

Algebra Answered: Woodman's *Portraits Friends*

Equasions

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This paper provides an analysis of Francesca Woodman's photographic Book *Portraits Friends Equasions* (Woodman's spelling).

The paper forms Chapter 3 of my thesis "*Almost A Square: The Photographic Books of Francesca Woodman and Their Relationship to Surrealism*", University of Essex, 2012.¹ This thesis investigates Francesca Woodman's work within the framework of surrealist ideas materialised, though not exclusively, in photography.

I argue in this thesis, sustained by my parallel and comparative investigations of André Breton's *Nadja* (1928, revised 1963) and Woodman's Books, that it is in her five found object Books that Woodman comes closest to demonstrating her deep comprehension of the activating position of images to words in *Nadja*, thereby contributing to the extension of first wave surrealist ethic into her own era.

The thesis includes what is to date the only full descriptive and interpretative analysis of all six of the photographic Books that Woodman made in her lifetime.

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The original texts chosen by Woodman to be the templates for the two Books *Portraits Friends Equasions* and *some disordered interior Geometries* are from separate disciplines: algebra in the Book under current discussion and geometry in the next to be discussed Book. It is important to elucidate certain details in the givens of their pages. The original text of the Book *Portraits Friends Equasions*

¹ See <http://serlib0.essex.ac.uk:80/record=b1805431~S5>

contains the given of plain ruled lines on pages filled out with the student's hand-written notes and hand-written equations, which are both single and grouped. The template of *some disordered interior Geometries* contains the givens of pervasively printed diagrams and printed formulae (it is in essence a reference book) with no marks in the hand of the original student.²

Portraits Friends Equasions differs in its template from the formerly discussed *Angels, Calendars* by the fact that its original script varies between the student's hand-written lines of workings out, including lines of separate or clumped equations and hand-drawn diagrams, whereas the script's given in the *Angels, Calendars* template is in the continuous form of hand-written poetic stanza or full poem, naturally punctuated by stanza length and poem title.

Portraits, Friends Equasions measures eight and seven sixteenth of an inch by six and three sixteenths of an inch when closed; the width measurement when open is twelve and five sixteenth inches.

The Book contains twenty two of Woodman's positive images. All of them are square in format, several have no border and of the rest, the width of the white border varies. Although *undated* it is possible to harness several photographs in *Portraits Friends Equasions* to Woodman's Roman period of Spring 1977 to

² Typically, these printed diagrams descend in the left-hand column of a page divided into a five (vertical) by four (horizontal) grid. The three remaining horizontal squares of the grid print various occurrent or suggested examples, giving printed equations and the degrees of specific angles as instructions. These constitute a system of *problems to solve*, the answers to which are in the form of pencil shaded areas delineating a new and specific form, for example a one dimensional square on the side of a three dimensional rectangle. The student probably worked through the examples in a separate work book.

Summer 1978 and some to her period of return to Rhode Island, from the autumn of 1978. I shall consequently date the Book as from 1978.

Throughout *Portraits Friends Equasions* few scriptive annotations are present and within it we see only two examples of Woodman's writing, on the front cover of the book and on the first double page spread, where she repeats her title on the right-hand page, in pencil, using small case letters for the words *friends* and *equasions*. The cover is an even more decorative version of that of *some disordered interior Geometries*, described in Chapter 4, an example of fin de siècle baroque typographic virtuosity (fig 62). Woodman's title is written in ink at the top (all three words are capitalised) and outside the bold double border-as-scroll of the publisher's details:

RAFFAELLE STANI

OGGETTI di BELLE ARTI

NAPOLI Via Roma 432 NAPOLI

This border is pierced with trompe l'oeil quills and pens, intersected at a corner by a globe and books and at another by symbolic sailing boats of knowledge. Acting as a standard lined-page exercise book it leaves a space for the student's name and the subject studied: *Quaderno dell...* and in this case it is *...Meccanica Superiore*.³ Helpfully, the student has here written the precise date of their period of study: 1894-1895.

³ 'Exercise Book ... Higher Mechanics'. Mimosas and pansy flowers and a *trompe l'oeil* scroll are also illustrated here.

Woodman's cover script is of approximately the same size and angle and of the same sepia colour ink, as that of the late nineteenth century scholar. By this means it is well integrated, almost camouflaged, within the original. Her title sits just above the first student's signature (which is indecipherable). The first student's lessons inside are neatly executed, but the title-script on the cover *Appunti di Meccanica Superiore*, and the sub-clause *Lezioni dettate dal Prof. F. Scanieri* [?], are written in a different script. The exercise book had sold at the cost of 4 denari.⁴

The first double page spread of the Book reveals a large torn section on the left side of what is probably the first written page of the combination of notes and complex equations that will continue throughout the Book. On the right-hand page four photo mounts are still stuck on, showing how Woodman changed her mind about putting an image here. Instead she has re-written her own title, this time in faint lead pencil, in the gaps and pauses of the base text. Here her writing is about twice the size of that of the original student and she has not attempted to mimic the regular slant of its copperplate. The two central staples are black with age and the paper edges are nipped, folded and torn for the same reason. Woodman's photo mounts too have become a sepia colour after another twenty five years.

The next double page spread has four photo mounts on the left and three on the right page, where images might have been.

The third double page spread (fig 63) has a Woodman image placed on each side. Every photographic image in this Book is square in format. These first two have

⁴ 'Points of Higher Mechanics. Lessons dictated by Professor F.Scanieri' [?]

had their white border cut; as also have the following nine images, so that there is a total of eleven images; exactly half the whole image count of twenty two, without white borders and eleven images subsequently with white borders round them. This sort of precise mathematical pattern is typical of Woodman. Only four images are shot in exteriors. It is no coincidence that these four exterior shots (figs 69, 70, 71 and 72) are collectively the centre of the Book.

The left-hand image of fig 63 is placed in an upper central position on the page. In a response to the engineering student leaving an extra-wide blank left-hand margin, Woodman has placed her image slightly to the right of the page.⁵ This might change on later pages, always in a visual thought process on the artist's part. Here Woodman's figure, unusually in *normal* attire of cardigan, skirt and knee-high boots, is photographed moving towards a dark corner of a semi-derelict interior in an investigative manner. Or possibly and impossibly, but fictionally, she is about to penetrate this dark border corner. Shot so that her head is extinguished in deep shadow, the sharp delineations of floor, wall and its plain cornicing are a materialisation of algebraic formulae, to the extent that the double line created by the cornicing mimics the double line above and below the complex equations on this page. Her photograph both answers and obliterates the engineering student's stage of formulaic reasoning: *Donde*.⁶

Woodman's figure's distinctive pose reflects an elongated *S* from the first text, visible above and central to the image. And possibly her whole pose is a human response to the visual quality of the algebraic sign for square root $\sqrt{\quad}$.

⁵ The wide margin is left throughout, except on the few occasions when algebraic equations run over both pages.

⁶ *Where from? For which reason?*

Continuing the fictional thread, I posit that a clear linear development is present in the first set of six images and that these are distinct from the following twelve in their dramatic content. These following twelve thus form another sequence.

The right-hand image of fig 63 is of Woodman in another corner of another stark and empty interior, looking very much like the interior of the first five *Angels* images. She is dressed in the ethereal white attire of the *angel* and is experiencing an emotional moment of pain or gasping serenity.⁷ In a re-visiting of themes present in the *Angels* series, she has penetrated the wall, that symbol of the liminal, to enter another sphere and to possibly experience a transformation. The strongly diffused light from the large paned window rectangle, which is shot at a precarious angle to continue the angle of some of the equations and exaggerate the angle of others on the base-page, cancels the light in the room's interior. It half-lights the artist's figure on one side and centrally. The effect of this is to obscure her legs and one arm; in effect to sever her connection to the material world. Her upturned head, with its opened mouth, reinforces a sense of the difficulty of the transition.

When viewed as a pair, the visual connection through the images is obtained through a continuance of the forty five degree angle realised on the left through the wall base line and on the right through the lower definition of the window pane. This also reflects the overall thrust of the forward rhythm of the original written text, but at the same time dramatically counteracts its linear rhythm.

⁷ Perhaps this image was deemed surplus to *Angels* and is being tried out in a new context here.

The same window rectangle, shot from slightly further away than in fig 63 (left), appears in the next pair of images (fig 64), higher in the frame than in the previous image and swirling out at its base in a light effluence which becomes a raggedly abstract *informe*. In both images, an area of light cuts out a surprisingly geometric portion of the human form, seen in silhouette against the light and in rendering it abstract, makes it almost invisible. We have seen this photographic virtuosity before in the *Angels, Calendars* series. Something is surely owed to the technical achievements of her immediate predecessors Ralph Meatyard and Duane Michals.⁸ Michals here explains his blurring technique:

*To make a blur, I stop down the lens as far as possible and use a slow shutter speed. A second is just long enough to get a nice blur. Then I run the person through the gesture at varying speeds. I tell them to think about doing it in slow motion. You can't control a blur. If people move too fast, they blur too much.*⁹

Woodman's technical virtuosity remains awesome.

The right-hand image of fig 64, though increasing the area occupied by the swirl of the effluent *informe*, simultaneously reclaims some recognisable Woodman

⁸ In particular Meatyard's *Ghost* image and Michals's series *The Human Condition*, in which a man disappears through light dissolution by an underground train. Cecilia Casorati differentiates between Woodman's and Michals's use of light dissolution as form disappearance in her claim that ... *le sue anime luminose e trasparenti sono sempre animate da una vision ironica, Francesca Woodman agisce la sparizione con leggerezza ma senza ironia*. ('Michals's luminous and transparent souls are always animated by an ironic vision [whereas] Francesca Woodman plays with disappearance with levity but without irony'.) Cecilia Casorati, 'Francesca Woodman e la fotografia dell'immaginario' ('Francesca Woodman and the Photography of the Imaginary'), in Bonito Oliva, *Francesca Woodman* (Palazzo delle Esposizioni catalogue), 2000, 23-24.

⁹ Duane Michals, 'Camera As Darkroom', in Eleanor Lewis, ed., *Darkroom*, New York, Lustrum Press, 1977, 136.

form. An intensity that is a forbidding quality can be noted in this part-figure, seen again in back silhouette in front of the window. Its stasis, in contrast to the generous swirling movement of the light effluence which partly obscures it, speaks of a concentrated energy, a kind of distilled panic: an animal trapped in a cage; a wasp in a jar. Fictionally, she is trying to open the huge, headily angled window. She wants to be through the border it has become.

This marvellous pair of images refers closely to the first *Angel* series in the *Angels, Calendars* Book. Strong links exist too between these images (and the next, fig 65) and Woodman's series *Self Deceit*.¹⁰ Another very similar image exists too as a gallery print. In this image Woodman stretches out her arm to touch the wall, that obstruction to her imagined escape.¹¹

Read aesthetically, this pair of images angles its dominant lines (constructed in them by window panes and wall planes) in harmony to the predominant angle thrust of the base pages' script. The area of light effluence acts as a necessary soft-edged curve to the tyranny of the straight lines (as does Woodman's form to a lesser extent but more so in the right page image). In the case of the script, the function of refreshment is performed jointly by the repeated loops of letters below the line, the $\sqrt{\quad}$ (square root) sign and the curves of the parenthesis symbols. All of these provide a rhythmic extension to the division and emphasis brought by the hand-drawn equation lines.

¹⁰ Examples from this well-known series of six images are reproduced in Townsend, *Francesca Woodman*, 2006, 156-157.

¹¹ Bonito Oliva, *Francesca Woodman* (Palazzo delle Esposizioni catalogue), 2000, 108.

Excitingly, the next double page spread (fig 65) of the original ignores the central stapled page division, as the engineering student extends a complex set of equations over this centre and onto the wide vertical margins of the opposite page. S/he has outlined these extensions in rectangles of ink. Between them, possibly by a visually felicitous chance, s/he has drawn a diagram, bigger than anything precedent, of lines emanating from a central point to illustrate their different directions and angles. The central point is marked *O*. Woodman's choice of place for her image reflects her resolve to respond directly to this diagram, as she has left its page untouched.

In this image, stuck on opposite the diagram, she has placed her own figure at the opposite equivalent central point, *O*, of emanation of the diagram's lines, as if a square is imagined around the diagram. This zero mark is the diagram's point of highest energy. Her response to the drawn diagram opposite is subtle and complex. Instead of using the wall, floor and the lines of the window panes to directly simulate the angle lines in the diagram, as she often does, we are encouraged here to imagine these as traces through the given grid, formed particularly by the window panes. But extraordinarily too, the figure itself repeats in one movement each separate angle of diagram. It must of course be realised in reverse.

In the previous chapter I touched on Woodman's interest in depicting a maximum contrast between the softness and curves of human flesh with the hard lines and cold material of architecture. Here she resolves to coax the human form into the representation of a mathematical formula. She proves that this ambitious project,

clearly in some ways impossible, can be achieved with precision and exactitude. She will pursue it further in *some disordered interior Geometries* which I discuss in the next chapter.

Continuing the fiction of the previous image pair, in fig 65 the rectangle of the paned window occupies at least a third of her image's square. In this photograph, no light diffusion of individual panes occurs, as it does in the preceding pair and no area of blurred effluence is present. Woodman's form is here clearly defined by its high-lighted upper contours in the light, constructing a rhythmic curved line. The rest of her form, in part-silhouette, merges into the dark tones of the image's lower half. The contrast between her body, caught in un-blurred movement and the unbroken hard edges of the room around her, is a significant example of her interest in these contrasts. I will repeat Woodman's own words on this subject, although already quoted in Chapter 2's note 26, as they are apposite: *Me and Francis Bacon and all those Baroques are all concerned with making something soft wiggle and snake around a hard architectural outline.*

The single image in fig 66, on the right-hand page, is another response to a visually interesting original diagram, left complete again by Woodman. This time the lines emanating from point zero progress into two curved forms constructed from a base of exactly the same measured angles as the former. Jubilantly, Woodman here makes a human parallel by arching herself back, supported by arched arms, against a wall. Read as a reverse equivalent to the smaller constructed closed curve of the mechanics diagram on the opposite page, the treble parallel angles of the stone steps at the lower right of Woodman's image

exactly repeat, (when combined with her body's arch over these steps to the wall), the angle line at the base point of the curved form. She has perfectly analysed this form, with its pointed base and wider, outward curving top, here in her imaginative combining of architecture, mathematics and the figure.

The image on the right side of the next double page spread (fig 67) is stuck on at a slight angle to the central margin, as the page is a little out of alignment with the page opposite. In spite of this, both upper and lower edges of her photograph are placed exactly in line both with the line of equations at the top and with the line of text at its base. Woodman's response to a busy but calm double page of equations and text is an image of a relaxed encounter in a slightly dilapidated palazzo or museum between her and a friend. As this is the first image which depicts another figure, we can assume that this is the introduction of a new theme, that of friends.

The first section of six images encompassed the theme of equations and the last image group addresses the theme of portraits.

But these themes can overlap and interlace. It is hereby apparent that Woodman has deliberately inverted her title's order, *PFE, Portraits Friends Equasions*, to its mirror image *EFP, Equasions Friends Portraits*.

At first sight this image (fig 67) appears to be taken in the same corner of a palazzo as in fig 5 as there are some very similar stone steps at the bottom right of the image. The same architectural elements: the steps, the wall and floor plane-meeting place as well as the same light source from high up on the right, occur

here. The wall behind the figure/s in both images is visually punctured by a stone rectangular (commemorative?) tablet. Sloan Rankin testifies, giving some clarification that these images were made in front of:

*...a painted trompe l'oeil tomb in the church in Ravenna (Chiesa di San Francesco or Basilica di S. Appolinare Nuovo, I can't remember which), both bombed in the war, which explains the cement restoration in the lower half of the picture.*¹²

More detail of the stone tablet is given here than in fig 66; its likeness to a commemorative plaque means the chiesa is probably a mausoleum.

In fig 67 too and throughout the Book, but particularly in the *Equasions* section, the floor/wall/plane dividing lines can be read as an acute simulation of the horizontal equation division line in the original text, to which Woodman would surely have strongly responded as a reminder of her own interest in boundaries and layers as symbols of the liminal, from a different field. Here a double dividing line is extended in the original text into the square root symbol.

In this case, Woodman sites herself and her friend as two elements of the top faction of the equation, the base faction of which is made from the steps rising in a staircase or perhaps from the base to a plinth. The angled edges of the steps make a gentle counterpoise to the wall/floor line angle, exactly repeated in the friend's linear blocked shadow. A strong side light, from the low sun of early

¹² Rankin, 'Peach Mumble', 1998, 36.

morning or late afternoon, causes a part elimination of both figures, but particularly Woodman's, whose tense pose contrasts to the relaxed pose of the friend (Sloan). Rankin gives hard evidence that this was the case: *The picture was taken in less than a minute. Why? Because that was all the time she had to slip out of and back into her clothes, as I once again tripped the shutter.*¹³

The *punctum* remains for me in that part of the image where the undulating edge of the form which jaggedly repeats the stair angle at the base of the image crosses behind the stone wall plinth to make another shuddering equation division line. That line which divides the original masonry from the restored part imparts the area with an appropriation of itself.

My understanding of Barthes's idea of *punctum* is that in an image which one is not guided by the artist to notice, it is unaccented and not 'presented' for consumption. The *punctum* causes an unexpected reaction that is neither desired nor needed, but that is strong and persistent in leaving its trace of memory. It seizes the unconscious:

The photograph touches me if I withdraw it from its usual blah-blah:

*"Technique", "Reality", "Reportage", "Art", etc.: to say nothing, to shut my eyes, to allow the detail to rise of its own accord into affective consciousness.*¹⁴

¹³ Rankin, 'Peach Mumble', 1998, 36.

¹⁴ Barthes, *Camera Lucida*, 1980, 55.

The image on the next double page spread (fig 68) continues the narrative and visual elements of its two predecessors (figs 66 and 67) to form a link within the current theme of the Book, *friends*. In combination with a gallery print from her wider corpus, these images form a quartet.¹⁵ Like the previous two images in this Book, fig 68 is stuck onto the centre left of the right-hand side of a double-page spread. This time it half-obscures the equation lines above and below it. A very slight change of camera angle moves the stone plaque to the centre of the image. The anonymity of the surface rectangle from fig 67 is replaced here by decorative embellishment: a central urn and a base motif of classical column decoration. The area of the image which waved its juddering diagonal through its composition appears here in fig 68 as a *newly plastered* area. In fig 67, due to the slightly different position, a suggestion of a space retreating in perspective filled a narrow vertical rectangle to the right of the (plain) masonry border's blur. In fig 68 Woodman repeats the form that is visible on the right side of the central stone plaque, in what could be a painted *trompe l'oeil* version of it, on the left of the plaque and behind the rear view of the solitary standing figure. This image is reproduced as an autonomous image in a very similar gallery print.¹⁶

So far seven images have focused on the diagonal; the shift of focus from it to the horizontal and vertical is first made in figs 68 and 69 which are transition images.

¹⁵ Described as *Ravenna, Fall 1977*, this is reproduced in Chandès, *Francesca Woodman* (Fondation Cartier exhibition catalogue), 1998, 102. The strongly blurred figure shows Woodman in the process of disrobing and was clearly shot by Rankin. Happily it solves some architectural mysteries. As the figure is shot here standing to the right of the two steps, the extent of the *trompe l'oeil* work can be observed as occurring extensively both to either side of the carved stone mausoleum tablet and in an area directly beneath it where the original plaster layer has been restored.

¹⁶ Bonito Oliva, *Francesca Woodman* (Palazzo delle Esposizioni catalogue), 2000, 96.

Her interest in the horizontal/vertical axis is of course explored in the very well-known *Horizontale* and *Verticale* images made in Providence in 1977.¹⁷

In fig 69 Woodman makes a departure from the previous eight images by setting it outside. Placed again on the right page of the double page spread, this time it is slightly to the right of the centre in accord with the original text and its wide left margin. A freely drawn almost quirky diagram occupies a focal position on the opposite page. This has subtle and precise differences to the diagram opposite the image in fig 66. The diagram's lines, emanating from a central point again marked as *O*, are of the same length and have exactly the same angles measured between them by the Italian student of Higher Mechanics. But the joining form on its left arcs at a different point and the curved triangle in the fig 66 diagram is absent here. Evidence of some page tearing can be seen in the centre of the pages. Woodman is clearly interested in making a direct connection with both the text of the base page and aspects of the diagram: she has made some marks under her image which form a rectangle to emphasise what I can just decipher as *tre segmenti che rappresentano dimensioni dell'ellip...es.*¹⁸

She has photographed herself in a side bend in a less dramatic arch than that performed in fig 66, in a gentle answer to the constellation of numbered lines and in particular their joining form, the inner curve of which her postural curve reflects in opposition. The front of what looks like a twentieth century American house makes a background of black and white rectangles against which the artist's

¹⁷ Townsend, *Francesca Woodman*, 2006, 132-133.

¹⁸ I cannot decipher the last word of this phrase, but propose that it is 'ellipses'. The phrase can therefore very tentatively be translated as 'Three segments which represent the dimensions of the ellipses'.

upper figure is placed. The house wall emerges from that mottled unpainted house-base area which in turn emerges from a dark formlessness occupying at least a third of the composition. Above this the light-toned, flat-textured, plaster of the house wall creates the wide base of an *L* shape. The house window forms two different sized dark rectangles cut through with a light upright division; a perfect contrast device for the figure's bend. Horizontal division, texture, contrast of human and architecture: portrait, equations, no friend. Only Woodman's form creates a curved diagonal against the horizontals and verticals of the house's structure.

In the same way that the image in fig 69 can be analysed in terms of texture and form, this is also evidenced in the next composition (fig 70) which contains horizontal bands resembling the strata of rock. These two images stand apart from the first eight images in the book which incorporate diagonally angled compositions of various degrees, all focusing mainly on the *equasions* theme. The two images also begin the *Friends* section of the Book.¹⁹ Significantly Woodman changes her address from the diagonal to the horizontal and the vertical.²⁰

Woodman's visuals continue to bounce against those of the found object base, in which its predominant horizontal linearity is arrested both by the minutiae and energy of the intensive equation sections and by the 'beauty' of the diagrams in this complex cross-dimensional work.

¹⁹ I am suggesting these section divisions, between *Portraits*, *Friends* and *Equasions*, in the awareness that Woodman probably did not intend any such division between categories. Several overlaps occur and I am sure were intended by the artist, particularly between portrait and self portrait and between friend and portrait. Her inflection of the original text or/and her incorporation of it is signified largely by her confinement of its most densely diagrammed part to the sheer poetry of her first, *Equasions* section. But the student's drawn diagrams and rows of written equations continue to delight Woodman in other parts of her Book, as seen, for example in Images Nine and Eleven, (figs 9, 11), which I have loosely tied into the *Friends* section.

²⁰ In a text that contains many algebraic formulae, horizontal fraction division lines are common.

The image in fig 70, shot outside like its predecessor, depicts a standing Woodman in the right foreground, her head turned sharply to the right, away from and out of, the picture frame. Behind her and next to her are trees. Their trunks make a vertical parallel to her legs and a visual and verbal pun to her body's *trunk*.²¹ The base area of the square format image is of a dark tone of dense foliage, against which some light thin branches and Woodman's hands make a light toned interruption. Above this strip of dark is a horizontal strip of bright sunlight and a plastic white wall. Through this strip the dark verticals of the trees' trunks pierce, mottling out into their branch form in a sometimes condensed, sometimes light-broken area of dispersed diagonal angles. And across the composition, both emphasising its horizontality and simulating a repetitive chain of equations, is an added *other*. In pragmatic terms possibly a piece of plastic display fencing, this artefact goes behind Woodman's figure and in front (though here it is broken) of one tree on the left. The addition of the fencing condenses the elements of form and texture in the image as well as providing another symbol of the liminal by its small border.

In a return to a composition made of dynamic diagonals and verticals, the image in fig 71 contains an intricate selection of responses to a double page spread which must have held much fascination for Woodman. For the first time in the book, a rectangle is clearly drawn by the Italian student. Inside it are neat columned letters and codes. Woodman has placed her image below this rectangle. She obscures some text as a result, but leaves a circled, centripuntal diagram

²¹ Alyce Mahon, *Surrealism and the Politics of Eros 1938-1968*, London, Thames & Hudson, 2005, 51.

visible at her image's base. This diagram, as in the previous examples in figs 66 and 69, is answered by Woodman playfully and skilfully. Visually interesting too, is the area of tiny equations and their square roots compressed to fit on the right side of the diagram. They contain a kind of nervous energy born from their having been written at speed and from having their size contracted. On the facing page the top third is, unusually, blank and a third of the page down it is possible to read: $w = o4(2) = 0 = 1$

This is followed by a series of complex columned equations mixed with some analytical text.

Woodman's image bounces off the angled upright lines of the central point of the base text diagram, in its photographed tree form. This tree is in the foreground and left centre of the image. If Leonardo planned to construct a cathedral inspired by the symmetry and elegance of branch and trunk forms of an avenue of trees, the occurrence of an intrinsic geometry in the growth patterns of branches from their central trunk is here understood perfectly by Woodman too. The widest branch of her tree leans to the right and two branches grow up, one straight up and one, to compensate, a little to the left. Another branch curves to the left; in that perfect balance of growth a dancer knows when holding an arabesque. The tree in the image is supported by a whiter trunk that is dead wood and forms a slightly different vertical from the live trunk. Moving away from the horizontality of the last pair of images, we have here a street corner in a quiet American town, photographed in a deep perspective down a pavement by a windowed house wall. The perspective's vanishing point is marked by the rear wheel of a propped-up

bicycle. The bicycle wheel's reflection of the "spokes" in the base work's diagram is subtle in its distance.

On the front pavement, a few feet behind the tree, the blurred figure of a man in a flat cloth cap is photographed caught in the act of raising his cap, perhaps in a greeting to Francesca. The pavement on which he stands is shot in a diagonal which slopes down. This diagonal is pierced at the front by the tree and behind both by the man's upright stance as well as by the straight vertical of the corner street building, which provides a light tone in contrast to the dark tone of the man.

The following image in fig 72 is directly related to the previous image in that the same corner of the street with the same man standing on it, is photographed. Woodman has moved her camera position to the left. This movement of the camera has the effect of the tree now occupying the immediate centre of the image. The perspective view is now shortened at one window on the receding street. Woodman has joined the man (and friend) and leans towards him at exactly the same angle as the flow of the original pages' copperplate script, which in this case is an even balance of text and equations. Her figure is divided from his figure by the tree, in a sideways, upright equation. The man's figure is now in focus. Most of the angles in the previous image's diagram have been simulated or suggested through the pair of images.

Both these images reveal Woodman's knowledge of certain images from Hans Bellmer's second series of *La Poupée* (The Doll). I discuss these connections in Chapter 8.

In this pair of images I am reminded of Woodman's splendid *Tree Project* made in 1980 at the MacDowell Colony and the sure influence on her of Giuseppe Penoni's *Alpi maritime* and his *Ripitere il Bosco*.²² Her project offers a post-minimalist reading of the tree which is witty, searching and poignant by turns. Woodman hangs giant scale blueprints of table legs, the manufactured counterparts of trunks, amongst trees of a real wood. In a linked series she wears silver birch bark as amulets on her arms in a successful and humorous camouflage of her figure in the silver birch wood. Penoni carves a turned table leg from a section of a large tree branch, leaving a section 'natural'.

In fig 72 we find portraits, friends and equations all contained in one image. As it is bordered in white, unlike its partner (fig 71), it is slightly bigger. It is the first image of the Book to have a substantial white border and as such marks the first image of the second half (this is the middle image of the total number of twenty two). All subsequent images of the Book are bordered in white. A formulated and purposeful mathematical precision is present in Woodman's implemented change.

Following a double page spread without an attached photograph, the image in fig 73 relates strongly to Woodman's well known gallery print series *Three Kinds of Melon in Three Kinds of Light*, made in Providence in 1976-1977.²³ In her address

²² Woodman's considerable exposure to the *Arte Povera* movement, both directly through artists she met and ideas being discussed during her period in Rome, is beyond doubt. Her interest in and connection to the movement is alluded to by Elizabeth Janus in her essay 'Un séjour romain', in Chandès, *Francesca Woodman* (Fondation Cartier exhibition catalogue), 1998, 29. Eight works from Penoni's *Ripitere il Bosco*, an ongoing 'forest' project, were exhibited in Amsterdam in 1980. His *Alpi maritime* was an ongoing project in woods near Turin. Woodman's *Tree Project* was realised in woods near the MacDowell Colony, New Hampshire. Both artists realised their installation projects largely through photographic record.

²³ Bonito Oliva, *Francesca Woodman* (Palazzo delle Esposizioni catalogue), 2000, 53.

of a favourite male subject and trope of first wave surrealist photography, the female breast, Woodman simultaneously feeds the male erotic imagination and subverts the quest by presenting an effrontery so blatant it becomes bizarre. In the Book image the friend stands, with her head cropped in the shot and her breasts bared brazenly. Woodman's shot is of a full top torso so that the breasts are accented. Behind her on the wall is a large cube, drawn in charcoal. Over the cube's top left corner hang a pair of false breasts. They are not in line with their displayed real counterpart, but slightly above, in line with the posed woman's shoulders. Some humour is present here: the real outranks the simulacrum. Or is an equation possible between two different kinds? No direct interplay is detectable in this instance between the image and the diagram drawn on its base page.

The following double page spread (fig 74) contains two images. This is the third occurrence of a double image spread since the beginning of the Book when there were two consecutive double spreads. Nine single images separate the second and third occurrences and seven single images follow. These are the second and third images of a quartet which uses female nudity to address all three themes of the Book light-heartedly: friends, portraits and equations.

Both images on the double spread have narrow white borders, like fig 73. Both continue an investigative and playful approach to female nudity which here specifically challenges the capacity of the body to become a formula or a symbol for an equation. The intrinsic playfulness of these images might induce the term

adolescent if they lacked the subtlety they contain. No direct inflection of the original pages' written equations and formula analysis is made here by Woodman.

The image on the left shows a friend standing centrally in what looks like Woodman's studio. She is naked but unaffectedly so. Continuing the 'breast' theme of the previous image, here she holds an ill-fitting brassiere clumsily over her breasts, seeming to be rather startled by their existence. Perhaps intentionally all women could be reminded of their own adolescence by the awkward self-involved intent of the young woman. Behind her, on the floor, we can see the mirror/s which will be a focused trope of the next two images.

A base text line of equations extends, unusually, over the centre page to the opposite page. The original student has reined in the formulae with a linear part-box, as before, which serves to link the pair of images. Woodman responds to the box by including her version of it made by the part-rectangle of a mirror.

The image on the right uses the dark framed mirrors arranged one over the other on the floor to symbolise the dividing equation lines preponderant in this page spread. A friend of Woodman's is seated cross-legged on the floor looking directly at her own reflection in the mirror. Her figure constructs the two elements of the equation with a body and self that is divided by the *water specified* of the mirror.²⁴ The combination of her real and reflected forms constructs what is the central element of this composition. Can the so different front and back views really equal each other? And can the reflection ever be equal to the imagined,

²⁴ Woodman's own description of a mirror in *some disordered interior Geometries*, as written by her under Images Six and Seven of that Book, is: ... *This mirror is a sort of rectangle although they say mirrors are just water specified.*

non-reflected self? Woodman is caught in the shot standing behind, observing, as a neutral presence. This image has a diagonal rhythm after the mainly horizontal structure of the last two. A third figure is just detectable through an arm and hand in the bottom left of the composition.

The last of this mini-series of four, the image in fig 75, attempts to construct a corporeal *is equal to* or simultaneous equation, or perhaps, in simpler mathematical terms, the sum of two parts in an addition. Woodman leans back onto her taller friend, whose body, in darker tone, hers mostly obscures. The two become one form with two clear heads. The mirror behind them, propped on the floor, holds a reflection of only one limb, but gives some light and distance to the shot. Some objects hung on the studio wall behind them create a visual rendering of another line of equations. This image is dominated by the verticals of the two figures becoming one, their vertical repeated in the upright of a door's architraving and a garment hung in a thin vertical above and in line with the right edge of the mirror. The base page has, especially in its lower right, increasingly complex lines of equations.

The next image, fig 76, is the first of a series of six striking portraits which, though prioritising that genre, again encapsulate all three themes of Woodman's project title. These are portraits of three friends, two of whom are identifiable. The first three portraits are of Sabina Mirri, an Italian artist.²⁵ The fifth portrait is of

²⁵ I owe this precise identification to Harriet Riches who recorded George Woodman's identification of Mirri in Riches, 'A Disappearing Act', 2004, 102.

another Italian woman, Mirella Bordoni.²⁶ The sequence of this series, which includes examples of the double portrait, the profile portrait and Woodman's special genre, the headless portrait, ends with a disturbance of the classic 'portrait bust' into a narrative fantasy when a hand appears round a door frame.

In the first image of the mini-series, Sabina Mirri is seated in elegant, relaxed serenity, minus her head, neck, shoulders and feet. Her legs are crossed and twisted into what Woodman teases our imagination to believe is a perfect equation. Her hands and wrists are differing fractions put into a new equation; one hand is cradled up in a blur which contains the other's down-facing cradle; in contrapposto the two hands are therefore simultaneously equal and opposite to each other. Woodman has created another equation by allowing only one side of Sabina's black waistcoat to be visible opposite a white scarf which unites, by crossing over its border, the top bloused part of the figure to the lower form. The deep tones of the base image area almost eradicate the support structure of the chair on the right side so that its seat forms a white floating triangle which is photographed as an exact continuation of the floor skirting line. For such an equation to emerge from one figure is a surprising and clever accomplishment. A strong contrast is present in this image between the hard edges of the section of room and the soft and elegantly dressed form of the young woman. This is accentuated in the folds of her clothes (a chic drapery), the curves of her intertwined legs and the delicacy of her fingers which are caught in stasis during their movement, in juxtaposition to the gracefully still figure. Her fingers here express the essence of personality which would usually be found in the face. And

²⁶ She is identified by the editors of Palazzo delle Esposizioni catalogue in a caption under a gallery print version of this image: Bonito Oliva, *Francesca Woodman* (Palazzo delle Esposizioni catalogue), 2000, 131.

the movement of the fingers denies the control of the static framing of the image and disrupts its control over and its fixing in time. The movement of the hands is the point of emotional arrest in the portrait.

The classic profile portrait in fig 77 shares some attributes of its pose with the late nineteenth century genre of criminal or psychiatric records. But this is Woodman's friend Sabina Mirri again. And behind her a row of dried vegetables is hung. It traverses the serious with the absurd in a clever visual homage to the equations' rhythms and patterns, abundant in the surrounding pages' field, in a response that is a joyful transgression of the equations' conceptual framework. Woodman responds to the period hair style of her friend by making the image in this genre. This image is an embodiment of the three themes of the book; holding them, *portrait, friend, equations* in a balance of emphases which is in itself another equation.

In fig 78 Woodman puts on the self-timer and runs to join her friend. This does not preclude the formation of a highly controlled and well-composed image. Woodman's presence in the image is at once mysterious, as conjured from the combined effect of the half-face and deep-toned lower form merging with the surrounding space, and relaxed; she holds the back of her Sabina Mirri's chair in an affectionate gesture. In spite of Sabina's position, seated straight-backed, on the right side of the image, Woodman has used two devices to make her appear central. One is the position of the central dried vegetable (the row of five slopes down in this image due to a fresh camera angle). The form of this points exactly to the centre of Sabina's head. This increases the impact of the vertical down

through it, as well as replicating dark toned areas of her figure. The second device is the development of a downward line from this central vegetable to Sabina's hands, which are pressed together between her evenly placed knees. In this position her hands form the apex of a triangle of which her light-toned arms are the sides. Woodman's own figure joins the two figures, making an equation symbolically with her stretched arm across to the chair.

Two double page spreads with no photographic intervention by Woodman follow.

The next added image (fig 79) introduces a new female friend, shot in traditional portrait 'bust' genre. The woman is dressed in a contemporary summer V-necked T-shirt (this *normal* attire unusual for Woodman and her associates) and a purposefully incongruous vintage (1940s) hat. She is shot in the direct centre of the image, symmetrical and even in her gaze at the viewer. The visible corner of her surroundings, a room, offers no possibility of drama. She is lit from a window just visible to the left. Her outstretched hand which she holds to her neck gives one diversion from an apparently ordinary portrait. The other is the hat. Absurd in combination with the T-shirt, set at a rakish angle, its face-covering transparent veil reveals the woman's strong features and its ambience, in spite of its absurdity, is that of dignity. On the right of the woman, extending from behind her chair, a rococo shadow curves. This photograph is roughly cut, in an imperfect rectangle. It seems to have been hastily adhered to its page, which consists mainly of regular lines of copperplate script. On its opposite page are the equation lines:

$$A^2p^2 + B^2q^2 + C^2r^2 = D^2h^2$$

A 7 B 7 C

A C 8 C C

The image in fig 80 was probably made in Rome, as stated in the Palazzo delle Esposizioni catalogue, and is a portrait of Mirella Bordonì.²⁷ It contains and emits the stunning modernist beauty that Woodman's images seldom avoid and yet often transgress and subvert. Here, unusually for Woodman, only the blurring of the woman's face attempts that disturbance and somehow the beauty of the composition and its subject are thereby intensified. As its date is probably 1978, Duane Michals, whose influence on the artist was strong, would have already made, five years previously, his now famous triple photographic portrait of Andy Warhol (fig 81), which in turn answers Francis Bacon's triptych portrait of Isabel Rawsthorne, made seven years before. The subtlety of the blurring in Woodman's portrait leads neither to a distortion nor to an obliteration of Bordonì's fine features, but enlivens her. The gentle blurring of her face has the effect of a movement that helps the viewer to imagine her existence outside the frame.

The image is placed opposite a page divided into even and balanced full script block followed by a half-page of the nervous staccatos of massed equations. The print has been cut and placed more carefully here than formerly. Bordonì is elegantly seated, in a poised and yet naturally relaxed pose. Her hands, shot white against the area of darkest tone (her jacket), are a hub of expressive energy.

Woodman, like Rembrandt, understands their significance in portraiture. One

²⁷ Bonito Oliva, *Francesca Woodman* (Palazzo delle Esposizioni catalogue), 2000, 131.

cradles the other, in an echo of the first portrait of Sabina Mirri (fig 76), but here in two upward cradles of which three fingers of the top hand are shot in an upward curve here at a contrapposto angle to the tilted head. The loops of folds in her skirt echo and enlarge the delicate curves of the fingers. Only a small black triangle behind her right shoulder betrays the real chair supporting her. A small section of floor reads as a black stretched triangle, which is countered by the small upward triangle of cloth on the right side. Woodman's image, unusually, is placed here over some semi-blank printed lines next to a hand-written section on the original page.

The last image of the Book (in fig 82) and of this short sequence of *portraits*, depicts the same vintage-hatted friend as in fig 79. She is photographed seated in the same chair in a similar position in the same room as in that image, but from a little further away, so that she appears smaller. She has been moved back and to the right of the room, so that enough of the door can be revealed behind her to enable the secretive and curious figure of Woodman to (just) appear in the shadowy oblong of the 'ajar' door's gap. The continuity of setting, pose and costume through the image pair leans towards the recurrence of an implied narrative, in a reflection of such sequences in the *Angels* section of the *Angels, Calendars* Book. But in spite of the occasional narrative flash in this Book, theme rather than narrative dominates *Portraits Friends Equasions*.

The friend's gaze this time is to the right of the camera. Both her hands are out of the frame so that a better emphasis can be given to Woodman's hand, almost a claw on the door edge. The hand either heralds her slightly creepy entrance or

delays her exit in this ripely Gothic image. The rococo shaped shadow which does not belong to any visible object (seen before in fig 79) is here exaggerated.

Cut with uneven white borders, the photograph is laid over a section of original script that is mostly elegant word-text. Above the image are three lines of equations and the page opposite consists of roughly half equation and half text.

Three double-spread pages of complex equations and analytical hand-written text follow this last Woodman image. There is no direct intervention by her on these original pages; rather they create an interlude of silence after the images' music.