The Parturient Page

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This page of sketches by Expressionist architect Hermann Finsterlin contains poignant thought and abstract potential revealing a manipulation of sketches, and subsequently, indicating a process of design.[1] The sketches can be particularly parturient, being at the point of producing something such as an idea or discovery, because they are composed of scribbles seemingly dependent upon technique rather than program. The abstract lines are a revealing precursor of ideological fantasy architecture, whose organic shapes promise a unique fluid architecture. Viewed as a page of images, their latent potential can teach us about translation in his thought process.

Parturient means to bring forth, give birth or travailing. A second definition introduces a more general meaning; ready to bring forth or produce something, in travail with a discovery, idea or principle.[2] This page of sketches is parturient as the vague forms contain promise of a future architecture. They anticipate an ideological expression, and through their interpretation reveal an idea or principle. The abstract images inherently transport ambiguous concepts that Finsterlin can utilize to project architectural constructs. He trusts in these sketches, to assist him in a creative design process. They help him bring forth his imagination, and thus, locate forms appropriate to his architectural ideals.

This paper will concentrate on Finsterlin's sketches as indications of his intentions and thoughts, to possibly provide insight into his architecture as a whole. Seeing the sketches as disclosing potential, this paper will look at four aspects of this page. The first constitutes the phenomenon of paper architecture; specifically discussing Expressionist architecture, the history, artistic influences and ideological purports of this group. The second issue involves the realm of "pure possibility." The concepts in studies of imagination that express how anything is possible. These may be a happy accident of unrestrained expression or the transient abilities of an immediate image. Another aspect of this page of sketches involves interpreting the ambiguous. The sketches require associations on the part of the architect to identify their meaning. The projection by the designer compels a trust in the inspiration of the thing made from the hand. Returning to a sketch, possibly weeks or days after its inception with new intention evokes this process of translation. Seen in these sketches is a deciphering that reveals an attempt to avoid connection with the initial discovery of the form. Lastly, the discussion will concentrate on the editing of these sketches. This implies a manner of decision making; the rejected tries and conversely, retaining those with potential.

How the translation of these organic forms becomes architecture for Finsterlin may be the parturient moment, particularly effected or affected by the style or techniques of the sketches. The sketches are asked to disclose as they speak to the next stage of refinement. With context and program they can become a three dimensional construct. In this way the potential viewed in these sketches is a window to the design process, and might help us as architects comprehend our relationships with our own parturient pages.

PHENOMENON OF PAPER ARCHITECTURE

> The impressionist looks, the expressionist sees.
> - Kasimir Edschmid

> Expressionism is the transformation of reality.
> - Bahr

> Expressionism wishes to shatter the tangible forms because it hopes to recognize behind them a meaning which brings freedom, happiness and peace.
> - Otto Grauthoff[3]

Expressionism in architecture, 1918 to 1921, was essentially a German movement, influenced by the traumas of the first world war, and subsequently, the economic deprivations in those years after the war.[4] This economic situation was evident in the scarcity of building materials, and high building prices.[5] The Expressionists sought to integrate all of the arts, uniting architects, sculptors, painters and writers.[6] "What distinguished the utopian Expressionists from their Art Nouveau predecessors was their social commitment."[7] They saw themselves as "spiritual mediums" where their "...utopian architectural visions meant to have a profound

psychological and spiritual effect on the quality of life".[8] They took on a zeal of utopianism in their reform initiatives.[9] Expressionism was not a figurative language but a new way of communication.[10] It was not necessarily historical, nor a style but instead "... a new dimension of architecture, both in relation to the figurative world and in the figurative impression it makes on reality."[11] These architects, envisioned themselves as "leaders and masters of the visual arts" and thus makers of human destiny.[12] The expressive forms, stressed an appeal to the emotions. They saw the creative act as one which could be transcending. The expressionist's emotive expression, more comfortable in two-dimensions, was easily evoked in form rather than concerned with function.[13]

The Expressionists saw the drawing as their instrument for providing emotive ideology. In the drawing they could provoke their visions of the future. The "... drawing is the medium that offers the least resistance to imaginative vision."[14] The sketch replaced the need for commissions; instead they utilized publications and exhibitions for creative expression. In their visions of utopian redesign, the expressionists turned to graphics. "...[I]t is one of the paradoxes of expansive thinking that the larger its plans, the smaller the scale of their visualization tends to be—a sheet of drawing paper is the utopian's true medium."[15] The paper architecture provided the imaginative reality, that helped to explain their visions. It was immediate, easy to publish, questions of three dimensions did not need to be addressed and the drawing was the explanation of an alternative "reality."

> The closer architects were to an actual commission, the less subjective their methods became. The archives of the Amsterdam architects, for instance, contain relatively few drawings in which the furies of the subconscious have been allowed free rein. These men adapted their fantasies to realizable buildings, while many of their German counterparts considered drawing an end in itself. With the Dutch architects a sketch was often a descriptive prediction of some imaginative reality; with the Germans, it was the reality itself.[16]

Finsterlin was a visionary with a talent for the fluid architecture purported by this movement and certainly the most "solitary" isolated searcher of the Expressionist movement.[17] He was born in Munich in 1887, and studied natural sciences at Munich University, then painting in 1913 at Munich Art Academy. He was a member of the *Arbeitsrat fur Kunst*, a correspondent of *Die Glassine Keith* and lived most of his life in Stuttgart. His drawings are named such names that express concern for the ideals of the movement, for example, "Dream In Glass."[18]

Finsterlin's finished drawings show cave-like and spaceship images that question the tenets of architecture. The windows bulge and roofs are part of the continuous plastic material that clads an unseamed facade. The images are not at all contextual and they were not meant to be. He is evoking a future of highly futurist materials, consisting of an undetermined plastic architecture that reflects the seemingly "spontaneous gestural automatism" of his sketches.[19]

In 1919, and 1920, Utopian correspondence occurs in the *Glaserne Kette* for the Expressionist architects. The identity of some of the correspondence is concealed by the use of pseudonym. Bruno Taut signs himself as Glas (crystal) and interestingly, Finsterlin identifies himself as Prometheus.[20] It is telling that Finsterlin chose Prometheus with which to describe himself, evoking thoughts of technology as power; certainly an issue of this movement. The role of the manmade machine after a particularly brutal war, and dialectically, the power of the machine to transform the future with new materials and technologies promising a brighter tomorrow, gives Finsterlin a distinct approach.[21] 'Promethean' is connected with the mythical character and his art, especially meaning something daringly original.[22] It also has connotations of being non-conformist or a bitter rebel. Here we might see a different view of Finsterlin as the loner or creative outsider (questioner?).

PURE POSSIBILITY AND THE SKETCH AS IMAGINATIVE INSTRUMENT

The second part of this paper deals with the creative aspects of this parturient sketch. Here, the discussion must turn to the creative impetus of the sketches; how they are inherently tied to the imagination, and how he utilized their spontaneity to conceive of this visionary architecture. Wolfgang Pehnt writes:

> Where the creative urge was so highly valued, the architectural sketch became doubly significant. Sketches promised insight into the creative process, and with their aid artists could tap sources that would otherwise remain buried. Expressionism banked on spontaneity and intuition, not on results achieved through involvement and compromises with reality.[23]

Although creativity and inspiration are difficult to define, we can look to elements of pure possibility to view how Finsterlin may have utilized travailing qualities of these sketches. Also question how he achieved the images which he then later was able to edit and transform to be consistent with more completed ideas.[24] "Pure Possibility" is a term used by Edward Casey to explain a function of the imagination.[25] He feels we can not imagine anything completely new. Instead, we imagine things we know in new combinations. He also questions how new concepts and inspirations are brought to the front of our minds as mental impressions.[26] This involves concepts of change; the ability to transform images from imagination to form new constructs. The sketch in its immediacy is a medium for transformation. It is temporary; on inexpensive paper, very quick in terms of time, un-valuable because of its fast images (meaning ambiguous and not completely formed)

and decipherable only by the architects who produce them.

A sketches' definition depends upon it's immediacy and ability to promote the process of change.[27] It is not the pencil on paper that makes the sketch successful, but rather the way a sketch can help architects to think through a design. Aristotle believed humans think in terms of images, and it is this ability that makes the sketch an important part of the design process.[28] The investment of time and paper is minimal so the thought process can proceed uninterrupted.

Part of this transformation is the working of the imagination. Hume describes imagination as having the liberty "to transpose and change its ideas."[29] In this way, Hume is regarding imagination as a recombination of sense memory, since this connection creates a bond between "ideas," as "...one idea naturally introduces another."[30] This issue seems to have resemblance to associative or analogic aspects of recollection. Similarly, Kant finds an interdependence between intellect and perception in imagination as synthesis.[31] The productive type has a constructive function more consistent with conceptual thinking.[32] Here is seen the synthesis of imagination; neither perception nor thinking alone can be creative.

Sketches, such as Finsterlin's have an ability to provoke association. Association pertains to the human mind's ability to view one image and then through cognitive processes think of related ideas or images. These new images maybe concepts in the front of the mind or thoughts long held dormant. Often it is a factor of resemblance that sparks a memory or partial image. Hume wrote about the 'connection or association of ideas' and names three ways in which association arises; one he called *Resemblance*. "'Tis plain,' that in the course of our thinking, and in the constant revolution of our ideas, our imagination runs easily from one idea to any other that *resembles* it."[33] Association is imagination concerning a point of inspiration that cannot be traced or explained.

Consequently, architects using sketches for conceptual inspiration will often draw what they know in an attempt to, through associations, to find a new combination. In this way, imagination finds a certain shape or form; an order out of chaos.[34] In imagination, the associative spontaneous image can take the form of a mental impression, but additionally, the spontaneous phenomenon can initiate itself rather than being initiated.[35] Imagination does not necessarily follow rules of perspective, and the scene's edges might disappear or the scene itself might quickly change location, and in this way, anything imagined has qualities of being possible.[36]

Looking to the page composed of promising images, it is possible to view Finsterlin's use of his creative imagination. The images appear to be comprised of arbitrary swirls of the pencil. All of the sketches contain looped figures, not continuous, but started and then reversed on themselves. They seem to be drawn in a hurry, since all the lines are confident and uninterrupted. A line drawn slowly is shaky or modulated; these have firm qualities. The fact that the pressure alters within the line itself is also an indication that the sketch was drawn in haste. This fast "putting down" of the image expresses a neglect for the critical judgment of that image, and it reflects an effort to allow his imagination to create. This divorcing of intention from the image making, suggests he wanted his subconscious to form images regardless of their qualities of being possible. The quickness of the sketches, also, exhibits a flow of imagination that could not be halted. Context, edges and perspective do not have importance in this activity of "pure possibility." The flux of the drawing might be visualized as one sketch melds into another. Casey explains that the capability of being able to conjure up a mental impression is contrasted, or complemented, by the chance of something spontaneous happening. "[Spontaneity is] where imaginative acts and presentations appear in an irrepressible and sudden upsurge."[37] Italo Calvino expresses the elusive possiblizing activity of creativity.

> Still there is another definition in which I recognize myself fully, and that is the imagination as a repertory of what is potential, what is hypothetical, of what does not exist and has never existed, and perhaps will never exist but might have existed... The poet's mind, and at a few decisive moments the mind of the scientist, works according to a process of association of images that is the quickest way to link and to choose between the infinite forms of the possible and the impossible. The imagination is a kind of electronic machine that takes account of all possible combinations and chooses the ones that are appropriate to a particular purpose, or are simply the most interesting, pleasing or amusing.[38]

Calvino is revealing the independent ability of the imagination to invent; both create and utilize cognitive pathways. Although it is possible to view imagination as this action that suddenly appears in our minds, again we think of divination, the act of imagination must also have an intentional aspect. We must consciously allow the impressions enter our minds and then be consciously aware of them when they do appear. For Finsterlin, he needed to provoke them, be aware of their arrival and then know how to utilize their forms to transform them into architecture. He intentionally conjured up these images, although the process contained some element of chance. "...[T]here can be no intentional object without an act which specifically intends it, and no intentional act without an intended object."[39] The accidental qualities of Finsterlin's sketches are vital to the strange juxtaposition of images.[40] As projections onto a vague image, they lead into a more specific (named) image. This concept of a vague image that begins the process leads into the next part of this study; the ambiguous.

AMBIGUITY/DESIGN AND HOW FINSTERLIN USED HIS SKETCHES

After the images were "made," Finsterlin needed to manipulate their unfinished qualities. He enjoys and embellishes the ambiguous images, how he uses them as instruments to think,

the decoding techniques and how concepts of perception help to comprehend his process. We will look specifically at his parturient page of drawings to find the "traces of his hand," in modes of interpretation and translation.[41]

The "squiggles" have a quality reminiscent of "automatic writing" but on closer inspection, each sketch has a similarity not possible with chance. Lines that disappear or fade out in tails usually represent a swiftness that speeds the line off the paper. A deliberate slow line is mostly the same pressure and quivers. In this way, Finsterlin has deliberately chosen a method of applying line. The sketches are intentional in that he chose to use curls rather than vertical slashes; one technique giving him better results toward the architecture he was envisioning.

Although these techniques were intentional as to the types of lines and the method to pursue them, he tried to instigate a much "accidentally" as possible into the process. The scribbles are arbitrary in the fact that they were made quickly, the uncontrolledness shows in their speed and that there are so many of them crowded on the page. This great haste means they were not thought through, but instead placed in a frenzy of activity. The sketches also seem to be oriented in disparity, as each does not have a similar base line or arch direction. The points of hesitation to change directions, are very brief, so it is possible to view the decision to change direction, and to what direction, was made in a brief moment.[42] Another parturient feature of this sketch that is particularly important shows how he reversed this paper to make use of its ambiguity; using the other side to evaluate and edit the images. We can view his signature on one side of the paper, and on the other we can see how he framed and numbered the images as a method of evaluation. It is important to recognize his desire to make the viewing of these sketches as arbitrary as the drawing of them. Finsterlin's avoidance of context, and any semblance of a base line, leaves the object open to interpretation. At this point, we need to question the way Finsterlin viewed these sketches as ambiguous modes for projection.

The way architects' project onto images, stems from the way humans perceive. Many scholars who write about perception, such as Rudolph Arnheim, believe the retina configuration in our eyes is an inverted image. James J. Gibson disagrees with this assessment and believes we see a field of patterns, which he calls a mosaic.[43] This mosaic is an abstract pattern translated by our brains in a manner of interpretation. The ability of the brain, then, to translate is crucial to our perception capabilities and additionally to how we comprehend new or ambiguous items. Once an image is comprehended, it is difficult to view that image in another form. In other words, we cannot see an image as both confused and as a clear understandable "thing." Gibson expresses this concept well when he writes: "...a picture cannot at the same time possess high fidelity for something concrete and high univocality for something abstract."[44] Richard Wollheim, an aesthetic philosopher, agrees with a slightly different approach. He writes: "...whereas we cannot, at one and the same moment, see a picture as configuration and as trompe l'oeil."[45]

For Finsterlin sketches allowed projection of his imagination. He could draw abstract images and through an act of imagination, project the concepts of his architectural possibility (of what they could be) onto them. Gibson supports this approach as he writes that this is reminiscent of the sketches' role in 'seeing' as understanding. It is possible, then, to understand how Finsterlin is advantageously utilizing the vagueness in the sketches to spark his imagination. His mind could sort through the abstraction and project onto the images. Maurice Merleau-Ponty recognizes how images and "lines" help architects to "see." "[T]he line no longer imitates the visible; it 'renders visible;' it is the blueprint of a genesis of things."[46] The vague images, in fact, might be preferable to a drawn illusion.

> There is no value in trying to imitate exactly. Photographs will serve you best of all, if that is your aim. We should not imitate when our intention is to create-to improvise... The capacity to see comes from persistently analyzing our reactions to what we look at, and their significance as far as we are concerned. The more one looks, the more one will come to see.[47]

The act of translation, is part of the quest for form. It is possible the sketches were formed without Finsterlin observing the paper and pencil, but this does not seem likely. He required the conscious touching of the paper to identify with the images; which is integral to sketching. Gesture is a body movement that expresses or symbolizes a thought; this body motion can be extended to sketches through the hand. To add another dimension to "gesture," it along with 'gestation' have the same etymological root which means to bear, carry or act.[48] The gesture being the parturient aspect of the sketches. Gibson wrote about human contact with a drawing:"The movement of the tool over the surface is both felt and seen."[49] The control of hand on drawing tool yields not a consistent line but one that is varied; thick and thin. The way architects draw effects the translation of those marks. Seeing through a drawing to its future, of an architecture, is a particular talent of architects. We may be working on a drawing but view that drawing as the building it will be. Wollheim writes: "Now my suggestion is that in so far as we see a drawing as a representation, instead of as a configuration of lines and strokes, the incongruity between what we draw and what we see disappears."[50] In this way, the translation of what is viewed, in an act of interpretation in architect's minds, constitutes a way to decipher what we draw, physically participate with the making (touching of the sketch) of the drawing and reconcile the incongruity of the sketch as architecture (representation).

EVALUATION/EDITING AND HOW FINSTERLIN MOVES THE SKETCHES INTO ARCHITECTURE

Although ambiguity encourages translation and transforma-

tion of images, it is judgment on the part of architects that makes the application of editing possible. The ambiguous qualities of Finsterlin's sketches transform images and then through this manipulation make judgments about their suitability. This process brings formality and closure to the imaginative sketches. Evaluating the images constitutes a decision process, as the forms become architecture. As intention, architects take responsibility to decode and then assign definition. At this time, the visual image can no longer be accidental but must take on tectonic qualities. This thinking process will be divided into three parts; the phase of judgment where Finsterlin decodes his figures and though distinguishing he locates the images that fit his needs, either ideologically or formally. Secondly the process of evaluation, where each potential concept is tested for feasibility. The third aspect is that of development; a situation where the sketches are manipulated in preparation for further use. These three functions in part, reveal some of the rich potential Finsterlin found in these sketches.

JUDGMENT

With the choice of images to develop, Finsterlin seemed to be attracted to characters with a variety of peaks or curved mounds. The underlining and framing indicates he rotated the paper to achieve a composition with a sufficient base. This balance was a preconceived notion of the composition suitable for his architecture. He was "searching" for a form indicating useable space: this illusion of space helped solidify the judgment.

> Form is only a relatively over-rapid, uninterrupted system of forces flowing within a closed movement and developing in a relatively close-meshed manner within four-dimensional space, its peculiar material manifestation the consequence of its own speed and multiplicity and the playful struggle it is waging with the objects of space, with the pressure of light, and all the surging of the most subtle spirits; a pressure imparted by mutually motivating densities that flow forward and back, modify or interpenetrate each other, arrange themselves according to selective affinities.[51]

Many of his shapes resemble other Expressionist architects' themes of the mountain, the crystal and the cave. His judicial decisions seem to be based in the movements' emotionally charged utopian visions "...meant to have a profound psychological and spiritual effect on the quality of life." Hans Poelzig believed that "...form rises out of the mystic abyss." Additionally Bruno Taut wrote; "...architecture...consists exclusively of powerful emotions and addresses itself exclusively to the emotion."[52] With these dominant concepts in mind, it is possible to view some of Finsterlin's criteria for choosing images to be developed, in a search for dynamic forms. Looking to the page of sketches, we see the dramatic forms, fitting well into his architectural search. He is decoding the configurations for their relationships to the concepts that are in his subconscious mind. His quest is for form, with the ability to translate to a potential function.

EVALUATION

This aspect of the editing of the sketches pertains to early development of the figures. Finsterlin develops each sketch briefly, searching for potential. On the page we view several characters, where a finer/thinner pencil has been applied to provide more definition. This detail evidences time spent in studying the sketch. The sketch in the lower right hand corner, has a very faint base line to the right of it. Here the paper was turned and shaded lines were added behind the three strong arches. The sketch is also smeared so that it is possible Finsterlin wished to add an additional dimension. The striated lines behind the loops, give thickness to the figure. Although developed, in comparison to other sketches this one is only slightly manipulated. It appears that Finsterlin found little potential in the sketch and abandoned it for other images. This shows in several sketches on the page, and is reminiscent of the techniques of "making and matching."[53] He needed to apply additional pencil lines to make an assessment about the image and once it was "seen," he was able to evaluate its effectiveness. Finsterlin was able to use the sketch by comparison to a mental impression and subsequently, pursue or avoid continuation of the concept. Wolfgang Pehnt writes about the relationship of Expressionist architects to their thinking media.

> Drawings were also expected to point to the tasks of the future. Not only were they conceived as opening channels to the primal source of all creative power, they were a challenge to the imagination: "An architectural sketch continually restimulates the imagination, making it help work, help build, help **will**."[54]

DEVELOPMENT

The medium of sketches provided Finsterlin with a cadre of images and his purpose then, was to develop these potential images into a semblance of his vision for architecture. As we have started to visualize, Finsterlin provides a method to evaluate in his mind's eye by underlining and framing those sketches containing potential. This allowed him to visualize the image as a building, and as discussed with "pure possibility" the image then becomes a building; no longer a scribble. In some of these frames he also numbers the images finalizing preparation for a next iteration. On this page, we view boxed images two, three and four. Although others are underlined it is these three sketches that are singled out numerically. Giving these sketches a priority might indicate an intention of their development. Some of the sketches are also accompanied by written notes that may provide instructions for their further development and use. Interestingly, these notes seem to be cited on both the front and reverse sides of the translucent page. Their

potential was envisioned through projection, and once they we manipulated the sketches were no longer part of the dialogue but may have been evolved into an image for presentation.

This page of sketches by Hermann Finsterlin, carries many modes of expression, as potential architecture. The page is a promise, that he uses to assist his design; carrying ambiguity and possibility awaiting the action of evaluation. The sketches are parturient in their disclosure.

NOTES

[1] Page of Sketches by Hermann Finsterlin, Wolfgang Pehnt, *Expressionist Architecture in Drawings*, (New York: Van Nostrand Reinhold Company, 1985) p. 35
[2] *The Compact Edition of the Oxford English Dictionary*, (Oxford England: Oxford University Press, 1985 edition) Definition of 'Parturient'
[3] F. Borsi and G.K.Konig, *Architettura Dell'Espressionismo*, (Genova, Italy: Vitali e Ghianda, 1967), p. xxxv
[4] Marvin Trachtenberg and Isabelle Hyman, *Architecture*, (New York: Harry N. Abrams, Inc., 1986) p.512
[5] Pehnt, op. cit., p. 8 and Borsi, op. cit., p. xxxvi
[6] Borsi, op. cit., p. xxxvi
[7] Pehnt, op. cit., p.10
[8] Trachtenberg, op. cit., p. 513
[9] Pehnt, op. cit., p. 12
[10] Borsi, op. cit., p. xxxv
[11] Borsi, op. cit., p. xxxvi
[12] Pehnt, op. cit., p.6
[13] Pehnt, op. cit., p.11
[14] Pehnt, op. cit., p. 6
[15] Pehnt, op. cit., p. 9
[16] Pehnt, op. cit., p. 8
[17] Borsi, op. cit., p. xxxix
[18] Pehnt, op. cit., p. 111 Biograghies
[19] Pehnt, op. cit., p. 7
[20] Borsi, op. cit., p. xxxvii
[21] Trachtenberg, op. cit., p. 509
[22] *The Compact Edition of the Oxford English Dictionary*, op. cit., Definition of 'Promethean'
[23] Pehnt, op. cit., p. 6
[24] Edward S. Casey, *Imagining: A Phenomenological Study*, (Bloomington, Indiana/London, England: Indiana University Press, 1976)
[25] Casey, op. cit., on Self Determinism
[26] "Mental Impression" the image viewed in the imaginative mind.
[27] A sketch is " to give the essential facts or points of, without going into details" or "as preliminary or preparatory to further development." *The Compact Edition of the Oxford English Dictionary*, op. cit., Definition of 'Sketch'
[28] Aristotle, *De Memoria*, 449b31 and others such as James J. Gibson, *Reasons for Realsim: Selected Essays of James J. Gibson*, edited by Edward Reed and Rebecca Jones, (New Jersey: Lawrence Erlbaum Associates, 1982) p. 246
[29] David Hume, *A Treatise of Human Nature*, edited by L.A.Selby-Bigge, (Oxford and New York: Clarendon Press, 1978, first edition 1888) p.10
[30] Ibid.
[31] Mary Warnock, *Imagination*, (Berkeley and Los Angeles, California: University of California Press, 1976) p. 16 also see 'Reproductive Imagination' Hume, op. cit., p. 11
[32] Warnock, op. cit., pp. 28-30 also see Casey. op. cit., p. 17
[33] Hume, op. cit., p.11
[34] Warnock, op. cit., p. 33
[35] Casey, op. cit., pp. 67-68
[36] Casey, op. cit., p. 113
[37] Casey, op. cit., p. 66
[38] Italo Calvino, *Six Memos for the Next Millennium*, (Cambridge, Massachusetts: Harvard University Press. 1988), p. 91
[39] Casey, op. cit., p. 40
[40] See Surrealism for the game of "Exquisite Corpse," Leonardo used the stains on rocks for inspiration, Summers, op. cit., p. 122 and for cloud formations see Hubert Damish, *Theorie Du/ Nuagel, Pour une Histoire de la Peinture*, (Paris: Editions Du Seuil, 1972)
[41] "If he [the architect] has not set down his purpose in writing and his age has left no substantial body of theoretical writing or criticism to help us gauge his intent, we must follow the traces of his hand preserved in those drawings that are records of his mind and spirit." James Smith-Pierce, "Architecural Drawings and the Intent of the Architect," *Art Journal* 27, Fall 1967, p. 59
[42] Hesitation would show a pressure point or dot as a resting place for the pencil point.
[43] Gibson, op. cit., p.26
[44] Gibson, op. cit., p. 248
[45] Richard Wollheim, *On Art and the Mind*, (London, England: Allen Lane/ Penguin Books, 1973) p.29
[46] Maurice Merleau-Ponty, *The Primacy of Perception; and Other Essays on Phenomenological Psychology, the Philosophy of Art, History and Politics*, (Chicago, Illinois: Northwestern University Press, 1964) p. 183
[47] Louis I. Kahn, *Writings, Lectures, Interviews*, (Ithaca, New York: Cornell University Press, 1977) p. 11
[48] *The Compact Edition of the Oxford English Dictionary*, op. cit., definition of 'Gesture'
[49] James J. Gibson, *The Ecological Approach to Visual Perception*, (Boston, Massachusetts: Houghton Mifflin Company, 1979) p. 275
[50] Richard Wollheim, op. cit., p.22
[51] Ulrich Conrads, editor, *Programs and manifestoes on 20th-century architecture*, (Cambridge, Massachusetts: The MIT Press, 1964) "Hermann Finsterlin: Casa Nova, 1924", pp. 83-84
[52] Trachtenberg, op. cit., p. 514, 516, 513
[53] E.H. Gombrich, *Art and Illusion*, (New York, New York: Bollingen/Pantheon Books, 1960), p. 29
[54] Pehnt, op. cit., p. 6