






Thinking with the Hands. The Sketchbooks of the Architects

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Abstract. Why do architects draw? The obvious response is that it is the most immediate way to formalize what does not exist. The drawing allows us to represent and analyze any pre-existing element, in addition to encourage experimental processes that lead to the project. The way to address these speculative drawings is as personal as the project itself. The key of the narrative is in the genesis. When this type of process is developed on a sketchbook, the order of the pages enables a consecutive reading of the story line. Observed as a whole, the sketchbook work as a procedural manual of the creative thinking for the architect. It is very rare that its content is made public, since it keeps the “guts” of the design thinking. This article makes a review of the most significant sketchbooks in history, focusing on those that display a particularly speculative development. Converted into cult objects, the dissemination of these architects’ sketchbooks, has become mainstream, claiming their suitability in all fields of architecture, including professional and academic fields.

Keywords: Drawing · Sketchbook · Architecture · Speculation

1 Introduction. Drawing Is Thinking Architecture

Architects share a common need to draw. Drawing is inseparable from Architecture as it helps to visualize and transmit the imaginary spaces created by architects, making them accessible to others. The drawing is a very powerful communicative tool, but it is also an instrument that requires certain skills and concentration on the making. The act of drawing generates a state of reverie that helps the brain to project all its resources in a single direction, reaching the ideal state of mind for a creative act. In short, thinking architecture involves drawing.

It is important to elaborate on the idea that the drawing triggers the creative process that eventually leads to the project. The hybrid character of the architectural drawing, including artistic resources and established technical codes, particularly contributes to experimentation. When combining the technical language with other artistic techniques, we discover a means of expression with endless nuances that are subject to multiple interpretations and contribute to encourage the self-reflection during the process. Juan

Antonio Ramirez states that “the drawing has always been an essential scientific instrument and a means of artistic expression” (Ramírez 1990, p. 11). In any case, it is irrelevant how or what to draw, what is crucial is the development of a process in continuous transformation. Picasso reminded us that “the inspiration exists, but it has to find us working” (Palomo y Triguero 2013, p. 169).

One specific aspect that identifies the graphic process in the project, is the non-linear character. It is a thought that is constantly evolving, which allows the appearance of new paths that will later be taken or discarded. This coming and going characterizes the initial drawing of the architects, making very difficult to verify the time frame of the graphic documentation of a project to establish a parallelism between the thinking of the architect and his graphic work, it is fundamental to work with materials that were dated or developed on a sequential format, such as a sketchbook or a journal. To the authors, the condition of portability of the sketchbook facilitates its use in any circumstance allowing, as well, to review the content. For the observer, the objectual character conferred by the binding, contributes to increase the attractiveness of the sketchbook, as an incunabulum collectible object.

The goal of this article is to show the relationship of the architects with a media such as the sketchbook, understood as a means of expression and reflection, but also as a way to catalog the creative process. Le Corbusier reminds us that “drawing in a sketchbook teaches first to look, then to observe and finally, perhaps to discover... and it is then that inspiration might come” (Farrelly 2014, p. 16). From the notepads, inevitably linked to data collection, to those that unleash the experimental drawing, what we find in their pages is the reflection of the personal evolution of each architect.

2 Travel Notebook as a Germ of the “Diary of an Architect”

Both the sketchbook of architect and the travel notebook, are heirs of the illustrated notebooks developed by William Blake at the end of the 18th Century and William Morris at end of the 19th Century. They were not developed as a formal element to accompany a discourse, but as an introspective experimentation linked to everyday events. In successive decades, many artists share with the architects the interest in the development of these sketchbooks as a means to pour their experiences in an iconographic language. It is throughout the 20th century, when the sketchbooks begin to acquire their own character that go beyond a mere notebook. In their pages, we can find drawings coexisting with accounting records or written reflections. They might include other elements such as a news clipping, leaflets or all kind of receipts. This hybridization is characteristic of the drawing of architecture, conferring a unique character to its pages, related to a particular way of looking and thinking of each author.

All illustrated notebooks share that private and portable condition that turns them into informal spaces for observation and reflection. For that reason, the travel notebooks of the architects are especially popular, as their sketches differ from any other conventional spatial drawing. The versatility of the architectural drawing, allows to shift from a more technical language to a more representative, analytical and even proactive one, transcending the mere representation of architecture. These graphic categories range from the more rigorous survey drafting with diagrams of plans and elevations, to more

artistic representations that, beyond their geometry, they show material, sensory and lighting characteristics.

When making notes in a travel sketchbook, we start to build a discourse that integrates the initial states of the project (Sainz 1990, p. 143). All the drawing share “an interest in drawing to learn, to analyze or to record an architecture or a related experience” (Marcos 2014, p. 471).

Many architects and students embrace this vital experience to understand a space that, previously, they only knew through photographs. Fortunately, many travel sketchbooks are kept, that remain as proof of this practice. In the case of Le Corbusier’s sketchbooks, they represent the perfect portrait of this process of personal evolution. In their pages, we can appreciate the evolution of his personal interests toward the architecture, corresponding with the construction of the great buildings in Europe, after the First World War. His drawings include portraits developed in his visits to brothels in Paris, as well as written reflections that show his interest for urban development, philosophy and poetry. Le Corbusier himself will declare, “I prefer drawing to talking. Drawing is faster and leaves less room for lies” (Uribe 2015) (Fig. 1).



Fig. 1. Le Corbusier’s sketchbook, dimensions 13 × 20.8 cm. Le Corbusier, 1918–19. Source: De Francieu, F: *Le Corbusier Sketchbooks. Volume 1*, 1914–1948.

Widely disseminated in different publications, the travel sketchbooks of Le Corbusier have been recurrently subject of study, prompting several generations of architects to relive his journeys, but also to become the protagonists of their own initiatory journey. The sketches made by the architect at the beginning of the 1950s in Chandigarh, not only pointed his vision about the future capital of Punjab, but also shared the imprint of a day-to-day landscape symbolized by the sketch of a buffalo, as the paradigm of the domestic animal.

Four decades later, a group of friends, that included the architects Elías Torres, Benedetta Tagliabue and Enric Miralles, travelled to India to visit the architecture of Le Corbusier in Ahmedabad and Chandigarh and the works of Louis Kahn in Dakha. During the trip, the sketches developed by Miralles and Torres, captured a large part of the experiential essence of Le Corbusier, including the buffalo, but this time with a built landscape in the background (Maestre 2016, p. 72) (Fig. 2).

Other recognized architects were previously influenced by Le Corbusier’s travel sketchbook. In the late 1950s, a mature Louis Kahn embarks on a journey to the chapel



Fig. 2. Sketch of a buffalo and house in Chandigarh. Le Corbusier, 1951. Source: © Fondation Le Corbusier, Paris/Travel sketches in Chandigarh. Enric Miralles and Elias Torres, 1992. Source: Fundació Enric Miralles/Exhibition images “Els colors de Le Corbusier a L’ India: el viatge d’Enric Miralles i Elías Torres a la Porte Email, Curator Josep Quetglas, 2019. Source: Fundació Enric Miralles.

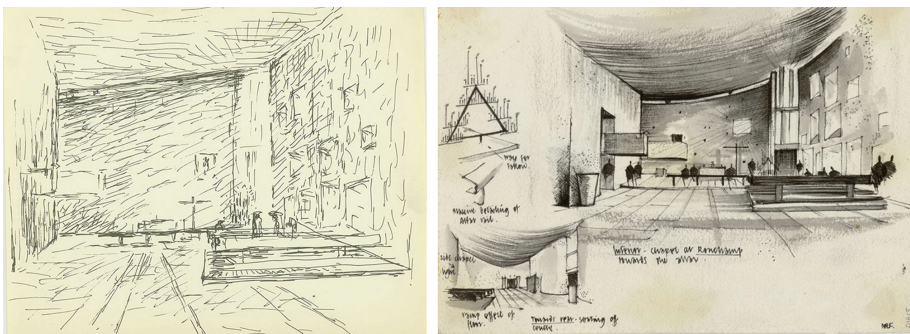


Fig. 3. Inner perspective, Ronchamp, France. Louis Kahn, 1958. Source: McCarter 2005/Inner perspective, Ronchamp, France. Norman Foster, 1958. Source: Norman Foster Foundation.

of Notre Dame du Haut in Ronchamp. The same year, a very young Norman Foster performed the same journey searching for an experience that can only be achieved with the direct exploration of the built space (Fig. 3).

The graphic overview of the same building portrayed in the respective sketchbooks of these two architects, reflects coincidences and differences of their graphic “glances” (Bravo de Laguna 2014, p. 151). The initial motivations of each one of them, establish a gradation in their drawings, from the descriptive notes of “the student” Foster, closest to the classic travel notebook, to studies of light that captured the interest of a “mature” Kahn. In both cases, the spirit of their respective sketches on Ronchamp, show more similarities with the travel sketchbooks of Le Corbusier that with the sketches outlined by Renzo Piano almost fifty years later on the same place. To capture the essence of the

area of intervention, Piano made a trip to Ronchamp in 2006, developing a schematic data collection, to capture the qualities of the project site, as Le Corbusier did in 1950. His drawings exposed the visual relationships between new and pre-existing conditions, exploring non-material aspects of the architecture. Piano's motivations predetermined his data collection during the journey, according to his design process (Fig. 4).

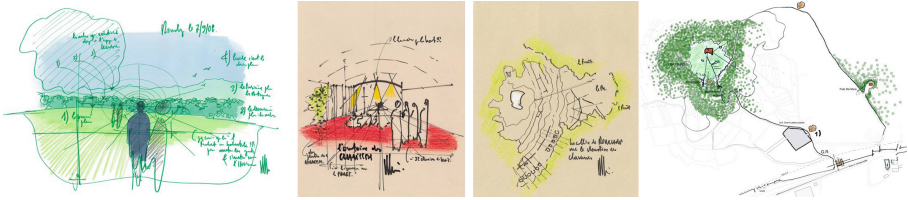


Fig. 4. Sketchbook for Ronchamp Gatehouse and Monastery, France. Renzo Piano, 2006. Source: RPBW.

Gradually, the travel sketchbook, gives way to a mature sketchbook of the architect, where the memories of the journey are replaced by the persistence of the reflections experienced at specific times. The note-taking gives rise to the experience, to reach the proposition, always from a subjective point of view.

3 The Sketchbook, a Place of Thought

Outside the context of the journey, the sketchbook is understood as an extension of the working strategy, a place to build a line of graphic thinking. The informality of the format, predisposes the author to address a fast drawing, suitable both for taking notes and for the spontaneous draft. The drawings are intuitive, slightly developed, and mainly based on improvisation. It is a private graphic material, hardly accessible, as it hides the heart of the author's process. In the sketchbook, there is room for error and incompleteness, as it is a place for problem-solving. The role of the sketchbook in the design practice of the architect, varies depending on its use. So far, the article has focused on proposals that pursued the construction of a personal thinking through representative and analytical drafts of past architectures. In these sketchbooks, the drawings were intended to understand the reality before us (Fig. 5).

From this point on, we will focus on sketchbooks conceived as an ongoing process of action-reflection. With gestural drawings ranging from improvisation, to the obsessive exploration of one single element, with slight variations, we perceive a graphic introspective, linked to the working process. The drawings are developed as a thinking tool, not with the purpose of communicating. They allow us to observe first-hand the initial phase of the design process, that are rarely shown.

We can find more informal sketchbooks such as those developed by Sou Fujimoto, Alvaro Siza or Peter Märkli, with plenty of gestural drawings whose content is apparently disconnected. There are, as well, more developed sketchbooks from authors such as Scarpa, Tony Fretton, Alberto Ponies, Mark Smout or Steven Holl, that use a relation-based drawing to address the genesis of their projects (Fig. 6).

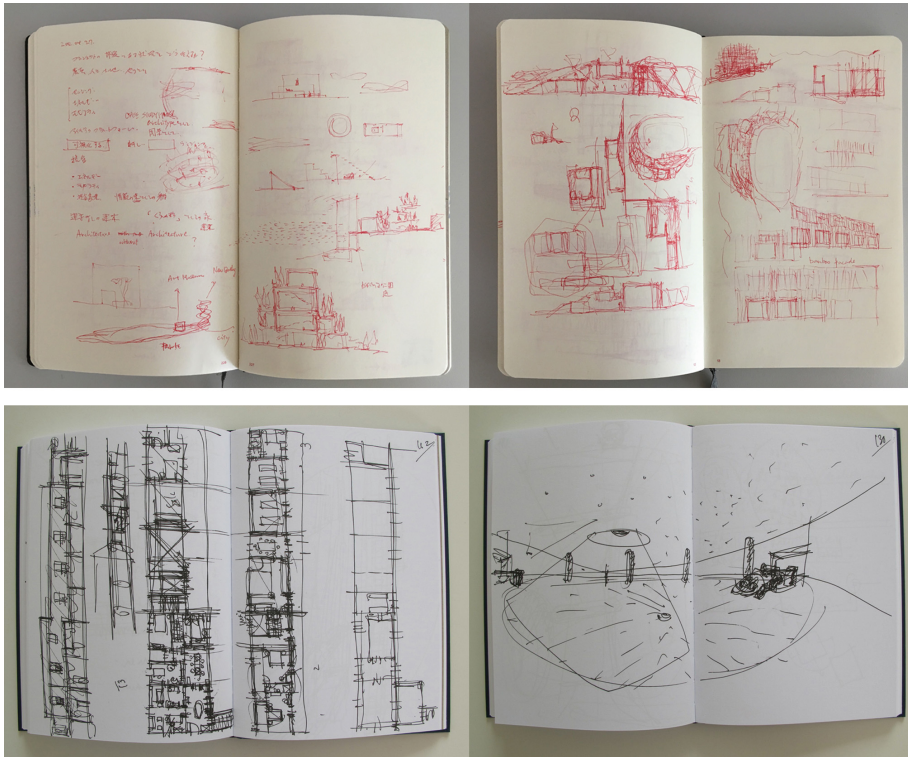


Fig. 5. Sketchbook. Sou Fujimoto, 2012. Source: Sou Fujimoto Sketchbook/Sketchbook. Souto de Moura, 2012. Source: Souto de Moura Sketchbook No. 76.

To illustrate this working methodology associated with the sketchbook, we will delve into the work of Adolfo Natalini and Lebbeus Woods, whose drawings imagine fantastic scenarios and enchanting graphic artifacts.

Superstudio (Natalini's office) presented the project "Continuous Monument" in the summer of 1969, in Graz. The sketchbooks he developed a few months before, include a large part of his graphic creative process. The first sketches show a conception of the project as a belt around Florence, progressively reaching the planetary dimensions aimed by the final project. This sketchbook also contains the genesis of the best-known collages of the group and displays the symbolism of the project. In opposition to the direct language of the completed project, the sketchbook is understood as a dialog between the architect and his environment, an exchange that contributes to put his own speech in order. Its pages reveal not only the project, but the intra-history that surrounds the creative process (Fig. 7).

In architecture, the context surrounding the conception of the idea is a determining factor. In that sense, the sketchbook helps placing the project in his time. In 2001, concurring with the change of millennium, Lebbeus Woods suffered a series of health problems that forced him to reconsider many concepts, according to his own words (Woods 2009). That same year, during the installation of his proposal "The Storm" in

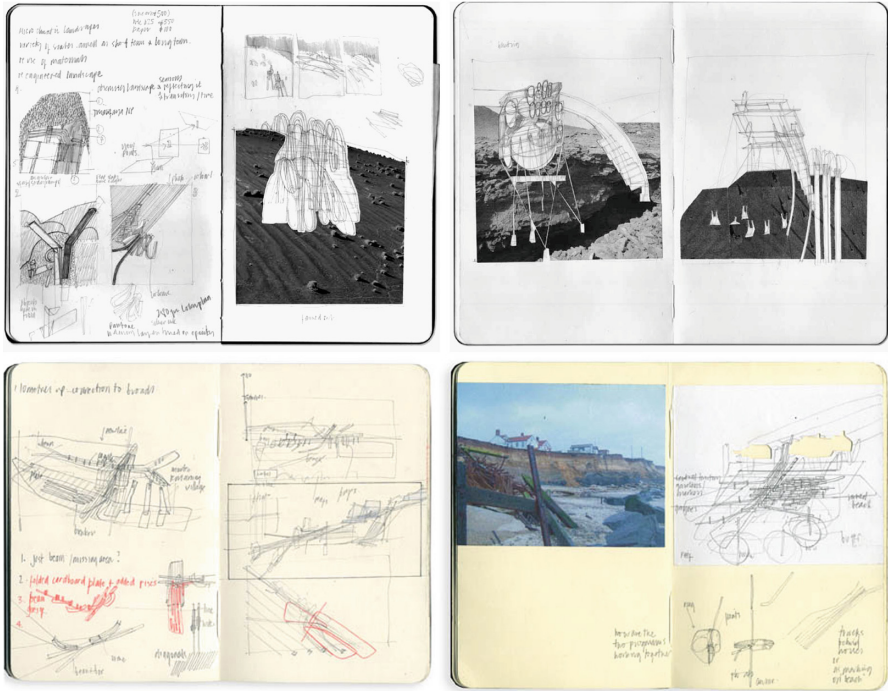


Fig. 6. Sketchbook of Lanzarote Envirographic Architecture project/“Retreating Village” a mobile settlement for a collapsing landscape. Sketches on notebooks. Mark Smout, 2011. Source: Smout Allen

New York, the attack on the Twin Towers took place. In this interlude, he developed a sketchbook that included life-changing experiences, starting with his heart surgery and the end of the world as we knew it. Dated between September 2001 and January 2002, the sketchbook included a series of graphic variations, that recurrently abounded in structural processes of growth. Made in black ink, many drawings connected with his installation proposal for the 2002 Whitney Biennial, and they also included images taken after the destruction of the towers. In his drawings, Woods experimented with what he called “architecture in tension” in which the human being had a limited control of his own nature. Along these pages, Woods unleashed this “active” architecture, alien to the static laws, through graphic exercises that completed a sketchbook which was, unfortunately, his last one (Fig. 8).

The graphic language of these sketchbooks is not intended to communicate, but they convey a lot about the concerns of their authors. The drawings can often be considered ugly, messy or incomplete, but their beauty lies in the overview, allowing the architect to register, record, and build...in short, to think.

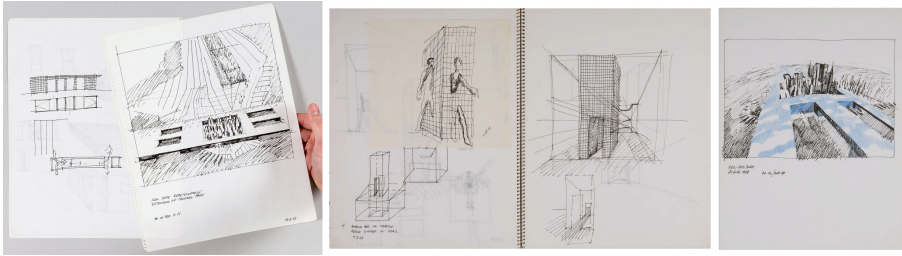


Fig. 7. Adolfo Natalini's Sketchbook, development of the Continuous Monument for the 'Graz-erzimmer' presented at the Trigon Biennial of 1969, Graz. Adolfo Natalini (Superstudio), 1969. Source: Sketchbook 12 and the Continuous Monument: Adolfo Natalini © Adolfo Natalini



Fig. 8. Sketchbook 01-3 (the last). Lebbeus Woods, 2001–2002. Source: Lebbeus Woods

4 The Architect's Sketchbook as an Artistic Object

Although it is not the norm, certain architects' sketchbooks maintain a consistent line from beginning to end, as they were conceived as a unique piece in itself, regardless the project deployed. Despite sharing format with the artist's notebook, there is no direct parallel between them. While the "livre d'artiste" is a work where the format is a whole, by using the sequential media that characterizes the book as a visual instrument (Crespo 2012), the architect's sketchbook is developed regardless of any a priori, being the result of a process of an intimate and paused reflection.

The architect's sketchbook is rarely conceived in its entirety, as a linear reading document. It is a casual construct that reflects a vital moment of design. In contrast to

the artist's book, these sketchbooks are rarely addressed from a single perspective or completed to fill their pages with graphic variations on the same theme. On the contrary, they are a direct reflection of the change and evolution experienced by their authors. However, there are a few exceptions in which the architect, actually, intended a full sketchbook to the experimentation developed on a single process. We will highlight two unique examples belonging to the architects Zaha Hadid and Peter Wilson which, at a given moment, used a complete sketchbook to develop a finite amount of graphical variations.

In the late 1970s, Zaha Hadid produced a series of drawings, inspired by the Russian avant-garde, that helped her explore the spatial concepts and architectural connections developed in the proposal for the residence of the Irish prime minister (Phoenix Park, outside Dublin). Grouped in a sketchbook, these drawings show a graphic research process, with variations that intertwine page to page through the design that connects a geometry with the next, transforming the sketchbook into a set of layers of information. With this technique, Zaha Hadid intended to graphically explore possible solutions to topics related to urban growth in the twenty-first century. Zaha developed drawings that had an apparent geometric simplicity, with a great spatial complexity, attempting to respond to the problem of the densification of the suburbia tissue, by connecting elements, inspired by the suprematist compositions of Malevich and El Lissitzky. The resulting document distilled Zaha's understanding of architecture, as a historical process linked to the cycles of intensification and redevelopment of city life (Fig. 9).



Fig. 9. Study sketchbook for the design of the house of the Prime Minister of Ireland. Dublin (Phoenix Park). Zaha Hadid, 1979–80. Source: Architectural Review. © Zaha Hadid

After completion of the Suzuki House in Tokyo, the customer was impressed by the graphics and gave Peter Wilson a concertina Japanese notebook to encourage him to continue drawing. Captivated by the quality of the sketchbook, between the years 1983 and 1998, Wilson destined its pages to narrate the architectural experience derived from the graphical understanding of two very different urban realities: the Japanese and European.

The characteristic personal touch shown in the project of the Samurai's house (winner of the Shinkenchiu Competition) is applied to the exploration of new means of graphic communication to break with the graphic tradition linked to urban planning projects. According to Wilson, the topics he was facing, required new models of representation, that were able to absorb new concepts related with the "net structures", the "ecology of circuits" or "tactical" places (Wilson 2013, p. 77), among others. This approach led to a lot of criticism from part of his colleagues, who did not understand a graphic discourse that took advantage of the discontinuous spatial experience provided by the Japanese folding-sheet sketchbook (Fig. 10).



Fig. 10. Eurolandschaft – A Dérive. Peter Wilson, 1998. Source: Peter Wilson.

However, besides the undeniable graphic value, both sketchbooks represent a first-level exercise of architectural criticism, as they graphically explore alternatives to face up to the challenges of their time.

5 Conclusions

The history of architecture is filled with anecdotes related to the emergence of large projects. The authors usually explain that the ideas were outlined on a napkin, a piece of paper or on the sketchbook they always carry with them. Apart from the veracity of

these stories, the full reading of the drawings emerged throughout the different phases of a project, are enlightening to understand their authors' thinking.

In these times of immediacy and ephemeral images, the spontaneous graphics processes are fascinating, due to its authenticity. For the observer, is more stimulating to have access to expressive and processual drawings, rather than to merely representative and informative ones. The first ones are rarely shown to the public, as they are considered "work in progress". For the architect, the sketchbooks are useful to retrieve and refer the graphic imprint made in previous stages. They contribute positively to the construction of a personal thinking. The formation of these reflective processes in a sketchbook, helps everyone to establish the chronological sequence that binds all the phases with the project. This would explain the growing interest in this kind of documents, that are not intended to be shown. However, they have become very popular, proliferating publications with this content in facsimile edition or as a compilation agenda-type. This has generated a mimetic stream, where architects and students return to the sketchbook to generate a design experience emerging from the graphic thinking. This taste for the sketchbook, has reopened the debate on the importance of the initial and speculative drawing, a recurring topic in the academic panorama since the penetration of digital media, by the end of the 1990s.

For practicing architects, the sketchbooks are a space of freedom to express their thoughts, released from the impositions of construction; the primary design ideas captured in a graphic act. For students, these graphic diaries are a portable and reviewable tool of self-reflection, that help them to base a critical thinking not only on the observation of other processes, but on the construction of a personal speech through drawing.

For the rest of the public, these sketchbooks have the attraction of inaccessibility, as they were, until recently, an intimate and almost secret aspect of their authors. They are believed to be "moments of inspiration", when in reality, they represent a non-linear process where exploration paths are opened through drawing. This fact, adding the specific binding format, confer them a certain "incunabulum" character, and has transformed them in an object of desire for the audience, that is eager to acquire a deeper knowledge of the most intimate secrets of the creative process of their authors, awakening, in short, the interest in architecture. For Libeskind, "The architecture is not based on concrete and steel and the elements of earth. It is based on wonder" (Rosenfield 2012).

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