical selectivity that the students have employed in representing some elements as opposed to others. There is a critical selectivity in the elements that the students have chosen to represent in the drawings in Figure 3. The quality of draughtsmanship in these two cases suggests that they fully understood the dynamic of the typology in all its complexity and, rather than neglecting to represent the thickness of the mud walls accurately, chose to expose their critical view that the thickness is not instrumental in that structure. One could argue in favour of these drawings that they successfully express the 'tectonic structure three-dimensionally' whilst revealing the exercise of critical reflection on what it is that is defining of that structure, and have then been selective about what should be represented to express the typology appropriately. These students did not use technical architectural drawing techniques but again exercised selectivity in employing a style that reinforced their critical reflection process.

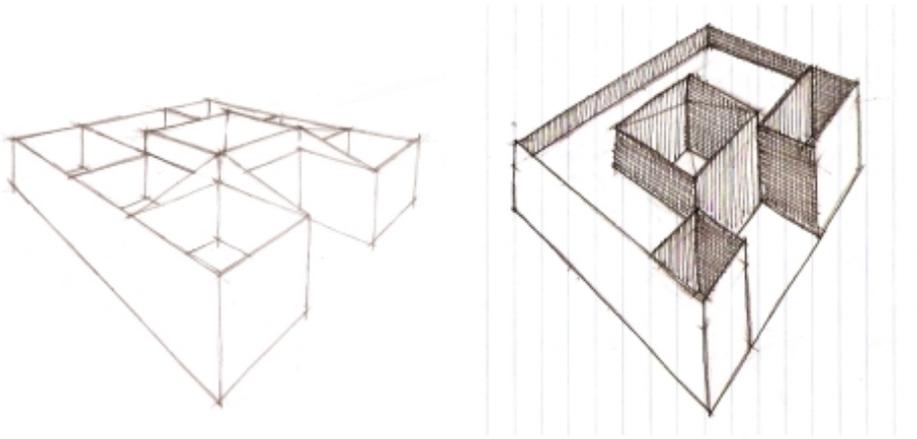


Figure 3. Two drawings that communicate critical reflection.

A criterion such as 'communicate critical reflection' seems less tangible than the accuracy criterion, but we argue that this only seems to be the case owing to the hegemony of traditional academic models in which text, and text-based criteria such as accuracy, is the preferred paradigm.

Conclusions

This paper describes a discussion on the interpretation of drawings that originated in different approaches which we have identified as representing different worldviews. The discussion revealed that there is more than one paradigm within the professional field. Thus it is acceptable, but rarely acknowledged, that drawings can be interpreted according to criteria from either the textual or the non-textual domains. In addition, though perhaps more recognizably within the field, drawings may sometimes be valued as records, or be valued for their ideational content. We have argued that there are many different research paradigms and that one is not intrinsically better than another. However, the research model that is adopted has to be coherent with the worldview of the community for whom the drawing is significant, and the drawing will be appropriate or not according to how well it addresses the needs and interests of the intended audience. In this sense, textual communication is not the only medium for academic communication, but in some paradigms it is the most effective way of reaching the goals of that paradigm. Similarly, the criteria that derive from the textual context, such as accuracy, may or may not be an effective means of addressing the needs and interests of the community. We have argued that non-textual media might give rise to criteria that value, for example, the representation of thought processes, such as ideational drawing. Thought processes can also be represented through text, such as when one values an author's original manuscript with all its crossings out and marginalia. In these cases it is the text-object that is read rather than the text-content, i.e. we value the sense of the author struggling with the form of expression rather than simply reading the resulting text. We believe text-objects are effective when evaluated according to our 'non-textual' criteria.

There is more than one paradigm, so something can be appropriate in one paradigm and inappropriate in another. One can infer the worldview of a community by observing what are its values. Disagreements, about drawing for example, may be based on disagreements about standards within a particular paradigm, or may represent disagreements between two different paradigms. The latter is particularly apparent in discussions about the meaning-potential of images compared to the meaning-potential of text, in which the traditional academic position holds that images have less meaning-potential than text. The possibility of regarding academic research in areas of creative practice being an alternative paradigm means that the cross-paradigmatic problem goes away, and the meaning-potential of the non-textual can reflect the value system of the practice community. This paper therefore concludes that the explicit awareness of the consequences of diverse worldviews and paradigms can enlighten disagreements amongst professionals because it makes clear the connection between what is

assumed and what is valued.

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Endnotes

 <http://r2p.herts.ac.uk/ntkc/>

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