

# Father Pavel Florensky and Vladimir Favorsky: Mutual Insights into the Perception of Space

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The following documentary publication is something of a curiosity. In 1922, the mathematician, physicist and philosopher Pavel Florensky concluded his book *Imaginary Points in Geometry* [1] and asked Vladimir Favorsky, artist and xylographer, to design a cover for it. When the resulting wood engraving (Fig. 1) was completed, Florensky found it so significant that he appended a new chapter devoted entirely to the engraving. It is this chapter that we present here for the attention of the reader. The biographical notes presented below help explain the unusually close cooperation between a man of ideas and a maker of pictures.

## VLADIMIR ANDREEVICH FAVORSKY (1886–1964)

Favorsky was an artist who worked as an engraver, sculptor, monumentalist, stage designer and theoretician of art [2]. He studied at various art schools in Moscow and from 1906–1907, in Munich, in the private academy of Professor Shimon Hollosy.

In 1907 Favorsky began to engrave on wood, and this remained his favourite medium for the rest of his life. His range was wide and his productivity abundant. He engraved illustrations for several books of the Old Testament and for works by Shakespeare, Dante, Pushkin, Tolstoy and many Soviet authors. It is not easy to point to any particular work that could be described as the peak of his achievement; within the framework of an enduring overall conception, each series approaches temporal and spatial problems in its own way, a feature that gave adepts of his school the confidence to continue to develop his ideas in their turn.

At a time when an overriding importance was attached to individual experiments, Favorsky was exceptional in that he worked steadily towards an objective, all-embracing concept of art. In 1915, he translated A. Hildebrandt's *Problems of Form in Visual Art*, a book that was fundamental to his own theory [3]. This theory probably finds its fullest expression in the lectures on composition that Favorsky gave at VKhUTEMAS [4] from 1921 to 1923. The key concept was the thought that composition is a way of organising time. The function of time in geometry comes under close study in Florensky's work, also.

If we put aside stylistic differences of direction (from greater or lesser degrees of realistic figurative art to pure abstraction) as being purely incidental to Favorsky's primary concerns, it becomes clear that these concerns had to do

with the study of the potential and variety of tensions generated by the representation of spatial ideas on the flat, rectangular surface of the page. Central to his thought is the paradox: "The only possible representation is flat, yet it will always, one way or another, appear spatial" [5]. For all Favorsky's overt attachment to Platonism, this thought is distinctly existential in character.

It is possible to escape Favorsky's stylistic influence but not his concept: however deeply one may plunge into the Suprematism of Malevich, the Expressionism of Pollock or the collage techniques of Pop Art, one inevitably will be brought face-to-face with the operation of the laws he discovered and formulated—secondarily, perhaps, with those expressed in his lectures and theoretical articles, but firstly and most clearly with those reflected in his practice as an engraver. He left a school, but, more importantly, he left a method.

## PAVEL ALEKSANDROVICH FLORENSKY (1882–1943)

Florensky was compared during his lifetime to Pascal—even, perhaps misleadingly, to Leonardo. His father, an engineer, once told him: "Your strength is in the sphere where the specific touches on the general" [6]. In one of his last letters to his own son, Florensky himself wrote:

From early childhood until this day I have stubbornly dwelt on one thing, but this one thing needs to be approached from various angles . . . until I myself have weighed out, ground down, analysed and calculated, I do not understand a phenomenon, I can speak and reason about it, but it is not mine [7].

The "one thing" on which Florensky's thought was concentrated was his own monistic, theocentric view of the world and of the Word, which was "in the beginning". "All

### ABSTRACT

The authors present a translation of Pavel Florensky's explanation of Vladimir Favorsky's cover for Florensky's book *Imaginary Points in Geometry* (1922). They also present illustrations of that cover and other works by Favorsky that are pertinent to his association with Florensky. In the first introductory section, Kirill Sokolov gives a practising artist's assessment of Favorsky's method of organising time and space. In the second introductory section, Avril Pyman highlights Florensky's interest in theology, art and science to elucidate what he called "the general trend towards synthesis of our future culture" and to explain why he considered Favorsky's work "art impregnated with mathematical thought".

# МНИМОСТИ

## В ГЕОМЕТРИИ

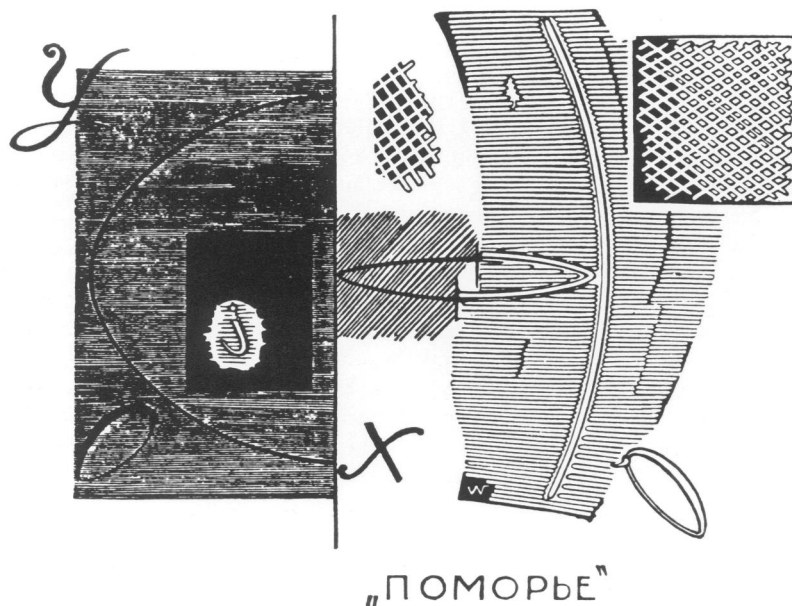


Fig. 1. Vladimir Favorsky, the cover to Pavel Florensky's *Mnimosti v geometrii*, wood engraving, 143 × 120 mm, 1922.



Fig. 2. Vladimir Favorsky, *Portrait of P. A. Florensky*, pencil on paper, 31 × 32 mm, 1922. (Collection of the Tretyakov Gallery) This is one of the many portraits of Florensky reproduced for the Soviet Culture Foundation as part of an exhibit of Favorsky's work organized by the Foundation for the Revival of Forgotten Names (see Ref. [17]).

sciences”, he wrote, “are a *description of reality*. Reality is described by symbols or images. Every image and every symbol . . . we name, and therefore it is word. . . . All [sciences] are language and only language” [8].

A theologian and priest of the Orthodox Church, Florensky held a degree in higher mathematics; found new uses for a special kind of ultra-microscope; lectured in electromagnetics, physics, astronomy and geometry; edited the Soviet dictionary of technology; and made a significant contribution during the 1920s to GOELRO (State Commission for the Electrification of Russia). Even in exile and in a succession of prison camps—where as an ‘ideologically alien element’ he spent much time from the first internal exile to Nizny-Novgorod (later Gorky) in 1928 until his death, about which there are many rumours but which is officially stated to have taken place somewhere in the Leningrad district in 1943—he continued to lay tracks that he was not destined to travel, starting anew from the founda-

tions time after time: in the practical, applied study of radio, minerals, permafrost, edible seaweed, etc. One can trace the pattern of his penitentiaries by his scientific preoccupations. “Probably”, he wrote to his son in 1937, at the end of the ‘seaweed epic’, “there is some profound significance here . . . science is without ambition, but it is tiring” [9].

This priest and scientist was also an aesthete and philosopher; his friends included the poets Andrey Bely and Velimir Khlebnikov, the thinkers Vasily Rozanov and Sergey Bulgakov, the composer Aleksandr Scriabin, the Futurist painters David Burliuk, Lyubov Popova, Aleksandr Vesnin and Vladimir Tatlin and, of course, the serene, hard-thinking engraver Vladimir Favorsky (Fig. 2). It is typical of the man that he published his theological magnum opus, *The Pillar and Foundation of Truth* [10] (1914), in letter form, elegantly illustrated and beautifully printed in full accord with the symbolist insistence on the essential relationship between the content, style and overall appearance of a book.

In his early days as a student at the Moscow Theological Academy in Sergiev Posad (Zagorsk), Florensky wrote poetry and contributed to the symbolist journal *Vesy* (The Scales). It was not as an artist, however, that he interested his contemporaries, but rather as a Platonic teacher, a dispenser of seminal, cross-disciplinary ideas. “His original thoughts *lived* in me”, Bely declared [11]. Like the symbolists, Florensky believed in the ‘magic’ of words and in the interrelatedness of all arts and sciences; like the writer E. Zamyatin, another practising engineer, Florensky saw civilisation in terms of thermodynamics. Favorsky enlisted Florensky to lecture at VKhUTEMAS from 1921 to 1924. These lectures on the analysis of space in works of art [12] and Florensky’s concept of technology (with its insistence on the technical instrument as an extension of the human body) influenced Tatlin. Florensky’s constant search for synthesis and his belief in the essentially liturgical function of art were reflected, to some extent, in the journal *Makovets* and in the work and theories of Vasily Chekrygin [13], of whose secular religiosity the priest disapproved but whose painting he admired. ‘Makovets’ is the name of the small hill on which the Monastery at Zagorsk is built, and the journal and society of that name were founded under the

influence of Florensky. Favorsky's cover for the journal (Fig. 3) illustrates Florensky's premise that life is above art and that the source of all beauty and truth is "to be discovered not invented". Florensky hoped that the journal would become "a gatherer of Russian culture", just as St. Sergius, 'the founder of the Makovets', had salvaged and gathered Russian culture in the fourteenth century [14]. The original name taken by the Moscow-based group of artists and poets was 'Art-Life', and *Makovets* was their journal, edited and published by Aleksey Mikhailovich Chernyshev, brother of the artist Nikolay Mikhailovich Chernyshev. The name originated from the title Florensky had wanted to give to the first chapter of a book on aesthetics he was planning at the time of writing *Imaginary Points in Geometry*. This chapter, entitled "Na Makovtse" and consisting of a long excerpt from a letter to Rozanov written in 1913, was not fated to be published until 1985 [15].

In the first number of *Makovets*, a "Prologue" set out the credo of the society:

We are now seeing the end of analytical art and the task we have set ourselves is to collect all the scattered elements into one mighty synthesis. It is our belief that the regeneration of art is only possible if we hold fast to what we have received from the great masters of the past and on condition of an uncompromising revival in our art of the principle of the living and the eternal [16].

Besides Favorsky, Chekrygin and Chernyshev, 'Makovets' (as 'Art-Life' was to call itself after the foundation of the journal) included the artists M. A. Dobrov, L. F. Zhegin, K. K. Zefirov, M. S. Rodionov, S. M. Romanovich, V. F. Ryndin and A. V. Shevchenko. The group organised four exhibitions, one in 1922, two in 1924 and one in 1925.

Favorsky became friendly with Florensky during the civil war, when Favorsky, like many other intellectuals, took temporary refuge under the protection of the great monastery in Sergiev Posad (see Fig. 4) where Florensky, at the time of the artist's arrival, was working on a systematised description of the icons and other treasures of the Monastery for the new Soviet commission for the preservation of ancient monuments. The work sparked off lectures on the philosophy of cult and treatises on reversed perspective and the symbolic structure of the iconostasis. Parallel to this, Florensky was

teaching geometry and writing a book on the methodology of teaching, in between contributing to an encyclopaedia of mathematics.

The book *Imaginary Points in Geometry* was in part a by-product of all this activity. It adumbrated Florensky's application of non-Euclidean geometry to 'spaces and electric fields', which was to lead to several scientific publications, one of them a major standard work on dielectrics (1924), written during his work for GOELRO. In *Imaginary Points in Geometry*, the mathematical study is followed by a remarkable application of these mathematical principles to Dante's concept of time and space in the *Divine Comedy* and by the "Explanation of the Cover" (translated below). To judge by Favorsky's works then and later, priest and artist must have spent many hours discussing Dante and the 'magic' significance of numbers and symbols (see Figs 5 and 6) as well as how to suggest a third dimension on a flat surface and the implications for the 'fourth dimension'. In 1923, the Moscow publishers 'Pomor'e' published Pavel Flo-

rensky's *Chislo kak forma* (Number as form), with a cover design by Favorsky (see Fig. 7), to which readers may find a key in the "Explanation of the Cover" of *Imaginary Points in Geometry*. The following document is a memorial to these Olympian discussions among the ruins, as is the ex-libris (Fig. 8), which Favorsky engraved for his friend, "the priest Pavel Florensky", in 1922 [17].

## "EXPLANATION OF THE COVER" BY FATHER PAVEL FLORENSKY

The cover of this book is made from a wood engraving by Vladimir Andreevich Favorsky. Here, as is usual for the artist, the engraving is not merely ornamental but forms an organic part of the book as a whole. This particular work of Favorsky's is art impregnated with mathematical thought. It is perhaps the first experiment of its kind in the art of engraving, which has

Fig. 3. Vladimir Favorsky, the cover to the journal *Makovets*, wood engraving, 180 × 175 mm, 1923. The cover shows various life forms (the tree of life, the sun, a plant, a fish, a bird and a horse) combined by man in pictorial space and escaping from the frame into the unconfined space of the white page. The 'Makovets' group originally called themselves 'Art-Life'.



undergone such a revival in our time. While we are on the subject, this is a trend that may yet bring forth a rich harvest, given the general tendency of our emerging culture towards synthesis. Not only out of gratitude to the artist for his sensitive collaboration but also because such collaboration is of the very essence of the cultural problems of our time, the author of this book has thought it proper to add a few words in explanation of the cover of which we are speaking, in connection with certain pointers it contains suggesting the possible application to the visual arts of the theory I have elucidated in my book.

Let us call to mind certain features of the psychology of seeing. If one looks out into open space through a narrowish crack, from the side, especially if the wall with the crack in it is not over-brightly lit, then the flat surface of the wall is also within one's field of vision. But the eye cannot accommodate simultaneously to both the space perceptible beyond the wall and the flat surface about the opening. For this reason, if one concentrates one's attention on the brightly lit space in relation to the opening itself, the eye both sees it and does not see it. The eye saw the opening in the wall as it penetrated into the depth of the space

beyond but ceased to see that opening as soon as the penetration was truly effected, although the memory of what it saw before cannot be eliminated from the mind: the dim impression of the wall on the edge of feeling continues to excite awareness of what actually was seen before. Awareness necessarily becomes dual, split between the image of what has been directly perceived and the image of the indirectly perceived, through the intermediary of something that resembles sensation. In these conditions of receptivity, there are *two* elements present in our consciousness, or two *layers* of elements, similar in *content* but significantly dissimilar in their *position* in our consciousness, and thus incapable of coordination, mutually exclusive.

The view through a window pane leads still more convincingly to the same dual awareness: together with the actual view, the glass is present to our conscious mind, having been seen by us before the view but seen no longer, although our vision is aware of it, as indeed is our sense of touch, if, for instance, we touch it with our brow. From this follows the pictorial and architectural problems of the contemporary (i.e. glazed) window, as a kind of false opening in a false wall; in buildings with large glass roofs on

even glass walls, this problem begins to obtrude most disturbingly.

When we examine a transparent body of significant thickness—for instance, a fish-tank with water in it or a solid glass cube (an inkwell)—then our consciousness wavers most uneasily between our perception of the two edges of the transparent body, which are dissimilar in their position (in our consciousness) but similar in their content (and it is this last factor that is the source of our unease). In our consciousness, the body is not stable, being perceived now as 'something', i.e. a body, and now as 'nothing' (nothing visible), in so far as it is transparent. Nothing to sight, it is yet something to feeling; but this something is transfigured by visual memory into something *apparently* visible. The transparent object is something in the nature of an apparition.

The translucent greenery of vernal groves fills the heart with unease, not just because it appears in 'the early spring' but for purely optical reasons—because of its transparency. Lending space stereoscopic depths, the razor-edged (though not necessarily 'sticky') leaves of this greenery mark deep points in space and, being densely distributed, do this with considerable psychological force. From this the whole of space, which now appears to us as an object, takes on a visual character of glasslike solidity. Again, it is and is not; in truth, we have here a clear illustration of Plato's  $\tau\acute{o} \mu\eta \delta\upsilon\nu$  (non-being). And just one more example, particularly explicit. I happened once to be standing in the Church of the Nativity in Sergiev Posad, almost directly opposite the closed royal doors. Through the wooden tracery, I could see the altar clearly, and the gates in turn were visible to me through the copper grill dividing the nave from the sanctuary. Three layers of space; yet each could be clearly perceived thanks only to a special adjustment of sight. When this was made, the other two assumed a *special* position in the consciousness and, as a result, in comparison to the one I could see clearly, were evaluated as semi-existent.

Thus, in our visual concept of the world, it is essential that, together with images actually visible, we should distinguish images that are visible in the abstract, yet which are inalienably present in our awareness thanks to our peripheral vision, our touch and other perceptions—not purely visual but

Fig. 4. Vladimir Favorsky, *The Monastery of St. Sergius at Zagorsk*, wood engraving, 135 × 152 mm, 1919. This is a depiction of the monastery that gave shelter to Favorsky and others during the hungry years of the civil war. The engraving has been said to suggest an arc riding a rough sea. The monastery also houses the theological seminary where Florensky taught.



verging on the visual, leading towards it, hinting at it. In other words, in our visual awareness there are visual images and there are *apparently* visual images. It is not hard to recognise in this duality a visual projection of the dual nature of the geometrical flat surface; here, the actually visible images correspond to the real side of the surface, whereas the images that are visible in the abstract correspond to the imaginary. The two-sidedness of the geometrical surface is a symbol of the dual position of visible images in our consciousness but taken to the limit, i.e. to the point where the thickness of the separate layers of space is infinitely small and the difficulty of equating the actual and abstract images extremely great. If we see the near side of the surface, then we only *know* that there is in fact another side in the abstract. Yet to have abstract knowledge of a demonstrably visual image, the essence of which is precisely its demonstrable visibility, is to receive an impression of it in some *other*, not strictly visual, way, which is yet subject to a visual corrective through the abstract concept or through the image retained by memory. In this sense, the *reality* is the incarnation of the abstract into demonstrably visible material form from which the abstraction was originally deduced; and the imaginary point is an incarnation of this same abstraction, but in a demonstrably visible, alien material. If one prefers, reality is when the abstract and the concrete have the same meaning (when they are tautological), whereas the imaginary point is symbolic (allegorical). In this sense, it is proper to speak of *concepts of sensations as imaginary sensations*, or of *sensations of the imaginary*, that is, the limit of the imaginary. When one comes to think of it, the only content of a sensation is its actual sensual effectiveness; a sensation in the mind is not just *nothing* but another sensation (for every concept is connected to some kind of sensual substratum as its point of application) perceived as an alien concept. It would be appropriate in this context to recall Meynong's term *Pseudoexistenz*, although without hinting at the sense in which it is used by Meynong. These elements, which have been registered separately in the consciousness, and imaginary images correspond exactly to the imaginary geometrical surface-images. The effective presence of imaginary perceptions in any concrete experiment encourages the study of art to consider

Fig. 5. Vladimir Favorsky, frontispiece for Dante's *Vita nova*, wood engraving, 78 × 59 mm, 1933. The sacred number '9' is before Dante's mind's eye as he writes; thus, the artist is justified in giving it a material solidity greater than that of the writer himself.



Fig. 6. Vladimir Favorsky, illustration for Dante's *Vita nova*, wood engraving, 78 × 59 mm, 1933. The black ellipse with the jagged white centre serves the same purpose as the white space in the black square in Fig. 1. The ellipse suggests, in strictly spatial terms, the imminence of another dimension behind the apocalyptic vision of dropping birds and falling stars.



*the imaginary*: it is therefore only proper that the theory of visual art should have its say on the exposition of imaginary points in geometry offered above.

Now let us turn to Favorsky's attempt to make use of the two kinds of visual images in such a way as to give artistic expression to the theory of imaginary points.

The first problem with which the engraver was confronted was how to establish and maintain the wholeness of the fundamental flat surface, because without an inviolate flat surface it would be impossible not only to make images on either side of it but even to differentiate between the one side and the other. This first problem is solved by the lettering, which maintains the fundamental flatness of the

image on the surface of the page, and equally by designating the points of the coordinating axes by the letters X, O, Y and by passing the vertical through X. The letters X, O, Y are sufficiently massive in themselves and contribute to the desired effect. The stability of the main vertical is reinforced also by the placement of the author's surname [Флоренский (Florensky)], which is written horizontally directly above the vertical, slightly higher than his Christian name [Павел (Pavel)].

The page as such is not, of course, white, but colourless: it is an abstract potential for the making of images. It would be a mistake to see this page as a sheet of paper, something that in itself is neither a flat surface nor anything else definable in geometrical

# ПАВЕЛ ФЛОРЕНСКИЙ

## ЧИСЛО КАК ФОРМА

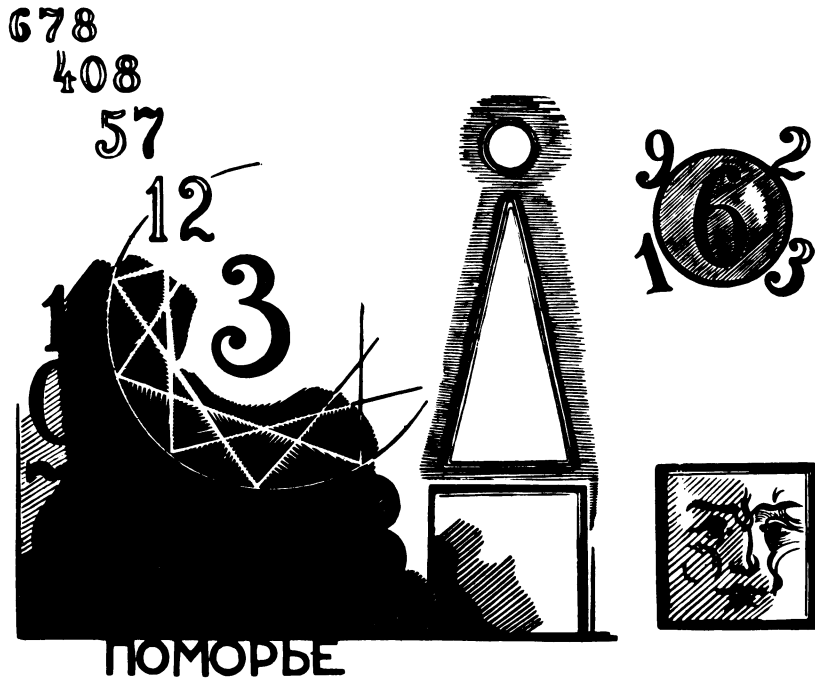


Fig. 7. Vladimir Favorsky, the cover to Pavel Florensky's *Chislo kak forma*, wood engraving, 143 × 120 mm, 1923. This engraving is the product of discussions on the form of numbers. Numbers are here seen in the process of forming the chaos of matter (the black area) into abstract geometrical ideas (the white lines and shapes). The placement of the digits 1, 9, 2, 3 around a circle containing the number 6 suggests the cyclic nature of seasonal time, as well as informing us of the year of the publication.

terms; rather, we should think of the page as an infinitely thin space for images, something in the nature of a transparent film stretched over the sheet of paper. This film is not yet, in its own right, either *side* of the figurative surface but the whole surface with both sides and all its thickness, however infinitesimally small this may actually be. This surface is brought into being by the artist.

The next thing the artist has to do is to show, to demonstrate clearly *both* sides of this film-space in all their qualitative tonalities. The front side of the surface, as the one that is immediately visible, is endowed with the warmth of sensual perception and stands out, though under no circumstance does it obtrude beyond the basic flatness of the lettering. The large rectangle shaded with black lines, thanks to the blackness and horizontal nature of the

lines, which appear as warm, gives the image of the front side of the surface. On the rectangle, standing out from it, as a purely real image, is a semi-ellipse in a small, totally black rectangle—the warmest and most prominent part of the filmlike space. The thin white border, which shows the thickness of this rectangle, also serves to make it stand out further, bringing it closer to the viewer. All these are, properly speaking, visual images. They are contrasted to the side of the design to the right of the vertical, engraved almost exclusively with white lines. This is the imaginary side of the surface, the reverse of the filmlike space, and not just *any* part of it, but precisely that part that is underneath the shaded rectangle on the left-hand side. The main line of the imaginary side is the arc of the hyperbola in the act of straightening itself out—the imagi-

nary adjunct of the real ellipse, an adjunct that it is necessary to envisage as touching the ellipse at its highest point.

To give colour to this line, the engraver has enmeshed it in a series of horizontal white strokes. And on the abstract colourlessness of the filmlike space there has appeared a cold *white* line: such a colour, the opposite of the warm blackness of the front side, is its reverse; the white colour of this reverse is felicitously conveyed at the top right, where a white grid has been placed.

The question arises, why should the reverse be white? Clearly, if it is to represent something in the nature of a residual trace of the sensually perceived black, then as a complementary image or a residual trace it is essential that it should be white and no other colour. Furthermore, visibility, as a substratum of real images, is expressed by the presence of the warm black; as a result of this, the absence of visibility (that is, some *other* perception, when expressed in visible form) is necessarily imagined as negative—visible in form yet invisible in content. The white line is called upon to express this: it is like a line, i.e. black, but emptied of its blackness, hollow inside, a line and not a line at the same time. In this way, the right-hand side is presented as though it were not drawn but pressed out in relief, presented not so much to sight, as such, as to our sense of touch. The impression of this side's being *the reverse* of the other is reinforced by the letter O in the lower right-hand corner, traced in mirror writing and, again, in white: this is not a new letter, but the same black O that is to be seen in the lower left-hand corner, only perceived *through* the surface. The relation of the right-hand to the left-hand O may be explained as follows: let us imagine that O should be written in pencil on paper and then pressed out in relief on the other side of the sheet of paper. This letter, as a result, would be both visible and sensible to touch. Then let the sheet of paper be fixed immovably. If, after this, someone was asked to make a drawing of this sheet of paper, looking at it from the front and feeling the reverse side with his hand, then one would obtain a drawing like Favorsky's cover, and the parts would be placed in the same way, for having followed the width of the sheet—with *the eye*—from O to X the person making the drawing would then use the powers of observation of

his hand from precisely that point where the eye had refused to go on serving him, that is, he would have moved his hand from the point **X** to **O**. As a result, the points of the surface that gradually get farther from the vertical, which passes through **X**, would be represented on the reverse also as getting farther from the vertical, but already not to the left but to the right; one would be aware of the movement of the hand across the page as a continuation of the movement of the eye. That is why the point **O** perceptible to feeling would be at the farthest point in the picture from the point **O** perceptible to sight: their relationship to one another would be approximately that of the mirror image—approximately, because the measure of the space that is perceptible to touch is not identical with that which is perceptible to feeling.

The same is true of the whole figure, which gives, on the right-hand side, a transposition in terms of a visual mirror image of the reverse side of the surface, though perceived by touch. In other words, one has to imagine the filmlike surface of the image as though it were split into two sides and one side were peeled back from the surface at an angle of 180° close to the vertical axis, which passes through **X**, in the way one opens the page of a book.

It is at this point that the engraver comes face-to-face with the greatest obstacle: how to demonstrate that both halves of the drawing, the right and the left, are not merely juxtaposed to one another, albeit different in quality—one purely visual, the other involving sight and touch—but also that they are, precisely, two sides of one and the same surface. The engraver had to demonstrate that the right-hand side of the drawing represents a splitting of the surface only in cognitive, but *not* in material, terms. This is achieved first by the fact that, even when looked at separately, each side is possessed of an indication of the other in the form of a small breach through to the other side, and the connection between the two sides is re-asserted by these two breaches. The breach in the obverse side of the surface is made in the most salient part, where it is most persuasively effective. This is done demonstratively, by a kind of prescient shift of the perceiving centre of consciousness to the other side of the surface. Then, in this space, we are aware of the negative-white colour of the reverse side, and on it, in

high relief, the mirror impression of the *i*, the symbol for the imaginary point, made like the mirror-image **O**; were we looking from there, the *i* would be seen to be written the right way round, but from here it looks like mirror-writing: it is the visual image from here of the *i* that is written *there*, or the raised trace of the *i* that is written *here* felt from *there*. Represented by a white line, this *i* is clearly of a different sort than the letters **X**, **O**, **Y** on the front side of the surface and, moreover, it is whiter than the white reverse of the surface, i.e. more abstract. This breach in the obverse is a view, or a relief conveyed by visual means, of the reverse, of *that same reverse* that is represented on the right-hand half of the figure. But this breach is not coordinated with the obverse of the surface and is simultaneously closer than the black rectangle and farther away: it is impossible to coordinate things essentially the same but occupying opposite positions in our consciousness.

Both sides of the surface are connected in the right-hand side of the figure also—by a breach back out of the imaginary into the real. The character of the breach here, however, is not demonstrative but abstract, not a clear prescience but a vague memory of abandoned, visual space, which re-emerges every now and again as we first enter the space, which we can only know by touch. The narrow black ellipse over the field shaded by diagonal black lines is presented precisely as such a memory. Such, too, is the sliver from the real side, albeit on the verge of the imaginary; although it is in fact in imaginary space, it is not coordinated with it. This, taken together with the white ellipse across the white-shaded field, conveys the fluctuation of the geometrical figure as it actually plunges through the surface, when it is not yet defined and is simultaneously imaginary and real.

Let us now return to the breach in the left part of the figure. The sharp contrast of the edges, black and white, make the *i* the visual centre of the whole page, taking the eye irresistibly, as a result of which the entire left-hand part of the figure is contemplated with *direct* vision and for this reason stands on the page and on the surface of the page with maximum stability. Then, however, the right side of the image, particularly along the edge, is necessarily perceived very dimly, by peripheral vision, which is distracted by the

breach to the left. All the right-hand side, already invested with an abstract character by the way in which it is engraved, thus finally loses all solidity and stability. The misty area of the right-hand side of the picture takes off from the surface of the page, wavers, revolving around the basic vertical, advances on the spectator like a book being slammed shut but with the left-hand cover held firm. This impression of the instability of the right-hand side is strongly supported, in the first place, by the 'three levels' of the surface (the grid stands out above the rest and thus is nearer to the viewer than the horizontal shading, and still more prominent is the second grid in the square); in the second place, it is strongly supported by the way the parallel lines of both grids and of the horizontal shading bottom left appear to be closing in on one another to create an illusion of perspective; this again suggests that the whole right-hand part is sloping away, as though the sheet of paper on which the cover is drawn had begun to uncurl from the vertical and had begun to open of itself; in the third place, this compositional and functional intent is further promoted by a certain broadening out over the entire right-side of the engraving, as though the right-hand edge were getting nearer and nearer to the eye.

Finally, a few words remain to be said about the lettering. We began by noting that it is the letters that establish the flatness of the surface. But this flatness could not be established by



Fig. 8. Vladimir Favorsky, ex-libris for Pavel Florensky, wood engraving, 59 × 48 mm, 1922. The heraldic motif present in this wood engraving suggests Florensky's commitment to science (the diagram on the shield) and his service as a priest (designated by the lettering) to a church at once militant and martyred.

them were they only *on* the front side: in this case the space of the page, cut off from the front, that is, limited from before, would have sunk without constraint deep into the page, and there could have been no talk of the reverse of the surface. It follows that the lettering had to mark not only the front limit of the surface—its facade—but also the lower limit of its thickness, as if pressing it between two panes of glass. The whole thickness of the surface had to be defined by the lettering. Favorsky achieves this by placing letters or parts of letters on *different* sides of the surface. For example, the letters **М**, **Н** are clearly situated on the front side of the surface, which is shown also by the horizontal shading, which associates the space of these letters with the left-hand rectangle of the composition. **М**, **Т**, **И** in the word **ГЕОМЕТРИИ** (geometry) belong to the reverse side as they are traced in white, whereas the **И**, **Т**, **И** in the word **МНИМОСТИ** (imaginary points) fluctuate, remaining partly on the outside, partly falling through into the inside—as though they were stitching, being used as laces to hold the thickness of the surface together. The last letter of the word **МНИМОСТИ** performs this function in a particularly expressive manner.

But the cover would not have wholly achieved its purpose if the lettering served only the aims of the graphics and the graphics themselves had been alien to their meaning. Evidently, the graphic features of inscriptions should serve not only to maintain the surface but also to convey the sound space of vocal intonation and to express the orchestration of words. One example of how Favorsky solves this problem is the way he has placed the author's surname a little higher than the Christian name, which conveys the natural emphasis of the intonation; further, in the word **МНИМОСТИ**, it is the first syllable that is emphasised (where the stress lies), whereas the purely explanatory and quietly pronounced

**В ГЕОМЕТРИИ** falls into the sphere of imaginary points, that is, into the dimly seen part of the surface, and so forth.

Such, basically, is the explanation of Favorsky's geometrical composition.

—29 July 1922

(11 August—Julian calendar)

### References and Notes

1. P. A. Florensky, *Mnimosti v geometrii* (Imaginary points in geometry) (Moscow: Pomor'e, 1922). The book was originally published in an edition of 1000.
2. For an article by Favorsky and further information, see Vladimir Favorsky, "On Artistic Integrity", *Leonardo* 9, No. 2 (1976) p. 142; and Kirill Sokolov, "Discussions by Four Soviet Monumentalists of Their Mosaics, Wall Paintings and Bas-Reliefs", *Leonardo* 15, No. 1 (1982) pp. 59–64.
3. A. Hildebrandt, *Problemy formy v izobrazitel'nom iskusstve* (Problems of form in figurative art), translated from the German by V. A. Favorsky and N. B. Rozenfeld (Moscow: Musaget, 1914).
4. Vysshie khudozhestvenno-tekhnicheskie masterskie (Higher Artistic and Technical Workshops), later known as VKhUTEIN (Higher Artistic and Technical Institute). Favorsky worked there as a teacher from 1921–1929, serving as rector from 1923–1925.
5. Vladimir Favorsky, "Ob izobrazitel'noy ploskosti kak osnove izobrazheniya", *Ob iskusstve, o knige, o gravюре* (Moscow: Kniga, 1985) p. 85. An extract from part of a longer work "O grafike kak ob osnove knizhnogo iskusstva 1954–1960" in *I Dekorativnoe iskusstvo SSSR*, D, No. 8 (Moscow, 1963).
6. P. A. Florensky, letter of 21 March 1937 to K. P. Florensky. Published in full by Michael Hagemester in the introduction to his reprint edition of *Mnimosti v geometrii*. See P. A. Florensky, *Mnimosti v geometrii*, Michael Hagemester, ed. (Munich: Verlag Otto Sagner, 1985) p. 25.
7. Florensky [6].
8. Originally P. A. Florensky, "Simvolicheskoe opisaniye", *Feniks*, Vol. 1 (Moscow, 1922) pp. 90, 92, 94, quoted with omissions after Hagemester [6] p. 13.
9. P. A. Florensky, letter of 11–13 April 1937 to K. P. Florensky, in Hagemester [6] p. 25.
10. P. A. Florensky, *Stolp i utverzhenie istiny. Opyt pravoslavnoy feoditsei v dvenadtsati pis'makh* (Moscow: Put', 1914); reprinted in 1970 by Gregg International Publishers Ltd. (Farnborough, Hants., England), translated into Italian by P. Modesto with an introduction by E. Zolla, *La colonna e il fondamento della verita* (Milan, 1974) and by S. Andronikov (K. Ya. Andronikov) *La colonne et le fondement de la verité* (Lausanne, 1975). Extracts from the book have appeared in various publications in German and English, most recently the letter "On the Holy Spirit" in A. Schmeman, *An Anthology of Modern Russian Religious Thought* (Oxford, 1977) pp. 137–172.

11. Andrey Bely, *Nachalo veka* (Moscow-Leningrad: OGIZGKhL, 1933) p. 274.

12. The overall title of these lectures was "An Analysis of Space in Works of Art". An article, abstracted from the lecture, on reversed perspectives in icon painting was eventually published in *Uchenye zapiski Tartusksogo gos. Universiteta. Trudy po znakovym sistemam*, No. 3 (Tartu, 1987), but the book that Florensky prepared, *Analiz prostanstvennosti v khudozhestvenno-izobrazitel'nykh proizvedeniyakh*, though ready for publication on 5 February 1924 (see Hagemester [6] p. 412, n. 83) has been published only in extracts. The fullest collection of Florensky's published writings to date in Russian is in the first volume of Father Pavel Florensky's collected works, *Sobranie sochineniy. I. Stat'i po iskusstvu*, N. A. Struve, ed. (Paris: YMCA Press, 1985) with an introduction and chronology of Florensky's life and works by Father Sergey Bulgakov. Some of Florensky's ideas on space have been taken up and developed further by B. V. Rauschenbach (see *Leonardo* 16, No. 1 (1983) p. 28; 15, No. 1 (1982) p. 28; 16, No. 1 (1983) p. 69; 15, No. 4 (1982) p. 335; and 16, No. 4 (1983) p. 334).

13. E. A. Nekrasova, "The Life, Writings and Art of Vasilii Chekrygin", in *Leonardo* 17, No. 2, 119–123 (1984).

14. P. A. Florensky, "V dostopokhval'nyy 'Makovets'", a fragment of 28 April 1985, in *Sobranie sochineniy* [12] pp. 380–382.

15. P. A. Florensky, "Na Makovtse", *Sobranie sochineniy* [12], Vol. 7, pp. 33–39.

16. "Nash Prolog", *Makovets*, No. 1 (1922) p. 3.

17. Sovetsky Fond Kul'tury (Soviet Culture Foundation) has mentioned the name of Pavel Florensky for the first time in their programme of "The Revival of Forgotten Names". The best account of the reappearance of his name in Soviet letters is contained in the catalogue of an exhibition arranged by the Fond Vozvrashchenie Zabytykh Imen, *Pavel Florensky, Katalog vystavki vneshnorgizdat*, Izd. No. K460 (Moscow, 1989). The exhibition was arranged by O. I. Genisaretskiy and S. I. Serov; the catalogue compiled by A. S. Trubacheva, M. S. Trubacheva, S. Z. Trubachev and P. V. Florensky; introduction by D. S. Likhachev. There is a declared intention to publish his complete works.

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