

01

THE ROLE OF WORKING DRAWING IN THE FIELD OF APPLIED ARTS

*Ernesto Carlos Pujazon Patron, Mumtaz Mokhtar & Jose Domingo Elias

*Universiti Teknologi MARA, Malaysia
Potificia Universidad Catolica del Peru, Peru

ABSTRACT

The ability to draw has been present in us throughout human evolution. The terms “drawing” and “sketching” involves many different types and styles of mark-making; these are connections of abstraction in the form of an idea extrapolated to a reality-based outcome of its usages and applications. In the visual world of fine and applied arts, drafting, digital computational drawings, and exploration drawings are developed based on the application of the conscious mind alongside observation, translating this idea and the physical reality. With a single stroke, one can either construct the composition of a painting, develop new solutions, or solve essential problems. This paper seeks to examine and discuss the role of working drawings and their application in today’s environment. A selection of working drawings from the design field and visual fine arts are used as case studies for further dialogue and analysis. Science, as well as the arts, has relied on some form of drawings. These drawings function as evidence to create artistic beauty and/or further thrust the human mind into unknown fields. Thus, this process is fundamental and necessary at two primary levels: understanding its functions and respecting it as an integral part of the design concept process. As a result, artists and designers would want to be seen as intellectuals and philosophers with an agenda of functionalism and not as simple medieval craftsmen.

Keyword: Drawing, Drafting-construction drawing, digital-working drawing, Sketch-scribbles, Doodling-mark making

*Corresponding author: hsecpp@gmail.com

These early human expressions may evolve over time, incorporating other more sophisticated elements or principles of design. The term "Drawing" has been classified into different categories based on usage and applications; there are fundamental differences and some similarities in the types of the requirements that each drawing possesses (Hutter (2021, September 28). Drawing). In Fine arts (South, 2018), working drawings are classified as "exploratory drawings." They are developed from an idea or theme towards a final artwork. The creation of an artwork may be complete in a short period of time, such as an artist's expression of their inner feelings or thoughts, or it may be executed on a long explorative and interactive design process, such as Leonardo's map of Imola 1502 drawing (refer Figure 1: A Map of Imola 1502).

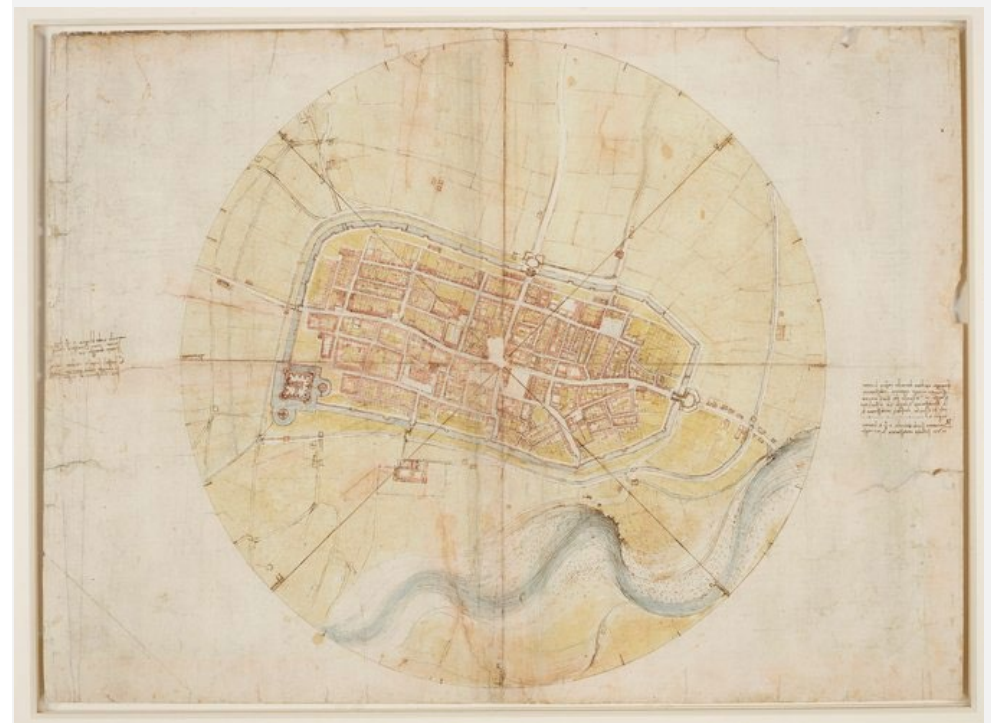


Figure 1 : A Map of Imola 1502. Red chalk, stylus lines, pen, ink and colored washes on paper. 44.0 cm x 60.2 cm. (Royal Collection Trust. RCIN 912284)

INTRODUCTION

The ability to draw is ingrained in us throughout human evolution. Today, many software and hardware tools are available to produce working drawings with precision. However, creating one's own drawing and sketching manually gives added invaluable input to the design process and generating ideas. *“Drawings and mark-making are part of sensory and physical experiences connecting an abstract idea to a reality outcome”* (Dutoit, 2008. Pp. 148). From early drawings to our current era of mark-making digitally developed by mathematical representation and a creative expression, drawings generally refer to the conception of making lines, marks, different patterns, and textures to describe or depict shapes and objects. Drawings are typically used to describe the scribbles that young children might produce on paper with pens, pencils, or crayons, without any control over their self-conscious minds; those drawings often present their uniqueness in shape, form, or meaning.

In August 1502, Leonardo Davinci was appointed "General Architect and Engineer" to Cesare Borgia . With the appointment, Leonardo could marshal the Papal troops, giving him powers to requisition men for surveying and to order improvements to fortifications. Leonardo paced the length of the streets, as recorded on an annotated sketch of each quarter of the town. Leonardo took bearings from the tower of the 'Palazzo Comunale' at the central crossroads and presumably worked out the layout by geometry as no construction lines are visible (Heydenreich et al., 1992,154). Translating ideas into physical reality can be difficult; thus, working drawings allow the artist or designer to explore, split up, and revise idea generation into a series of stages by working through the problems as they occur. Working drawings are references and standards that the artist, designer, architect, or engineer may embark on to improve the final work or work simultaneously on producing the final artwork. Michelangelo also created several well-catalogued working drawings called 'studies' for the "Lorenzo de' Medici Tomb". In his thought process, Michelangelo considered the tomb's outer framework and the inner decorative details. However, the exterior walls of the actual building were in place before the final design for the tomb project, and he realised that the interior space was too small for the memorial than he had planned (Ormiston, 2011, p. 125). The drawing includes a statement from Michelangelo in Italian, translated as: 'Fame holds the epitaphs in position; it goes neither forward nor backward for they are dead and their work is still' (Ormiston, 2011, p. 125).

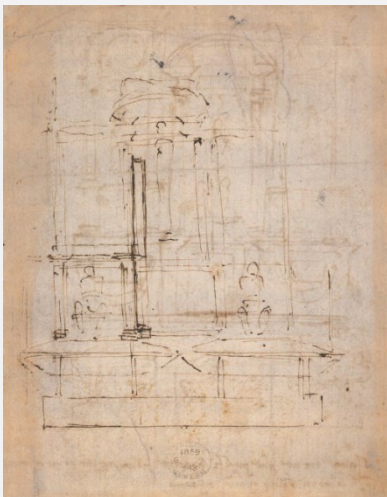


Figure 2 : Study for the Magnifici Double Tomb. C, 1520-21. On dark brown ink on paper. 20.7cm x 16.1cm. (British Museum, London, UK)



Figure 3 : Federico Zuccaro. Artist Sketching in the Michelangelo New Medici Sacristy. 1580. Black and Red chalks on paper. 20 cm x 26.4 cm. (Musée du Louvre, Paris)

In 1536, Giorgio Vasari mentioned that in 1520 the Medici family commissioned Michelangelo to design a family mausoleum; later, it came to be known as Cappelle Medici ('Medici Chapel'). The Medici Chapel was an essential spot for dignitaries, intellectuals, and tourists of the time. The chapel also became a destination for other artists, who began making working drawings and copies of Michelangelo's statues and working drawings of the interior of the building. Federico Zuccaro (Zuccari) 1580 evoked the everyday activities of the artists sketching and discussing the chapel (Lazzaro, 2016, p. 9) (Refer to Figure 3 above).

In architecture, engineering or other design practices, working drawings are used as stages in the manufacturing or construction process. They are composed according to current industry standards and follow worldwide conventions for ease of use and understanding. In design and architecture, working drawings are used primarily to convert visual data, provide graphical and dimensional data to understand the design thinking process, and help create or re-create overall views from different angles. 'Guangzhou Opera House' China catalogue provides a breaking stereotype and challenges the creative limitations. Zaha Hadid (2010) said: '*my design is streamlined, using a continuous line to liberate the architecture from conventional restraints. It was not a gravity revolution, but to be free from the conventional order, thus establishing a new one*' (p. 46). In her working drawings, 'structure first, function comes second'. Zaha prefers to sketch the structure of the building at first, describing the space and depth of the structure rather than the two-dimensional planner view. Working drawings consist of two-dimensional orthogonal projections of components. They include plan views, sections, elevation views, and front and rear views. They were traditionally drawn manually but now are executed using computer-aided design (CAD) software. These views have their purpose, and their appearances show a finished look.

Within the manufacturing industries, there are two types of working drawings that a designer can refer to:

- The details drawing, showing the different views of the object, including information such as measurements and tolerance that the craft person or machine operator might need to know when manufacturing an object,
- The second type of drawing refers to assembly drawings that show how various components fit together during the construction. They are drawn separately, in the correct relative position with measurements.

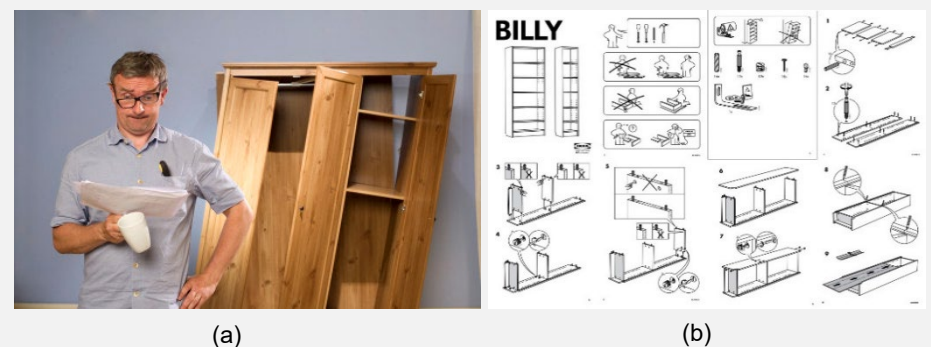


Figure 4 : (a) & (b); IKEA, Instructions for the Legendary Billy Bookcase

A difficulty may develop with this kind of classification in assembling drawings. In pictorial communication or graphics, the above pictures are naturally ambiguous as a picture may transmit an indeterminate number of meanings within its own content. Another difficulty is that images can be subjugated to language. Therefore, they are vulnerable to verbal communication.

Working drawings can be classified as those that are part of product information provided by the designer to the construction team to better support the construction of a project's outcome. The outcome includes technical construction drawings in general. Working drawings provide graphical and dimensional information, while construction drawings provide the production sequence of the assembly line. Both are very useful or necessary within the design manufacturing field. An alternative role of the working-drawing is to convey design data for construction information and to clearly communicate such information to build industry personnel, code officials, policymakers, product managers, suppliers, and fabricators and for standard operating procedures.

BACKGROUND

Drawing is the essential discipline in all science or applied art fields. It is an important step in the arts and design training process. It describes a mental means that is based on observation or when an idea is designed and shaped, as sculptors, illustrators, architects as well any other designers would draw what they observed or conceived in their mind before starting any form of work (Nicolaidis, 1969, p. 5). The usage of lines, shapes, forms, contours, shadings, and hatching supports further understanding of the product in its totality, rather than building an object or product without any preliminary setting. A general example of what designers call 'working drawings' is something that helps kick start and develop new solutions and creates stronger compositions for better aesthetic results. Mark-making is the product of the artist's individual style, conveying visual meaning to an audience (Wiseman, 2002, p. 28). The argument presented is that throughout human history, the ability to draw has been regarded as the preparatory stage during any creative process. The process includes preparing architecture drawings for buildings, cities, fortifications, aqueducts, and temples and studying human anatomy and the functions of internal organs. Leonardo's Codices sketchbooks present in a detailed manner many ideas about the function of the human body, which were not known until the 18th century. Michelangelo's cartoons for the Sistine Chapel ceiling painting (Ormiston, 2011, p. 148) and Raphael's working drawings for the School of Athens are good examples of this technique. Leonardo, Michelangelo and Raphael set the standards of observation, fluency and power that had never been seen before. For Leonardo, working drawings were not enough to depict an idea; he wanted to answer specific questions. He wanted to understand and know how the mechanism functioned (Raynes, 2007, p. 8).

OBJECTIVE

The purpose of this research is to investigate the role of working drawings and examine their use in the field of applied arts. The conclusions of this study will create particular knowledge on Art as a subject, which will help raise awareness among artists, designers, and practitioners in academia.

TYPES OF DRAWINGS

Drawing is at the core or soul of an artist's method of self-expression. It is a creative approach for artists or designers to communicate their ideas and thoughts as a communication tool. A mark-making is a sketch, a blueprint, a design, or a graphic representation created using pens, pencils, crayons, or currently digital technology software and computational tools. Their result is determined by their nature and aim. Architectural drawings, structural drawings, civil engineering drawings, mechanical drawings, electrical drawings, installation, and so on are all examples of drawings. Working drawings have traditionally consisted of a two-dimensional orthogonal projection of the structure or component being described, such as plans, sections, or elevations. These drawings are used during the design stage to assist the architect, engineer, or designer in visualising the structure before the construction process begins.

Life drawings, whether digital or hand-drawn, are the outcome of direct real-life observations. They are also known as figure drawings, depicting all of the expressions the artist observes and captures from the life-pose session. Artists and designers are trained to observe the human form with accuracy. The human figure, as a 'form' in life drawing, is one of the most enduring themes throughout history confronted by artists. Life drawing is applied to portraiture, sculpture, medical illustrations, cartooning, comic books, illustrations, animation, and other design fields such as fashion or product design.

Illustrations are drawings designed to depict the layout composition of a particular tale; they may incorporate basic design principles and characteristics of the project in question, such as its goal, style, size, colour, character, and effect. Analytical drawings are drawings developed to clearly understand an object and depict an artist's or designer's observation. They may also be used to undertake or split the observations into little components for improved perspective and better comprehension. Orthographic drawings represent several or many views of a single object, such as the front, left-right side, top, bottom, or back view. Diagrammatic drawings study and investigate thoughts and ideas documented digitally or manually on paper. Diagrams are developed to illustrate adjacencies and occurrences that are expected to occur soon. As a result, diagrammatic drawings function as an active design process. Computer-aided drafting tools (CAD) use computer software to design and document a product design process. They are used across a wide variety of different industries and occupations. Within classical academic history, sketching is regarded as a fast graphic expression, utilising any type of dry material or digital software. This stage is not meant to be a finished work as its function is to offer an inner expression of recording thought development (Creative process recorded) and graphically illustrate a picture, notion, or principle.

In any of the categories mentioned above, the artist and designer must consider and become accustomed to the use of linear perspective as a device to express the correct formal representation of distance, depth, and the proportions of any given figure and object in space. For example, the Florentine artists used linear perspective to extract and represent visual data of space. They first applied this data to paintings, making possible a composition that was calculated in proportion and accuracy, which set the standards for the rationalising the sight (Bedini et al., 1988, p. 22).

METHODOLOGY

The current study employed an empirical approach of observation and analytical comparison of various drawings to determine the benefits and drawbacks within the realm of applied arts. Images give important and necessary information on the topic of study. Therefore, it is critical to analyse the definitions of the various drawings within this system and the information they convey. Once these definitions are clarified, the decision can be made to endorse one term over another. As part of the process, many types of drawings, sketches, and scribbles were thoroughly examined. In this inquiry, preliminary sketches by Raphael, Michelangelo, Leonardo, and Durer provided favourable information.

DISCUSSION AND RESULTS

Drawing is the fundamental discipline in all visual or applied art fields. It is an essential step in training applied arts students, professional artists, or designers. This discipline of drawing has shifted over the last 40 years (Treib et al., 2008, p. 11), clearly demonstrating how ideas and new approaches spread through this discipline and their effects on design, arts, and representation (Barron et al., 2008). Drawing can be understood from different paradigms, such as historical, literary criticism, or physical science. Harold Speed (1972), in his book, 'The Practice and Science of Drawing', mentions: *"Great things are only done in art when the creative instinct of the artist/designer has a well-organised executive faculty at its disposal"* (p. 18).

Drawings describe a mental means based on seeing, in which an idea is designed and shaped; it is also the beginning of creative expressions in all applied arts (Brown & McLean, 2004, p.12). Sculptors, painters, illustrators, and other designers draw what they see or have conceived in their minds before starting any form of work. Drawing is an evolutionary process that includes an initial explorative stage, a confirmation and eventually a final refined one (Brown & McLean, 2004, p.12). Using lines, studying the contours, and producing some shadings to understand the form all help to value their laborious works. These steps help further understand the product or object, adding minimal details such as dimensions, texture, colour, or materials rather than sketching the object without any preliminary setting. An example of what designers or artists call working drawings helps to prepare and develop new solutions (Eissen & Steur, 2007), analysing different possibilities of solving a problem. Diverging thinking is a powerful tool in creating new solutions by generating many drawings and sketches, allowing designers and artists to explore and go beyond conventional ideas to create new directions for applied arts in general (Eissen & Steur, 2007). (Figure 5, (a) & (b), beneath). In painting, artists could create stronger compositions and gain assistance in selecting materials, which could lead to better results.

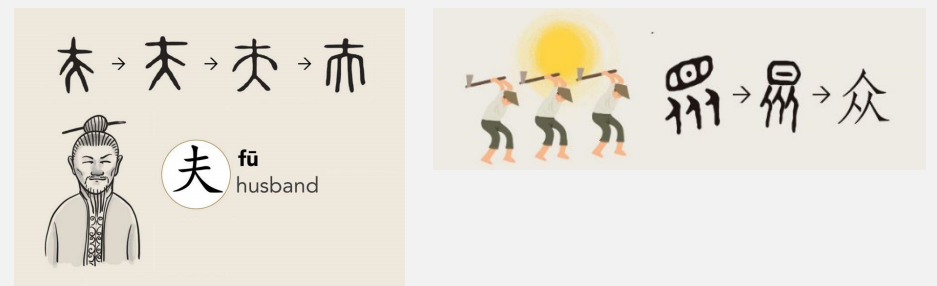


(a)

(b)

Figure 5 : (a) Manual & (b) Digital, Sketch idea development: Home appliances (Eissen & Steur, 2007)

Mark-making is a form of communication. Ancient written languages such as Sumerian, Egyptian, and Chinese were not phonetic. These characters were based on pictograms, and symbols embody meaning (a pack of characters based on shared understanding). A Japanese written character, "Kanji" or Chinese, "Hanzi", is a constructed symbol with meaning. If a Chinese or Japanese person sees it, they might be able to communicate or understand it to some basic level. This pictogram represents a complex meaning, not a sound.



(a)

(b)

Figure 6 : (a) Chinese character evolution;
(b) Pictograph: 人, 从, and 众. 人=rén=person 从=cóng=from/follow 众=Zhòng=crowd

Here the visual meaning of the character has transcended the spoken words (Refer to Figure 6. (a) & (b)).

Drawing is the genesis of the art forms, from the representation of still-life objects to the human figure, considered the highest degree of form studies taught at any art school or design field (Brown & McLean, 2004, p.12). It requires enormous mental discipline and demands a high level of exploration, investigation, analysis, and observation, which is far more intense and passionate than simply "looking at" the object. For example, in studying the human form, experienced artists will always consider the study of the "form" first over the study of the shape, contour or outline. According to William James (1842-1910), this perception through observation is the storing of visual concepts from our daily lives. Visual knowledge facilitates our recognition of objects but also prevents us from looking more than superficially at previously experienced objects, which may contribute to incorrect assumptions leading to erroneous conclusions (Brown & McLean, 2004, p. 40). The artist needs to create planes and landmarks to define the figure and carry the eye through the composition (Hale, 1991, p. 10).

The creation of artworks has been an activity that has accompanied human cognition throughout cultures (De Pisapia et al., 2016), and the creation of artefacts has intrigued the inventiveness of human intellect since the earliest record of human activity. A crucial component of the creation of any working drawing is that it occurs in the artist's or designer's mind, and there is a need to transfer these abstract thoughts and concepts into a physical form. This planning process incorporates a selection of best practices to proceed with the best potential execution, after which the artist-designer will regularly modify and update these working drawings. Reproducing details from any piece of Art without comprehending the fundamentals of drawing is essentially copying (Hale, 1991, p. 11).

The cause of artistic ability has had many explanations for its manifestation, varying from the divine (Gods and muse) or routed from the imitation of nature. Some examples in these studies are; Leonardo da Vinci (1452-1519), *Study of a Warrior's Head for the Battle of Anghiari*, 1504-1505 (Bedini et al., 1988), Michelangelo Buonarroti (1475-1564) on his preparatory sketch *Study of the Flagellation of Christ* 1516, with red chalk over stylus in the British Museum, London, UK (Ormiton, 2011), and Gustav Klimt (1862-1918), preparatory oil sketch for a section of the Beethoven Frieze 1902 (Metzger, 2001, p. 22).

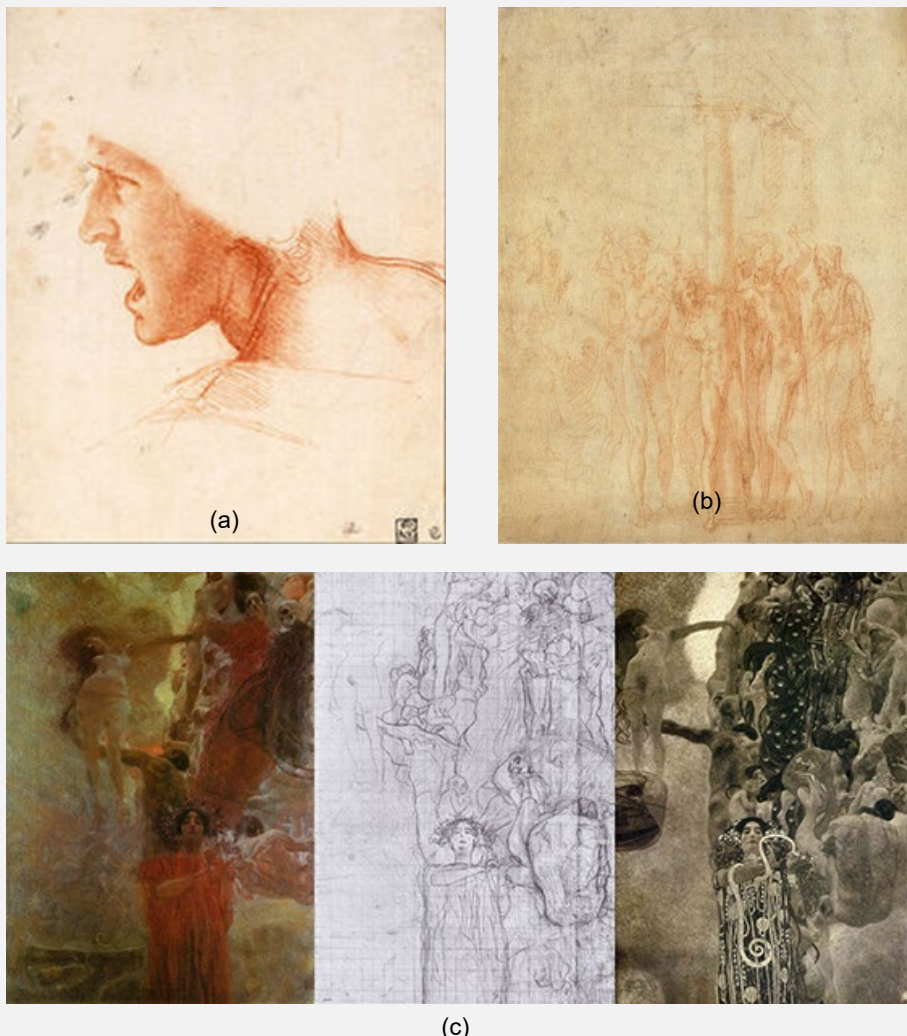


Figure 7 : (a) Leonardo: Study of a Warrior's Head for the Battle of Alghiari. (1504-1505) Red chalk. (b) Michelangelo: Study of The Flagellation of Christ (1516) Red chalk over stylus. (c) Gustav Klimt: 'Medicine', Oil sketch, preparatory drawing for final painting

Albrecht Durer (1471-1528) of Nuremberg was the first northern European artist to travel consistently to study Italian Art and its underlying theorists and sources (Xu, 2020). Durer, like Leonardo, wrote a theoretical treatise on different subjects, including linear perspective, fortifications and the ideal in human proportion and beauty (Kleiner, 2010, p. 506). He left a cautiously recorded account of his life and career through several self-portraits. His correspondence and a carefully detailed readable diary demonstrate how he spent his time, studies and transactions regarding art pieces, all of which have been extremely useful in understanding the way Art was viewed at the time (Crawley, 2016). Durer allied with Leonardo in his methodically scientific studies when he worked out and painted an extremely accurate watercolour study. Like Leonardo, Durer shared and believed that the sense of sight reveals scientific facts for artists where "observation" yields truth. The remarkable *"Great Piece of Truth"* 1503 is as scientifically accurate as it is poetic. Botanists can identify and distinguish each plant and grass variety – dandelions, yarrow, meadow grass, great plantain, and heath rush (Kleiner, 2010, p. 507). *'Left Wing of a Blue Roller'* meticulously examines the plumage of a migratory bird which was once common throughout Europe. The work delights in the colour and texture of the wing, its vibrant palette employed to conjure the unmistakable softness of downy feathers (Figure 8. (a) & (b)). Although microscopes (c, 1609) did not exist at the time, Durer's drawing looks as though he examined every single blade of grass under the lens of one of them. Durer's discerning eye left out nothing.

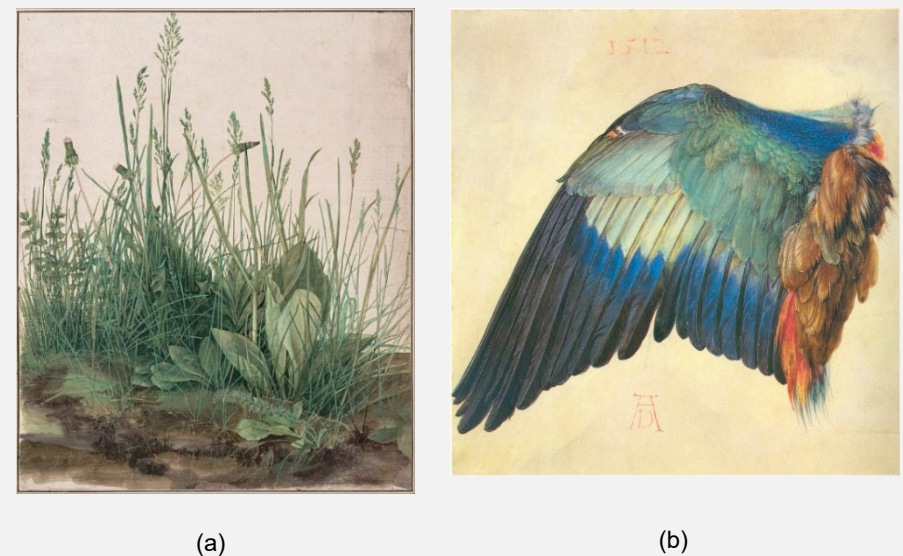


Figure 8 : Albrecht Durer: (a) The Large Piece of Turf, 1503. Watercolour and gouache heightened with white, mounted on cardboard. Albertina, Vienna. (b) Left Wing of a European Roller. 1512. Watercolour and body colour on Velum. Albertina Vienna

In 1508, Julius II summoned Raffaello Santi (Sanzio), known as Raphael (1483-1520), to the papal court in Rome to develop an extensive range of working drawings and studies for his Fresco paintings at the Papal living apartments in the Apostolic Palace of the Vatican, Rome. Raphael adopted Leonardo's pyramidal composition and modelled the faces in subtle chiaroscuro (Quinlan-McGrath, 2016, 159). He preferred lighter tonalities and blue skies, as well as clarity over obscurity (Figure 1, (a) & (b)). On further inspection, the study for the *"Massacre of the Innocents"* (1510-1514) was a topic frequently found throughout the Renaissance (Refer to Figure 9).



Figure 9 : Raphael, Massacre of Innocents. c.1510. Red chalk over charcoal pounce-marks, stylus and black chalk under-drawing

He took this complex theme into his career and prepared multiple working drawings to prepare for a large painting. These drawings were made using various mediums such as pen and ink; some others were made on red chalk over leap point (Learn From Master, 2016). The biblical story tells a tale of Herod the Great ordering the execution and murder of the male children in the proximity of Bethlehem in an attempt to kill the infant Jesus and thus protect his legacy. Many other well-known artists such as Rubens, Bruegel, Giotto, and Tintoretto have also covered this topic. This animated scene was, for Raphael, an opportunity and ideal way to display his anatomical skill and to capture figures in a countless variety of poses and extortions. Another important aspect of Raphael's working drawings is that after Raphael painted the two most important rooms of the Papal private apartment, i.e. the Stanza della Segnatura and the Stanza d'Eliodoro. His pupils painted and completed the other two rooms following his detailed working drawings or sketches (Figure 10: (a) & (b)).



(a)

Figure 10 : (a) Raphael's Preparatory Cartoon for the School of Athens (1509), charcoal and white lead on paper, 285 x 804 cm. (b) Mural Painting.



(b)

Figure 10 : (b) Raphael's Preparatory Sketches for the School of Athens (1509), charcoal and white lead on paper, 285 x 804 cm. (b) Mural Painting.

Painting and drawing compositions of living subjects require exact knowledge of anatomy. These studies are built on the shape and structure of living organisms and the basic morphology of the form. For the Renaissance man, anatomy was an applied science which underpinned all design subjects and at its highest level was Fine Arts (Szunyoghy & Feher, 1996, p. 7). An important point to elaborate on is that artists had been studying the human body form from its anatomical proportion and measurements. Even though during the Middle Ages and the early Renaissance, the Catholic church prohibited the dissection of the human body, as we know, artists and scientists were very anxious to gain specialised knowledge and understanding of the human body's inner functions. This allowed artists to sculpt and paint figures in many different positions, and the scientists were able to battle common illnesses. These studies permitted artists to portray more naturalistic and lifelike scenes, alongside the development of this style and the demand that society thinks of artists as more than skilled manual workers. The tasks demonstrated that the artwork produced through their studies was based on science and mathematics. For example, a product of their intellect and creativity as much as the involvement of their hands. Therefore, as a result, they wanted to be considered to assume the same status as intellectuals and philosophers and not like the medieval craftsmen that came prior to them.

CONCLUSION

According to this research, sketching, whether manual or electronic (digital), remains the principal instrument for any visual discipline and an essential aspect of human behaviour, much like eating or breathing. It is also a multi-functional activity. It may be about noticing "visual reality" and transmitting its beauty, space, pictorial enjoyment, or establishing visual awareness for fine artists. Other practitioners in other disciplines, such as architects, may be concerned with expressing structures' spatial relationships and space function. Drawings also help develop critical faculties required to represent the built environment and its spatial awareness, where accuracy is not the sole aim. It is a crucial stage used in animation to transmit a tale via imagination and built reality. Learning to draw is essential for every artist, designer, architect, engineer, or creator of anything who is engaged with the exterior physical environment or interior mind-produced concepts. Drawing is a necessary cognitive action in the hands of a designer to translate ideas in the domain of objects through the design thinking process.

ACKNOWLEDGEMENT

The author would like to thank Mr Ken Tan Siang Chye and Associated Professor Sherry Blankenship for their assistance in reviewing and positive discussions throughout this paper's development.

DECLARATION OF CONFLICTING INTERESTS

The author declared no potential conflicts of interest for this article's research, authorship, and/or publications.

FUNDINGS

The author did not receive financial support for this article's research, authorship, and/or publication.

REFERENCES

- Brown, C., & McLean, C. (2004). *Drawing from life*. Belmont, Calif: Thomson Wadsworth.
- Crawley, C. (2016). *Albercht Durer: His Work and Impact*. Source from, https://www.academia.edu/31701062/Durer_His_Life_and_Work
- De Pisapia, N., Bacci, F., Parrott, D., & Melcher, D. (2016). Brain networks for visual creativity: a functional connectivity study of planning a visual artwork. *Scientific Reports*, 6(1), 39185. <https://doi.org/10.1038/srep39185>
- Eissen, K. & Steur, R. (2007). *Sketching Drawing Techniques for Product Designers*. BIS Publishers. Pp. 153.
- Hadid, Z. (2010). *Guangzhou Opera House*. Architecture catalogue. Publish Guangzhou Opera House.
- Hale, R.B. (1991). *Master Class in Figure Drawing*. Terence Coyle. (Edited). Watson-Guptill Publications, New York.
- Hutter, H. R. (2021, September 28). drawing. *Encyclopedia Britannica*. <https://www.britannica.com/art/drawing-art>
- Kleiner, Fred S. (2010). *Gardner's Art through the Ages, The Western Perspective*. Wadsworth, CENGAGE Learning.
- Lazzaro, C. (2016). Michelangelo's Medici Chapel and its Aftermath: Scattered Bodies and Florentine Identities under the Duchy. *California Italian Studies*, 6(1). <http://dx.doi.org/10.5070/C361026362> Retrieved from <https://escholarship.org/uc/item/4gv6c9b5>
- LearnFromMaster, (November 1, 2017). *Albrecht Durer: A Collection of 629 sketches and Etchings*. [Video file] (Retrieved from, <https://www.youtube.com/watch?v=MLGdHs6quhs>)
- LearnFromMasters, (August 24, 2016). *Raphael: A collection of 65 Sketches & Etchings*. [Video file] (Retrieved from <https://www.youtube.com/watch?v=QWG-NfpcuZA>)
- Metzger, R. (2001) *Gustav Klimt, Drawing & Watercolors*. Thames & Hudson.
- Nicolaides, K. (1969). *The Natural Way to Draw, A Working Plan for Art Study*. Houghton Mifflin Company Boston. Pp. 5.
- Ormiston, R. (2011). *The Life and Works of Michelangelo, A full exploration of the Artist, His Life and Context, with 500 images and a Gallery of His Greatest works*. Hermes House.
- Quinlan-McGrath, M. (2016). Raphael's "School of Athens": "Theologians Reconciling Philosophy And Astrology." *Memoirs of the American Academy in Rome*, 61, 159–191. <http://www.jstor.org/stable/44988077>
- Raynes, J. (2007). *Figure Drawing & Anatomy for the Artist*. Octopus Publishing Group Ltd. Pp 8.
- Silvio A. Bedini, Anna Maria Brizio, Maria Vittoria Brugnoli, Andre Chastel, Bern Dibner, Ludwig H. Heydenreich, Augusto Marinoni, Manuel Winternitz, Carlo Zammattio, Edited by Ladislao Reti, 1988. "The Unknown Leonardo". Published by Abradale Press. Harry N. Abrams, INC., Publisher, New York.
- South, Helen. (June 16, 2018) *What is a Working Drawing*. LIVEABOUT.DOTCOM (Fine Arts & Crafts) Retrieved from, <https://www.liveabout.com/working-drawing-fine-art-definition-1123036>
- Speed, H. (1972). *The Practice and Science of Drawing*. Dover Publications, Inc, New York. Pp. 18.
- Szunyoghy, A., & Feher, G. (1996). *Anatomy drawing school: Human animal comparative anatomy*. Budapest, Hungary: Konemann.
- Treib, M., Hewitt, M., Gumpert, L., Dee, C., Dubovsky, A., Olin, L., Grubbs, C., Barron, E., Sullivan, C., Smith, K., Brown, C., Dutoit, A., Hawkinson, K., Jessup, H. (2008). *Drawing / Thinking*. Marc Treib (Edited). Publish by Routledge, Taylors & Francis Group. New York.
- Wiseman, A. (2002). *Drawing Solutions*. Collins & Brown.
- Xu, H. (2020). *Albrecht Dürer: From Birth to the First Travel of Italy*.