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Interpreting the visual image: An analysis of design students analogical interpretations of a textual message

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## Abstract

*This article forms part of an ongoing education inquiry into design learning. The main study looks at novice student approaches to expository text comprehension and interpretation through analogy. The particular focus of this article is a discussion of my analysis and interpretation of design work carried out during a 4-week studio project. My dual role as educator and researcher has encouraged me to move beyond intuition and design expertise (sufficient skills for the educator to determine levels of attainment in class) towards developing robust methods for the analysis of images. It should be noted that in the context of this project, analysis of images is only a means to an end. The underlying purpose is to analyse and better understand the process by which an expository passage can be illustrated through an analogical approach. The end result in the studio is an illustration that creates a visual image from a conceptual analogy.*

## Introduction

As a communicative tool, illustration is a valuable visual method of interpretation. Complex written information can be transcribed into a visual form that provides an immediate 'holistic picture of what an author is describing. Indeed, illustration can go beyond transcription from verbal to visual and provide something extra to a written text. This article describes work conducted with design students studying illustration at university. The students were asked to interpret a two-paragraph text extract into a visual image that encapsulated the essence of the texts dominant message. Of particular significance was the challenge of conceptualising the texts main message through a conceptual analogy. As is common in the context of professional illustration where the illustrator is employed to support the writers vision and intentions, this required a hegemonic reading of the text, that is, students had to focus on what they believed the texts dominant purpose or message was and visually support a 'preferred reading.

I will first describe the design work produced by a sample group and the methods used to gain insight into their work. Saussure and Peirce laid the foundation for the science of reading signs. This article follows convention and applies Peirces more common term 'semiotics to describe the reading of signs, but also uses Saussures denotative, connotative, signified, signifier terminology, which is central to what he describes as 'semiology. In essence, signified, signifier is a means of distinguishing between what is meant and what is being used to represent meaning.

A semiotic analysis was conducted using the connotative, denotative, signified, signifier method, backed up by analysis of students own written descriptions, questionnaire responses, design sketches, final designs, and gathered source imagery. From a total of thirty-four student works, a sample of four images will be described in detail. The source text has also been included and readers are invited to compare the students ideas about the text with their own.

My research work with design students involved setting them the task of reading a short written text extract and asking them to interpret it visually through analogy. I was interested to find out if, as a consequence of working within the restrictions of conceptualising through the process of analogical reasoning, meaningful imagery could be produced 'meaningful in the communicative sense. The main precedent for my inquiry came from the work of Goldschmidt (2001). Goldschmidt found that novice architecture students, when asked to solve a design problem using analogy, produced more effective solutions than students who were not directed to follow an analogical approach. The use of 'similarity based reasoning, that is, analogy, was also particularly beneficial to design students who were given 'ill structured design problems. (Ill-structured problems can be defined as problems which do not have known solutions (Hong, 1998, p.3).) Students who were asked to look at a problem analogically came up with better design solutions than others who were not asked to do so. Goldschmidt points out that architecture students are unlikely to use analogy spontaneously and may also need instruction in how to use it as a creative tool.

In their influential book *Metaphors We Live By*, Lakoff and Johnson suggest that metaphor is something many of us associate solely with language and the written word. They challenge this limited outlook: We have found, on the contrary, that metaphor is pervasive in everyday life, not just in language but in thought and action. Our ordinary conceptual system, in terms of which we both think and act, is fundamentally metaphorical in nature (1980, p. 3). They argue that we are often unaware of our conceptual system despite its central role in making

sense of the world around us. Lakoff and Johnson use the term metaphor, then, largely to encompass the view that we make sense of new things by the use of association or similarity. Therefore metaphor and analogy are, in this context, interchangeable definitions, and that is how they will be used in this article.

As no exact precedents existed within the area of visual communication, I was interested to find if an analogical or metaphorical approach would enable students to produce images that could communicate the main themes within an expository text. To interpret my students' interpretations I developed a systematic methodology to help me identify useful data on the efficacy of an analogical approach to text interpretation.

## Methodology

The main methodology for carrying out the research gathering was action research, defined by Bassey as enquiry which is carried out in order to understand, to evaluate and then to change, in order to improve some educational practice (1998, p. 93). This encompassed a cyclical approach, with interventions, changes and developments incorporated through an iterative and incremental process. Early cycles used volunteer students in controlled situated studies. The main study took place under normal teaching conditions in a design studio over a period of 4 weeks. Thirty-four students were involved in the final cycle and all consented to their work being analysed and interpreted. This article describes the work carried out during this cycle.

In the final cycle of the research, students were given a two-paragraph excerpt from an Arthur Conan Doyle essay (1907/2004) titled 'Through the Magic Door' ([See Appendix 1: Click Here](#)). There were several reasons why this particular text was chosen. First, the text itself was copyright free, second, its obscurity meant that all students were equally unfamiliar with the text, and third, the language of the expository text was rich, with great potential for a visual response. Students were asked to summarise the text, identifying its main points, and then describe it verbally through the use of similarity, in other words to construct an analogy. Analogy was explained to students as being a direct comparison between two things. In this instance the key focus was books: students therefore had to find an analogy to express books and the effects they can have on readers. This verbal description was then to be developed into a visual interpretation (an illustration) which had to communicate the essence of the text through analogy.

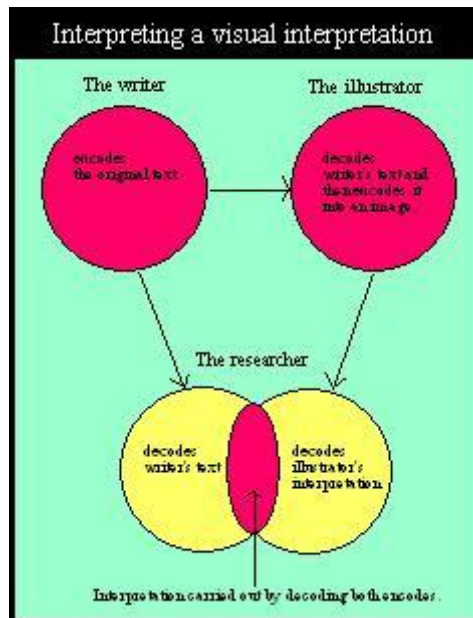
**Semiotic analysis and visual literacy** *communicative act* (Clark, 1996, p. 130). Building on the work of Searle (1969), Clark further describes this joint action as an illocutionary act (the speaker's act of explanation) and an illocutionary effect (the understanding of the person being addressed) (Clark, 1996, pp. 133, 134). A dominant interpretation of Conan Doyle's intent in 'Through the Magic Door', is that he is attempting to win readers over to his perspective about books. The students, to use Clark's definition, were asked to determine the 'speaker's meaning or what Grise (cited in Clark, 1996, p. 141) calls 'implacature, that is, what message is implied.

Determining hegemonic meaning was, in this exercise, simply the first step. As all students had to work from the same text, Roland Barthes (1977) notion of the text as 'anchoring the image' was important. This would ensure that, despite inevitable variations between students' descriptions of the original text, there could be extracted a 'consensus viewpoint'. This would in turn enable me to analyse each image in relation to the original text and each student's written comments about it. In the context of design training for professional illustration purposes, there is a certain requirement that illustration will 'make sense' to the majority of readers, hence the validity of an assessment based on consensus interpretation rather than completely radical or individual readings of the text. As is common in design studio projects, a hypothetical target audience was stipulated: in this instance the target audience was adult readers. To use Clark's reference to decoding as the illocutionary effect, my understanding (as an adult reader) of each student's image became the basis for my analysis.

Encoding and decoding is a useful description of the process of creating meaning and interpreting it. Structural linguist Jakobson (1960) describes encoding and decoding as a relationship between addresser and addressee where meaning comes from a shared context. Clear similarities can be seen between this definition and Clark's speaker's meaning and Grise's implacature. While Jakobson is describing the interpersonal, verbal relationship between two individuals, Hall (described in Chandler, 2002) applies encoding/decoding to mass communication, specifically to television. Hall expresses the view that 'decodings do not follow inevitably from encodings and that the decoder may not necessarily share the same code as the encoder or addresser' (Hall, 1980, p. 136). Hall's position refutes the idea of textual determinism, that a text only has one meaning. He suggests that there are three interpretive codes available to the reader; *dominant or hegemonic, negotiated, and oppositional*. The dominant reading is the 'preferred interpretation, the one likely to be most compatible with the writer's intention. The negotiated reading is one where readers mostly accept the writer's codes but may modify them to suit their own position. The oppositional reading is a rejection of the text even though it may be understood 'its context is changed by the reader. What I have found most useful in this project are the students' comments themselves. These comments are part of a student's encode, implacature process. They allow me to cross-check my own decoding process with their intentions and understandings.

## Denotative/connotative

A common dictionary definition of denotation is that it refers to the literal meaning of a word, while connotation suggests additional meaning. Barthes (1977) puts forward the case that in a photographic image connotation can be analytically separated from denotation. Following from this I have attempted to separate the denotative and connotative meanings in each of my chosen images. I have made full use of each student's written comments, preliminary design work and gathered source images as a cross-checking method.



## Research interpretation

In this research project the process of encoding/decoding requires a further procedure. The third party is the researcher. The writer encodes, the illustration student decodes. The student then interprets the decoding into a visual image. This image is a new encode. The researcher then completes the process by decoding the image and the original text. We therefore have the following: primary encoding/decoding, secondary encoding/decoding ? a four stage process. Kress and Van Leeuwen (1996) call this final stage ?transcoding. The challenge for the researcher is to develop a system that can follow this process from the students decoding procedure to the encoding approach and ultimately conclude with the researchers interpretation/decode/transcode. Kress and Van Leeuwen describe this another way as an interaction between two kinds of participants, *represented participants* (the people, the places and things depicted in images), and *interactive participants* (the people who communicate with each other through images, the producers and viewers images) (1996, p. 119). The student and the researcher are *interactive participants* negotiating what the *represented participants* signify.

## Data was processed using the following procedure:

1. Written responses from students were compiled describing how each student went about interpreting the text and what was believed to be the most significant aspects of it. This was done through a questionnaire, an evaluation sheet and a final rationale summing up their communication intent/signified/implacature.
2. All work carried out during the project was compiled in a ?workbook ? a collection of written comments, sketches, gathered images, developed concepts.
3. A profile was compiled for each student, describing the students approach to the design brief.
4. Each image was described through a denotative and connotative approach, triangulated by analysing student comments, developmental work and final imagery.
5. Each image was analysed for its analogical significance by determining its source and target.

6. The original text was also decoded by the researcher to determine illocutionary effect.

### Description of student work

Four sample student works have been chosen for the purposes of this article. I will describe my interpretations and the processes I used to determine meaning. The main signifieds, signifiers, vectors, actors, participants and goals are as follows:

#### Image 1

**Signified (implacature):** Books are magical methods of transport. **Signifier:** A book metamorphosed into a flying carpet. **Vector:** Left to right diagonal movement in perspective. **Actor:** Figure on flying carpet. **Participants:** a variety of objects and figures. **Goal:** A book metamorphosed into a flying carpet is carrying a person to dreamland.



Image 1

#### Image 2

**Signified (implacature):** Books are unappreciated yet they contain many treasures. **Signifier:** An attic. **Vector:** Bottom upwards movement. **Actor:** Figure emerging from outside attic with hand outstretched. **Goal:** A figure is entering an attic that represents dreamland.



Image 2

#### Image 3

**Signified (implacature):** Real life is a boring and monotonous prison and books allow us to escape from it. **Signifier:** Escaping prisoners with books as their means of escape. **Vector:** Left to right movement with foreground perspective. **Actor:** Foreground figure with Shakespeare book. **Participants:** Jail in background, rope made of books, escaping prisoner in background. **Goal:** Figures are escaping reality and going to dreamland.



Image 3

#### Image 4

**Signified (implacature):** Books are thrilling and exciting journeys. **Signifier:** A rollercoaster. **Vector:** Left to right movement, rollercoaster travelling towards light. **Actor:** Rollercoaster. **Participants:** Seated figure, rows of books. **Goal:** The rollercoaster is offering the seated figure an opportunity to go to dreamland.



Image 4

### Modality

The term modality comes from linguistics and corresponds to credibility, believability or levels of truth. In relation to the four images described in this article, each of them has similar, high modality. Each has been painted in realistic tones and colours and each has a light source to correspond with physical reality. There is an element of the ?hyper real, similar to what we see in surrealism. Each image is an abstraction, painted realistically to ?suspend belief.

### Composition

Composition has not been discussed separately but referred to through each images denotative, vector, actor and participant components.

### **Image 1: Denotative analysis and interpretation**

Content analysis, as described by Rose (2001), is largely quantitative and the least subjective of all semiotic analysis approaches. It is essentially about determining content as opposed to meaning. It is a useful method for determining patterns among a series of images. For example, in the four images analysed in this article, three contain a reference to William Shakespeare, all four contain books and three show a left to right compositional narrative. I use denotation to refer to objects contained within a picture, removing myself at this stage from judgements as to their purpose.

I will begin by describing the formal ?denotative components of this picture. Dark grey window (top centre), blue written text on dull yellow flowing background emerging from window, possibly a quotation. Text joins on to a flying carpet metamorphosed into a book. On this form is a young female figure. The form also has hieroglyphic symbols on it. In the background we see from left to right a castle, William Shakespeare, Cupid, a laughing tree, a graveyard and a white rabbit. On the top right we see a flying saucer. Most of these shapes are evident in the final image. Confirmation comes from looking at the sketches and written comments the student made during the project.



The dominant image is the grouping of a figure on a flying carpet. According to Kress and Van Leeuwen (1996), the dominant image can be defined as the ?actor and what is taking place is defined as the ?goal. The ?vector is the action taking place, in this instance the process of the actor travelling from one location to another. Secondary elements in the picture are what Halliday (1985) calls circumstances. These are participants that could be left out of a picture without affecting the main concept. They nevertheless provide further context.

### **Connotative analysis and interpretation**

The grey window represents the real world. I base this on the text from the essay You have left all that is vulgar and all that is sordid behind you. In the rationale the student says I have painted a magic flying carpet flying out

from a dull room entering into a bright, magical world. In summing up the text the student says That books can take you on a journey and adventure. They can take you to another place or world. That they are magical. The driving concept in this image is the analogy that books are like magic carpets. This interpretation is validated by numerous comments, drawings, source images collected by the student and of course the students own written rationale. My reading of the analogy is consistent with the students concept. The analogy created by the student allows me to think of books as magical systems of transport. Conan Doyles text implies this with comments such as Conan Doyle is suggesting that by choosing a book ? in this instance he is referring to the work of dead authors ? we can remove ourselves from the worries of our day-to-day lives and escape to a fictional realm he refers to as ?dreamworld. The students analogy makes the connection that in a sense this magical experience is similar to being transported to wherever we desire, just like being on a magical flying carpet. While flying carpets are not themselves real, they are firmly fixed in popular cultures mythology and therefore the connection is made. Analogies happen through a process described as ?mapping. The ?source, in this instance the flying carpet, is mapped, or transferred to the ?target, which is books. Our familiarity and clear understanding of flying carpets allows us to think of books in a similar way. The analogy also works because as readers we are able to reflect on our own experience with books. And most of us can think back to certain books in childhood and adulthood that had an almost magical transformative effect on us.

Other elements in the students picture were interpreted by looking for implicit and explicit references to the text. The very nature of analogy is that the idea comes from an external source. However, good visual communication can also harness an explicit or literal approach, particularly as a secondary, support mechanism. In the text Conan Doyle says *Let us suppose that we were suddenly to learn that Shakespeare had returned to earth, and that he would favour any of us with an hour of his wit and his fancy. How eagerly we would seek him out!* Student 1 refers to Shakespeare explicitly with an image of him behind a tree holding a quill. Other images in the picture are implicit. Conan Doyle talks of mummified souls. The student picks up on this through hieroglyphics on the magic carpet, which is an implied reference to Egypt. On closer inspection the hieroglyphics are not of Egyptian origin. We see a magnifying glass suggesting mystery, a sand timer, suggesting suspense, and a flower next to an eye with a tear suggesting romance. These implied references can also be tied back to Conan Doyles text: . Most of the secondary elements in the picture relate to images that we would expect in fiction, hence the castle, the flying saucers, Cupid, the laughing tree. The graveyard is a reference to dead writers mentioned numerous times in Doyles text Context is a highly significant factor in visual interpretation. A magnifying glass, for example, does not literally denote mystery. And we do not automatically associate graveyards with dead writers. It is when the image is read in the context of its placement that the reader is able to make a connotative reading of what it signifies.

My analysis and interpretation of this work (while subjective) set out to be systematic, traceable and verifiable. My expertise as a designer and design educator provided me with an almost immediate interpretation when I first saw the students final image. What I have sought after that was to examine the data systematically, i.e. the students sketches, thumbnails, written comments, gathered images, questionnaire, evaluation and rationale and provide for others a reading which they themselves can check. According to Chandler (2002, p. 142), Connotations are not purely ?personal meanings ? they are determined by the codes to which the interpreter has access.







### Connotative analysis and interpretation

The significance of the image is that it picks up on Conan Doyle's reference to books as being unappreciated yet full of richness. The student compares books to attics, the similarity being that both can lie gathering dust, unused. Yet both contain rich, interesting things when opened. *It is our familiarity also which has lessened our perception of the miraculous good fortune which we enjoy. Let us suppose that we were suddenly to learn that Shakespeare had returned to earth, and that he would favour any of us with an hour of his wit and his fancy. How eagerly we would seek him out! And yet we have him the very best of him at our elbows from week to week, and hardly trouble ourselves to put out our hands to beckon him down.* In response to the question given to all students in week 3 of the project *What is the writer's main message/point of view?*, the student writes *Books are deeper than we originally think because we are climatized to their presence. (Familiarity has deadened our sense of it Conan Doyle)* In her rationale the student says the setting for dreamland is an old attic. The attic works as an analogy for books because it is a place where we can find objects which tell stories and offer us a window into the past. Also an attic has the dusty and mysterious qualities which Conan Doyle connects with books.

The analogic source of the attic maps onto our target of books because many of us have at some time in our lives climbed up into attics and found the experience fascinating and also a bit eerie (again a word Conan Doyle uses). The attic analogy allows us to think of books as containing great treasures even though we tend to forget about them. The experience of opening a book is therefore genuinely similar to that of opening an attic door. Another reason why this analogy works well is that Conan Doyle refers to dead writers, that is, works from the past. He doesn't discuss contemporary writers.

Text specifically underlined in the Doyle essay by the student is *door, magic portal into that fair land, dreamland, worlds greatest storytellers.* The student has successfully interpreted these key elements into her picture. As to the various pictorial elements in the picture the student tells us about the worlds greatest storytellers through the characters Mowgli from *The Jungle Book*, Sherlock Holmes, Doyle's famous detective, Dorothy from *The Wizard of Oz*, and the creature from *Where the Wild Things Are*. The student refers to these characters in her rationale. Shakespeare, the one writer specifically mentioned in Doyle's text, has been explicitly referenced, standing in the attic.

### Image 3: Denotative analysis and interpretation



In the third image, it is night time. There is a prison wall in the background. We see barbed wire at the top and a tower with a yellow light on the right hand side. A rope connected to a number of books is lowered over the wall. A figure in a striped outfit appears to be climbing down it. Connecting the background with the foreground are pages from books. In the foreground another figure with striped clothing is moving away from the prison. He is holding a book with the words 'Shakespeare'.



#### Connotative analysis and interpretation

The prison represents the real world. *You have left all that is vulgar and all that is sordid behind you.* Prisoners are readers and they are escaping the real world through their use of books. Books are their tools of escape. My reading is facilitated by the students comments in her rationale, I have tied the text *Through the Magic door* back into my illustration by having the prisoners use the books to escape as said in my analogy that books help you escape into another world. This image relies on us seeing real life as a kind of prison and that books are a method of escaping that prison. The idea is based on an example of escape. Similarity is based on connecting prisons with our day-to-day *vulgar and sordid* and *dull, soul-killing monotony* existence, to which Doyle refers. As I am unable to use the analogic source/target approach I describe this image as more of a metaphor. In context, the prison represents the real world. It is not *similar* to it but it is a place we desire to escape from. It is therefore a metaphor. The prisoners have used the books to escape. Prisoners with books are not similar to books, they represent the effect books have. Therefore the prisoners are metaphors for the escapism that books provide.

Using the analogic source/target approach is a systematic way to decode an image and determine its syntax. Metaphors and analogies are similar and they both rely on our ability to make associations between objects and what they represent. However, I have found a useful way to make a clear distinction between the two is to use the source/target approach. If it doesn't fit, it probably isn't an analogy. If it still manages to communicate then it is likely through its symbolic language to be metaphor.

#### Image 4: Denotative analysis and interpretation

In a darkened room we see a man sitting on a chair. Behind him are rows of books on a bookshelf. Underneath his foot is a track with what appears to be coal carts moving quickly towards a bright distance. The track is on long poles. The furthest away cart has wings. The cart is moving through an arched doorway. There is a blue sphere in the distance.



### Connotative analysis and interpretation

The room is the location referred to in the text. *?I care not how humble your bookshelf may be, nor how lowly the room which it adorns. Close the door of that room behind you, shut off with it all the cares of the outer world,.* The mining cart/rollercoaster image represents books. The student says From the idea of a mining cart came a rollercoaster. I decided to use a rollercoaster as my method of transport because it is exciting and fast, and I wanted it to represent the adventures that books can create for us. The rollercoaster is being compared to books. As an analogic source object it reminds us that, by inference, books can be thrilling and exciting just like a rollercoaster ride. In a sense the image works by comparing two forms of escapism and making the connection that each of them can be thrilling and exciting. The analogy works because at a certain level there is genuine similarity between the target and the source.

Secondary elements in the picture that relate to the text are small mummy bookends. They refer to *?mummified souls*. I was able to back up this reading by looking through the students workbook. It includes various images relating to Egypt. In her own handwriting she adds Including in image something to relate to the sentence including the word *?mummified souls*. Either have mummy like figure in background behind my man or eyes in bookshelf or a book that looks like a mummy. I was able to read the mummy bookends as a reference to the text without looking at the students comments. However, as a research method, I have found that encouraging students to write down their ideas as they develop, allows for an accurate reading when in depth analysis is required. It also demonstrates that the decoding process that the reader goes through can be verified.

### Recurring themes and patterns

#### Vectors

All the four images described/examined have a number of things in common. Each of their actions, *?goings on* (Kress & Van Leeuwen, 1996), shows the movement from one location to another. Three of the four contain a doorway or some form of exit (Images 1, 2 and 4). These relate to dreamland.

#### Actors

The actors are moving from one location to another

#### Participants

Each makes references to the original text. Images 1 and 2 contain more references than images 3 and 4. Only the final image has no reference to Shakespeare, the only writer specifically mentioned in the text. In all four images the reader is an onlooker, witnessing an event.

#### Modality

Each image has been painted realistically with full consideration to tone and light source. They are in some respects hyper-real or surreal, creating believable realities while quite clearly not relating to our physical world.

Each student has in their own way conceptualised the transforming effect of books.

## Conclusion

Research into the practice of design is developing fast due to the acknowledgement that design educators are well placed to add to the body of knowledge. Visual literacy, a skill taught and learned in university, is also a skill that can be called on to provide insight into the design process. Analogy is an area of research most commonly associated with the cognitive sciences. To bring it meaningfully into the area of visual communication requires a definition that suits the particular nature of the discipline. While this article has described students' interpretations of written text through the use of visual analogy, there are a series of definitional problems to overcome. Davies and Goel (2003, p. 1) describe visual analogies as analogies based on visual similarity, comparing a physical object with other physical objects. The analogies I described are conceptual analogies. The outcomes are visual but the process is based on comparisons of actions and attributes. I would like to take the liberty of describing these as 'visualised analogies'.

Having shared codes allows the design educator/researcher to determine the message and communicable value of a design student's image. The design studio is an environment where the expert assists the novice to develop visual literacy expertise. Action research as a methodology allows educators to inquire systematically into their teaching practice, and move beyond intuitive hunches as to what may enhance learning to develop a more explicit understanding of what methods can be used to enhance creativity, and why such methods work. The researcher can in turn use this expertise to provide an informed reading of the intended meaning of a student's work, certainly within the context of a design project. As Chandler (2002, p. 14) points out 'Meaning is not transmitted to us; we actively create it according to a complex interplay of codes or conventions of which we are normally unaware. Becoming aware of such codes is both inherently fascinating and intellectually empowering.'

Code, as has been discussed in this article, is determined by context. Interpreting visual images has long been regarded as more problematic than interpreting written text; that somehow written text has more stable meaning than visual text. However, if one considers that the word 'black', as defined in the *Collins Paperback English Dictionary* (2000, p. 72), has eighteen definitions, it becomes clear that meaning varies with context. This is no different for words than it is for images. The images I have described have a shared context. Each one describes through analogy, properties that can be associated with books. When one looks at the actions of the actors and participants, one can clarify the context in which they sit. When given access to the visual communicators' own comments, context and meaning are even more firmly established and the researcher is well placed to offer a considered analysis and interpretation of a visual text.

I hope that others may enjoy reading Conan Doyle's text ([Appendix 1](#)) and the visual interpretations of my students. I invite anyone who reads this article to send me their own visual interpretations of the text. I propose that you first summarise the text into its main message, then seek to describe this through a similar idea. Once you have done that, create a sketch that incorporates your main concept with secondary elements (participants) from the text.

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