Vermeer’s Pregnant Women.
On Human Generation and Pictorial Representation

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When studying Vermeer, we soon encounter a well-established legend about his work: Vermeer’s paintings are perfected art. He captures scenes, moments. He paints with striking realism. His works are self-contained systems, hermetically sealed, perfect replicas of bourgeois identity, all the more so since his art is underlain with an intense autoreflexive commentary. But is there any truth to this legend? How did it evolve? Friedländer once coined the label that will be a major problem for us. In his words, Vermeer ‘is a great painter not despite but because of the fact that he is not a genre painter. He sees all things living as a still-life painter. [...] For him, a person is but a model who stands still in order to be painted.’

In the interpretation of Vermeer, this idea turns up in many places. An example would be Paul Claudel’s famous description of Vermeer’s pictures: ‘At the touch of Vermeer’s brush, the canvas transforms, so to speak, into a spectral, silver-backed mirror; into a magical retina,’ writes Claudel, who goes on to explain that ‘through this dematerialization and this freezing of time, which are caused by such a mirror and its underlay of silvery shimmering glass, we are elevated from the realm of reality into the paradise of essentiality. [...] Such an effect can only be compared with the precious wonders of the camera obscura. [...]’

According to legend, Vermeer’s pictures were magically conjured onto the canvas, as though Nature itself had painted them. Claudel maintains that it is the artist’s principle task to conceal the work involved in the painting, to act as a medium but not as an interpreter, to receive and transmit impressions of the real world until a strikingly authentic depiction of reality has been achieved. In the end, the viewer is to believe that the painting evolved without any input by the painter. Claudel concludes that Vermeer achieved such retina images, that his paintings possess a ‘certain mathematical or angelic or, shall we say, photographic honesty. [...]’ In arguing this, Claudel attributes to Vermeer nothing less than the ultimate transparency of all signs that are gathering on the canvas. Paradoxically, it is also Claudel who simultaneously applies thoroughly empirical standards to Vermeer’s artwork. For him, Vermeer’s paintings are dedicated depictions of the discernible world. The painter has captured each object without sentimentality or subjective overtones, more like a scientist who acknowledges the existing world by examining it as closely as possible. What this reduces to is that Vermeer’s art is not art at all, but a reflection of reality in which all artistic impulse has been avoided.
The next example also raises this issue: Lawrence Gowing once labelled Vermeer’s painting style ‘impressionistic’ and believed to have uncovered one more reason why his paintings enjoyed such unusual popularity since the 1870s.

He was of a naivety beyond belief, all eye and nothing else, a deaf-mute painter perhaps, almost an idiot in the lack of any of the mental furniture that normally clutters the passage between eye and hand, a walking retina drilled like a machine. [...] Vermeer’s representation is of [...] the kind which abhors preconception and design and relies entirely on the retina as its guide, the kind which in contrast of conceptual representation we know as impressionism.3

This is naturally another version of the same legend and its origin is easy to ascertain: the Baroque emphasis on reflecting undistorted images of the real world. There seems something paradoxical about this interpretation: the authorship of the master is supposed to be masterfully concealed (art naturalized through art), as if a curtain that had hidden things is being merely drawn aside in order to permit a view. The artist is supposed to be simply the person who pulled back the curtain. Paintings since the early Renaissance perceive themselves as manifestations of totality; they want to be seen in toto – all at once, a moment in time. They strive to conceal their genesis.

Nevertheless, this is no reason for us to believe that Vermeer’s descriptive style is actually naïve or natural; indeed, it would be thoroughly misleading to attribute such a naivety to him and, as a result, to assume that his work was presenting us with retina images that had been painted onto the canvas by ‘Nature’s brush’. This seemingly simple notion is asserted incessantly in Baroque Art. In Impressionism, where the artist’s brush is held to be the unadulterated ‘extension of the eye’, this legend continues to flourish. Let us therefore recapitulate Gowing’s statement once more: normally the passage between the artist’s eye and the canvas is cluttered or even blocked with ‘mental furniture’. The painter stores in his mind’s eye an inventory of possible combinations of form and colour with which to represent a fragment of the world. He shifts and alters these furnishings until a comprehensible entity – a syntax in the figurative sense – emerges. It is not hard to imagine the creative process as being an intricate maze to be wandered through with each representation; a maze that changes its basic layout for every artist and every picture. Yet in Vermeer’s case, Gowing changes his mind: here he continues to perpetuate the legend of the retina images. Vermeer worked without a conceptual framework. There are almost no preliminary sketches under the shimmering, transparent layers of lemon yellow and Delft-blue paint. In Vermeer’s work there is no ‘mental furniture’ cluttering the passage between the eye and the canvas, so that the object observed appears without detour and delay on the canvas – direct, immediate, and as if on its own.

With this point having been made, we find ourselves zeroing in on our actual topic. In which historical context can this legend be placed? Where did it come from? How well is it reflected in the pictures? I surmise once more that the fundamental problem lies in the desire of the Renaissance and the Baroque to create the most realistic images of nature possible and, to this end, to turn the surface of the canvas into a mirror – a flawless mirror, one that was not allowed.
in the least bit to distort or interrupt the process of reproduction. The camera obscura was itself such a perfect mechanical device used for reproduction and thus was exemplary in fulfilling the mimetic goal of art. Even Claudel worked with such concepts when he compared Vermeer’s painting with ‘the precious wonders of the camera obscura’.

Soon we will see that these comparisons were often used during the seventeenth century and adopted by Claudel without much critical consideration. In Vermeer’s time, every means available was being used to discover the laws of nature and to record and reproduce natural phenomena. In 1604 Kepler’s pioneering work on optics appeared, making it possible to reconstruct in detail the act of perceiving. The human eye was said to be a camera obscura, on the surface of which the world became a stigmatic reflection. These were important discoveries with regard to the possibilities of reproducing the physical world. Another chapter in the story of cultural evolution was being written in which humankind was increasingly perceived as the engineer of its own environment. Furthermore, the number of research projects on biological reproduction, including on the conception and development of the human embryo, was increasing. And as fate would have it, a two-thousand-year-old belief in human evolution was challenged and disproved for all time only a few streets away from Vermeer’s home in Delft.

The canvas as a speculum sine macula

Visualize for a moment Vermeer’s Woman in Blue Reading a Letter (plate 4, page 295). In light of the woman’s pregnancy, he is in an undetermined way connected to the topic of human creativity; only that we will naturally examine this assumption more closely and must place the points mentioned above into the proper context. Perhaps we should first try to understand how pregnancy or the birth of a child was explained in the seventeenth century, in order to understand the degree to which two different myths on creation could be related to one another.

Medical illustrations from this period enable us to peer inside the body of a pregnant woman, which is depicted as a bud of a blossom that is opening up petal for petal (plate 5). In the seventeenth century, much was written and many studies conducted on the development of the foetus from conception to birth and the postpartum care of a child. Two discoveries relating to the fields of microbiology and female autonomy were to contribute the most to uprooting long-established views on human conception and evolution. That both of these discoveries would take place in Vermeer’s immediate neighbourhood in Delft, one shortly before and the other shortly after his death, may be nothing more than another of the coincidences often recorded in the annals of human discovery.

Antoni van Leeuwenhoek (1632–1723)

Leeuwenhoek’s name emerged early in research on Vermeer. Following the unexpected death of the painter in 1675, Leeuwenhoek was authorized to handle
the financial affairs of Vermeer’s widow Catharina, who had declared bankruptcy and was facing the prospect of having to sell her property.² For a while it was believed that the two families had long been friends and that the two men had perhaps even known each other in childhood, since they were both born in 1632 and did not live particularly far apart from one another at the time. However, the existing documents do not give us sufficient evidence to support this assertion – Leeuwenhoek’s appointment as curator was an official act – and even less reason to support the claim that Leeuwenhoek’s portrait is to be found in Vermeer’s paintings The Astronomer and The Geographer. Although we can be absolutely sure that the two men knew each other, at this point we can only speculate about the closeness of their relationship. Shortly after Leeuwenhoek’s mother married for a second time (she became the wife of the elderly cityscape painter Jacob Jansz. Molijn.), Antoni left Delft in order to attend school in a small town far away. When he was about sixteen, he became an apprentice to a wool merchant in Amsterdam. Not until 1654 did he return to his home town, where he married, purchased a house in the centrally located Hippolythusbuurt, and opened up a textile shop in the ground floor. Of his five children, the only one to live to adulthood was his daughter Maria, who never married and later ran her father’s household. Knowing all this, we would have been able easily to predict the continued course of Leeuwenhoek’s life had he not decided suddenly to give up his

5 Jane Sharp, Compleat Midwife’s Companion, 1671.
business in 1660 and become a city official, whose substantial income (of 314 guilders annually, with a tendency to increase) still puzzles his biographers today. At some point in the years that followed, Leeuwenhoek must have become fascinated with the microscopy that would later make him famous (plates 6 and 7). He accumulated public offices and posts to the degree to which his reputation as a competent microscopist became known beyond the city walls of Delft. Soon he was playing host in his home not only to crowned heads, statesmen and travelling aristocrats, but also physicians, interested laymen and natural scientists, such as the insect anatomist Jan Swammerdam, the all-round savant Constantijn Huygens, or his famous son Christiaan, with whom Leeuwenhoek was the closest friends. It was the latter who sent a recommendation of Leeuwenhoek to the
8 Antoni van Leeuwenhoek, *Sperms*, from a letter to the Royal Academy, 1678.

Royal Society in London in 1672, praising the observations Leeuwenhoek had made with the help of his self-built microscope. However, it needs also to be pointed out that Leeuwenhoek was a pure autodidact in this field, was completely inexperienced in languages, and, according to the letters that still exist about him, evoked both amazement and amusement in the scholarly world. However, by the end of the century, he was reputed to be the leading figure in the field of microscopy with regard to the sharpness, magnification and especially the light, clear images of his lenses. He knew how to produce such lenses better than everyone else, and he neither wished to sell, lend, nor give them away.8

What is especially interesting for us at this point is a discovery that Leeuwenhoek noted in 1677: for the first time, a male spermatozoon had been seen and its form described. The young medical student Johan Ham from Leiden had given him a patient’s semen specimen,9 in which Ham himself believed he had seen small living organisms under his own microscope. Ham thought they were the result of the medications used in treating the patient. Leeuwenhoek, however, refused to believe this, for it would have meant that the organisms had appeared practically out of thin air, and this was an idea that Leeuwenhoek thoroughly rejected. More likely, he ventured, the lütgen dierkens (little creatures), as he called them from that point on, were a component of male semen. Several years previously, he had collected samples at the request of the Royal Society. At the time, he had thought the organisms to be tiny balls and made them part of his globular theory. In 1677–78, two of Leeuwenhoek’s letters were sent to London, in which he wrote about the conception, procreation and development of the human embryo. Excerpts from these letters appeared in the journal of the Royal Society, Philosophical Transactions. Leeuwenhoek included a drawing of the spermatozoa with the second letter, in which he strove to confirm his findings by again emphasizing that he had studied his own sperm, which he examined several times immediately after conjugal coitus (‘before six beats of the pulse had intervened’)10 (plate 8, page 299). These are the first known drawings of male sperm cells, although Leeuwenhoek was not completely convinced until 1683 that each of these cells held the seed for human life. Once convinced, however, he went on to maintain that they contained the entire form of the foetus from the very beginning, whereas the female uterus was but a type of incubator which protected and nourished the foetus as it grew to its full size.11

Reinier de Graaf (1641–1673)

Leeuwenhoek’s ideas on preformation actually constituted an attack on the group of new procreation theorists who were associated with the Delft physician Reinier de Graaf12 (plate 10) and were known by the name of the Ovulists. Leeuwenhoek and De Graaf already knew each other from the anatomic lectures held every Wednesday in the Delft Anatomy Theatre that both men regularly attended13 and after which discussions are reported to have been continued in Leeuwenhoek’s home.14

In 1672 De Graaf had published his pioneering study De muliebrum organis, in which carefully produced engravings depicted the female autonomy of the reproduction organs – a sensational, in many respects provocative depiction that
could only be warranted by the dissecting eye of the physician (plates 11 and 12). The merit of De Graaf’s work lay above all in his description of the female ovum, its creation, and its role in the process of human conception, even though he did not anticipate the genesis of human life to begin with the fusion of egg and sperm cells but assumed instead that male sperm secreted a sort of living essence that encased the egg and infused it with life. Nevertheless, the role of the ovum in the development of the embryo was for De Graaf the logical consequence of his anatomic discovery of the follicles on the Eijernest (ovary). The impact of his findings jolted the medical field and beyond for naturally the unexpected and, from a male viewpoint, totally shocking conclusion was that women also played a role in the creation of a child. No one had considered such an idea when theorizing on procreation and heredity since Hippocrates more than two thousand years before.

Hippocrates (460–377 BC), the father of Western Medicine, held that in the entire body of male and female a seminal fluid is formed, which flows through the spinal marrow and the kidneys to the sexual organs. During copulation the two fluids become mixed and a new creature originates. In each of the seminal fluids there is a weaker and a stronger part. The sex of the new being depends on the relation between the weaker and the stronger
parts. However, in the seventeenth century the views of Aristotle (384–322 BC) predominated. Aristotle was greatly interested in the problem of generation and he wrote a work on it, consisting of five books (De generatione animalium). [...] In Aristotle’s view the female furnishes the material for the embryo; essentially it is a merely passive matter, and it is the medium in which the embryo grows. The male passes on the principle of life to that matter; it is the form or the soul (‘psyche’), the generative agent. The female provides the food for the embryo.

Therefore, gynecologic writings and engravings well into the seventeenth century had done little more than embrace the metaphor of the Middle Ages that compared a woman to the soil in which the seed fell. Her body was responsible solely for nourishing the growing foetus and, when the time came, for bringing the child into the world. Like most people of his time, Leeuwenhoek was also of the opinion that the power of procreation was a capability that could be ascribed to men alone, that only characteristics of the father could be passed on to offspring, but never those of the mother. He based his reasoning on an argument often cited during the Baroque period, namely that every life form expresses itself through some sort of movement, be it ever so minimal. According to such criteria, the Ovulist theory could be discarded because, unlike male sperm cells, whose liveliness could be confirmed by a quick look in the microscope, the female egg cell acted sluggishly under magnification and did not show the slightest sign of movement.

Even following the discovery of the ovum and the hypothesis about its active participation in procreation, the female organism was still predominantly described in terms that emphasized the receptive, protective and nourishing functions of the woman as opposed to all the other activities or characteristics that could have been attributed to her even at the time. Her body served as a broedruimte (incubator) for the foetus; the uterus was a vas (vessel) or a cavitas (cavity), into which entered, as De Graaf describes very graphically, a lofwerck (tunnel) that is covered by a tunica (tunica). Naturally, the processes of opening and closing played an important role in this regard, because what was believed to be basically involved here was the occupation and inhabitation of an interior by an newly evolving life. Even the egg cell was said to receive its perfect, round form

1 Reinier de Graaf, Female genitals, from De muliebrum organis, Lugd. Batavorum, 1672.
thanks to a membrane within which a life-giving substantia (substance) was stored, in preparation for the moment of conception.  

Of even greater importance for the emergence of the metaphoric terminology pertaining to the female anatomy was certainly the intensity with which readers in the seventeenth century imagined themselves propelled into a system of chambers and caves when they read anatomic descriptions of the female reproductive organs. For example, De Graaf embellished his work with a number of amazing illustrations that helped make it possible for readers, by using a little imagination, to forget their surroundings for a moment and to envision themselves vaulting over the surface, passing through an archway, exploring various passageways, and finally entering the interior of a dark camera rotunda. Undeniably, this involved a new way of perceiving the female body; it was almost as if the overwhelmingly male – readers were being outfitted with the roving and ever-focused eye of a cameraman in order to probe the secret of their origins. This probing eye – which, on the whole, we could consider to be an endoscopic eye – revealed how the most hidden, obscure places of the human interior were connected with one another through vessels and passages or could be closed off and separated from one another again through membranes, thin walls and ‘curtains’. However, the endoscopy of the times did not stop here but went on to inquire into the processes that caused life itself to occur and to pose the questions about the sequence of generation or the relations between the sexes.

At this point, it is impossible to overlook another aspect of the issue we have been examining. In order to shed some light on it, we will end our foray into questions pertaining to the position and role of women in the procreation process and turn our attention again to aesthetic issues concerning Vermeer’s painting of interiors and his pictorial world. Yet we find that foray has taken us full circle because an obvious interplay of ideas is revealed when the same spatially oriented terminology is used by internists to describe the female organism, by opticians to explain the anatomy of the eye, and by painters to depict the pictorial world of the interior.

Kepler, for example, had used very similar terms to describe the human eye several decades before De Graaf’s work on the female reproductive organs appeared. Kepler spoke of a globus oculi, in which the interior liquid was protected
by a *tunica membranea*; he explained further that, as in a closed room, everything existing or happening outside pours into the human eye as soon as entry into it, like a door into the room, is opened even the slightest bit.\(^{18}\) Not only does Kepler’s theory of a receptive retina treat the human eye as a completely passive perceptual organ, but from this point onwards the eye was attributed a deluge of female characteristics. His model of the eye evoked the metaphor of a reception hall that was draped in a membrane or material that could be pulled aside. De Graaf described the female reproductive organs in a nearly analogous manner. At the same time, scenes of unveiled interiors were appearing in art more frequently, scenes that had always held some sort of connotation to Mary’s conception, pregnancy, or Christ’s birth. What were the connections? *These fields all shared the idea that something located outside a place can make its way inside and then fully reproduce itself there or search and find a medium to use for its own representation: a medium to take it in and reproduce it in a thoroughly unaltered form.*

De Graaf was the first known to have unfettered masculine thought on heredity and generative sequence and to have considered the collaboration of man and woman. This happened only three years before Vermeer’s sudden death in 1675. Still, we must assume that Vermeer believed the more than two-thousand-year-old myth on creation, notwithstanding the fact that Vermeer was more famous than most painters of his time for having placed such great value on women in his art. Despite, or perhaps precisely because of, the special attention Vermeer devoted to painting women – a devotion producing remarkable pictures – we should also ask ourselves how and to what degree the choice of women as his subject might have actually served his art, for Vermeer’s paintings are indisputably self-reflexive in nature. He was a painter who contemplated what it meant to paint. It must be understood that to inquire repeatedly into the true nature of art means to be faced with the acute problem involving the difficulties of properly creating it. In other words, inherent in the generative processes of painting is a generational conflict, in which roughly the image must correspond to the model like a son does his father. Once this is understood, then it becomes clear why Vermeer remained devoted to the subject of women without ever giving it up or even putting it on the back burner for a while. His *View of Delft*, said to be the painting that best represents an illuminated retina image, is based on the ideal of mimesis. In real life, this desire for imitation or representation, together with the seed of its fulfilment, would have been transferred from a man to a woman; yet in art, the painter uses his brush and paints on canvas to create an image if not of himself and, strictly speaking, no longer of the real world, then one of his concepts or his views of this world.

**Vermeer’s Women**

*Drinking women*

At one point in his work *Dioptric*, Descartes seeks to describe precisely the visual process and particularly to illustrate the penetration of rays of light into the interior of the eye. In order to do so, he offers us the following comparison:
Imagine a wine barrel during the harvest that is completely full with half-trodden grapes. At the bottom there are one or two holes, A and B, through which the must can flow. Bear in mind what nearly all philosophers have determined, namely that there is nothing empty in all of Nature. Still, each and every substance in our world has many pores, as the experiment shows. These pores are filled with a fine, highly fluid matter that encompasses the entire universe without void from the heavens to us. This fine matter can be compared to the wine in the barrel, and the larger, less minute particles, such as the air and other transparent substances, are the grapes that lie among the finer particles. Understand that the wine particles, found for example in C, endeavour to flow the straightest route out of hole A or B as soon as they are opened. The particles of the wine, found in E and D, also endeavour simultaneously to flow out of these two holes, without any of these movements being hindered by the others or impeded by the grapes found in the barrel. [...] In this way all particles of this fine matter, which are connected to the side of the sun facing us, endeavour as directly as possible to reach our eye as soon as it opens, without hindering each other and without being impeded by the larger particles of the transparent substances that are found among them.19

Descartes uses this allegory in order to present his reader with what is naturally an updated version of the known model of optical reception: the moment a person opens his eyes, the entire universe begins to move. The fine particles from all objects gravitate to the eyes and produce in them the images of these objects.20 Light does indeed flow from every angle into human eyes, which Descartes so graphically compared with two holes in a wine barrel, and when examined more closely, it is as if one can actually hear the quiet, constant rushing, gurgling, bubbling sound caused by the streams of flowing light. In a certain sense, Descartes tells us, we are drinking in the light. At the least we are taking it in, soaking it up just as we would absorb a highly diluted or finely sprayed liquid. The language we now associate with light does its share to emphasize this connection. Are we not quickly intoxicated by pictures or completely inebriated by impressions? Are we not sometimes confronted with a flood of images? And the eye itself – is it not clear, moist and shining, brimming, even overflowing, with images of the external world? And Vermeer? His images, his spaces? Coagulated paint, fluid, drenched in light.

Conceiving Women

When a woman is pregnant, the man should take care
That nothing is found in his house
That is deformed, a gruesome or strange sight,
To aggravate our eyes and so distract our senses;
All that is crooked or evokes fear,
Or shakes us mightily to our bones,
Is not good for a young woman, especially when she sleeps.
And the sweet fruit of marital devotion reaps
During this time do not gape
At any kind of strange animal like cats or apes;
Carry not in your arms nor place near your mouth
An exotic monkey or flat-nosed dog:
It is not to be seen in women
Just how an odd incident can affect them
And enter a mother like a strange ghost.
When a woman is pregnant, it seems that all forces
Are engrossed with the womb’s fruit and beset the mother;
All that settles into the senses,
Burdens her state from this moment on.\(^\text{21}\)

Jacob Cats described pregnancy so and expressly warned against exposure to any sort of deformed animals or figures during this time. Not only can the habit of kissing or holding close to one’s mouth a beloved pet such as a small monkey or ‘flat-nosed dog’ have disastrous effects on the internal constitution of a mother-to-be; even the sight of such animals can shape the physical and mental development of the child, who is exposed to the influences of the external world, much like a soft lump of wax is to the imprint of a seal or an empty piece of paper is to the letters of a book printer. Strictly speaking, there is a constant threat during the entire course of the pregnancy that a child could assume the form and characteristics of things, even the exact physiognomy and psychograph of a single person or living thing who influenced the child’s environment for a certain period or continues to influence it. At the same time, this can be used positively in the sense of genetically manipulating the child by all things beautiful and grand in this world. This is why Cats concluded with two examples illustrating success in this vein.\(^\text{22}\) According to the Old Testament, Jacob worked a long time for his father-in-law and received as payment only the offspring from his herd born with coloured markings. So, Jacob lay striated tree branches before the trough where the animals were mating and thereby received so many such lambs that he became rich. Another tale, which Cats appends immediately to this one, relates the story about the birth of a child so beautiful that gossips found it hard to believe in the paternity of the husband. However, the bewilderment over the child’s parentage and beauty was lifted the moment that a picture of a child was found in the wife’s bedroom, a picture that resembled the child to a T. The wife had gazed at the picture so often during her pregnancy and had so internalized the image that it influenced the development of the child and created a pretty replica, ‘eengestigh kint, een aerdigh menschenbeelt’. Cats concludes this story by urgently warning against underestimating the power of external things and their images, because through visual infiltration they can have a major impact on the development of a child. Descartes also emphasized the powerful stimulation that the mother’s senses could have on the foetus and even explained birthmarks as being a type of imprint that remained when ‘images sometimes reach certain limbs of the child through the veins and arteries of a pregnant woman.’\(^\text{23}\) The pupil was a potential entrance hatch for external images and experiences, which could work their way through the eye into the human interior. In his \textit{Search after truth}, Nicolas
Malebranche devoted an entire, but brief chapter entitled ‘Of the Communication which is between the Brain of a Mother and that of her Child’ to examining this connection more closely. By citing long excerpts from this work, I aim again to demonstrate, with Malebranche’s help, just how great was thought to be the impact of visual images on shaping the entire inner being of a person. During the seventeenth century it was expressly believed that formative forces could affect us as soon as we merely opened our eyes and permitted the external world to enter. Seen in this light, an individual was truly a mirror catching the reflection of the world or the above-mentioned lump of wax long imprinted by impressions. Cats also spoke of the forceful drucken and prenten of images inside a person, as if the sight of objects around us would immediately turn each of our personal households on its head and result in a type of rearranging or remodelling of our interior décor. What makes such remarks on visual power especially interesting, in addition to the fact that they were often made by contemporaries using vocabulary associated with the art world, is that they touch on the issue of creation. Where the topic of determining form and character is so intensively discussed, as in the writing on pregnancy, visual images and imagination, there is an opportunity to gain insight into the concepts of artistic creativity.

Let us turn first to an anecdote related by Malebranche in a chapter of Search entitled ‘Of the Imagination’ in which he writes about people’s ability to internalize external images. Immediately following this, we will look at the artistic components or the thoughts on reproducing images that one might derive to some extent from the anecdote:

About seven or eight years ago I saw in the Hospital Aux Incurables a young man who was born a fool, and his body broken after the same manner as criminals are broken on the wheel. He had lived near twenty years in this condition, many persons have seen him, and the late Queen Mother going to visit this hospital had the curiosity to see him, and to touch the arms and legs of this young man in the same places where they were broken. According to the principles that I have established, the cause of this sad accident was, that his mother, who heard a criminal was to be broken, went to see him executed; all the blows that this miserable man received, so strongly smote the imagination of this mother, and by a kind of counter-blow the tender delicate brain of her child. The fibres of this woman’s brain were strangely shaken; and it may be broke in some places by the impetuous course of the animal spirits, caused by the sight of so terrible an action, but she was strong enough to hinder their absolute ruine; though on the contrary, the fibres of this child’s brain, being not able to resist the torrent of these spirits, were entirely dissipated, and the shock was great enough to make him wholly loose his wits; and this was the reason he came into world deprived of his understanding, this was likewise the cause that the same parts of his body was broken as those of the criminal, whom his mother saw executed.

The reasons of this accident may serve to explain in general [Malebranche added in his concluding remarks] how women, who during their being with child, upon seeing persons with certain marks in their
faces, imprint the same on their children, and in the same part of the body. And from thence we may judge that advice very reasonable, which bids 'em touch some hidden part of the body, when they perceive any thing which surprizes 'em, and when they are agitated with any violent passion, for that may cause the marks to be traced rather upon these hidden parts, than upon the face of their infants [...] 'Tis not above a year since, that a woman having with too much application consider'd the picture of Saint Pius (when the Feast of Canonization was celebrated,) was brought to bed of a child which was perfectly like the representation of this saint. He had the face of an old man, as much as it was possible in an infant that has no beard, his arms were crossed upon his breast, his eyes turned towards heaven, and he had a very low forehead, because the image of this saint being raised towards the vault of the church, and looking towards heaven, had almost no forehead likewise. He had a kind of confused miter upon his shoulders, with many round marks in the places where miters are covered with stones: and indeed the child very much resembled the pictures by which his mother had formed him through the power of her imagination. 'Tis a thing that all Paris might have seen as well as I, because 'twas a long time preserved in spirits of wine. This instance is the more particular, because there was not the sight of a man living, and agitated with some passion, wo moved the spirits and blood of the mother to produce so strange an effect, but only the sight of a picture; which yet was very sensible and accompanied with a great emotion of spirits, caused either through the zeal and application of the mother, or through the agitation that the noise of the feast had produc'd in her.

This mother therefore looking upon this picture with some application and emotion of spirits, the child, according to the first supposition, saw it as she did with the same application and emotion of spirits. The mother being lively affected imitated him at least in the posture, according to the second supposition, for her flesh hard enough to resist the course of the spirits, she could not imitate or make her self like to him in all things; but the fibres of the infant’s flesh being extremely soft, and consequently susceptible of all sorts of impressions, the violent course of the spirits, produced in his flesh whatsoever was necessary to make him entirely like the image that he saw, and the imitation to which children are much more disposed, perfected it as much as possible.25

Reading and writing women

Malebranche’s explanation of such an exact imitation of an external impression was that it was like a shift of energy from one receptacle to another. In fact, the entire topic of imitation and reproduction during the Baroque period was perceived in terms of such direct transfer, as if the contents of one bowl could simply be poured into another, or merely transported from one place to another (whereas arteries and veins connected these places). Malebranche had even explained very vividly how such an exact reflection from the external world could enter the womb:
the blows witnessed at a public execution affected the mother’s imagination and consequently ‘made a forcible descent from her brain towards all the members of her body.’ They were imprinted into the soft flesh of the child and thereby shaped it. It can be easily argued that this process is much like recording a message on a blank piece of paper by transcribing onto it various marks or characters from elsewhere, for a child does indeed resemble an untouched tabula rasa that waits to take on concrete form and features and to correspond to a certain concept; the child is (to use Malebranche’s words one last time) ‘readily disposed for a change of its figure’. Consequently, every visual impression results in a corresponding expression or imprint. Should the surface onto which the impression alights be only as minutely encumbered or overlaid with other sensory impressions as in the two above-mentioned cases, then the surface records the transmission without any appreciable change or loss. If the surface neither distorts nor adulterates what it receives, then it becomes the ideal surface for projecting reproductions of external impressions. This is why the Virgin Mary, as the most important bearer of divine tidings of salvation, was compared regularly, starting in the Middle Ages, to a speculum sine macula, while otherwise every unborn child in the womb was thought to possess an unformed, extremely malleable body. This was also the reason why the iconographic depiction of mother and child developed a very close relationship with the metaphors of the unwritten page, the blank canvas, the highly polished mirror (plate 13). What did these have in common? They all embodied the ideal medium of reproduction.

Martin Burckhardt explains the relationship more precisely:

Virgin and book – this iconographic match, which appears in many pictures of the quattrocento (and which still today evokes an iconographic echo) proves to be much more enigmatic the closer one looks than it does on the surface, meaning in the context strictly of the picture’s sacral interpretation. That this motif should appear on canvas during this period is interesting because the approach of letterpress meant that the book itself was about to be subjected to the logic of reproduction, that it was about to symbolize the prototype of a mechanically reproduced object. This historical connection is also a structural one. If one analyzes the terminology and the concepts influencing media reproduction, it is hard not to recognize that we are dealing here not only with a form of ‘artificial insemination’ but that the ideal in such a reproduction process consists in producing a ‘genuine replica’ through that medium – in other words, that the ideal lies in the virginity of this process. Consistently, the immaculateness of the reproduction becomes the goal, namely that the media produces a perfect, undefiled expression of that which was placed into it. The reading virgin: she is the white of the paper on which the letters are imprinted, and her virginity is what enables the God she bears to remain uncontaminated by lesser human nature. Exaggerated somewhat it can be said that the image of the reading virgin articulates nothing other than the phantasma of technical reproduction, the virgin machine, the perfect matrix.
Vermeer’s *Woman with a Balance* (c. 1664, National Gallery of Art, Washington DC) and even *Woman in Blue Reading a Letter* (plate 4) are in a certain sense the answer to all of the Annunciation pictures that were first produced by the emerging school of interior painting in the fifteenth century. In both the paintings, and undoubtedly in others by Vermeer as well, the scene depicts the receipt of a message from someone, even although it always remains a bit unclear who this someone is. When we look at an interior by Vermeer, it is certainly true to say that we are gliding into a type of reception hall, into a place, so to speak, that implies a heightened sense of receptivity. In both paintings, *Woman with a Balance* and *Woman in Blue Reading a Letter*, this receptivity is symbolized alone by the special condition of the women, who both find themselves in the hopeful, growing, expanding state of gravidity and are depicted in an iconographic variation of the well-known theme of *Maria gravida*. Yet, at the same time, there are several other moments in each picture, depictions of how a nexus or an object are being obtained: a message is written down; a letter is

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being received by a woman; the entire scene is placed indoors where it is painted on canvas for the viewer to see in its entirety. I list this progression of events in a somewhat unadorned fashion, although concealed in it is one of its charms. This progression of events certainly did not occur indiscriminately, but was structured from the start along the lines of a logic that aimed to create a genuine replica, in short, to fulfil the reproduction ideal of early Western art.

Throughout his entire life, Vermeer worked intensely with the theme of women reading or writing in an interior. However, as soon as we understand the complete context of his work, we become aware that he tried to include as many receptive qualities as possible in his paintings, that he adorned them with an abundance of elements that repeat the basic theme of holding or preserving in slightly altered form. Be it the pregnant woman or the room which she occupies, a lone mug standing on a table or a bowl of fruit, a letter being read or being written, a jewellery box or a mounted canvas, as in Artist in His Studio (c. 1666, Kunsthistorische Museum, Vienna): each of these motifs is there to emphasize the entire capacity of the painting. The ability to receive something and to preserve it is not reserved solely for these things, but also pertains in a greater sense to the canvas as a whole, which, for Vermeer, could become an expansive receptacle, even though it was made of no more than a piece of cloth or wood. Basically, the method of three-dimensional representation through linear perspective explicitly demonstrated that each empty canvas offered an artist the freedom to create and fill space as he or she desired. The painting of interiors, which dealt more than any other genre with the structure and characteristics of spatial receptacles, turned this freedom into its most distinguished feature. It contended the following: the walls of a room demarcated a space that we normally call an ‘interior’ but which could just as well be called a ‘vacancy’ or an ‘empty space’. So seen, the definition of an interior is nothing more than the inside of a cavity. It reflects only the attributes of a receptacle, namely something containing, enveloping, enclosing. Therefore, an interior can perform two functions: it can take in and lock up something from the outside or it can allow something from within to flow outward. This is based on the notion that everything that even comes close to serving as a vessel is capable of opening itself up to the outside or closing itself off. To do the first means to reveal its contents, the second to preserve them in a concealed fashion.

Gaston Bachelard once maintained that ‘each major memory is preserved in a small box’, to which we can add that essentially even the briefest of moments is also temporarily stored in such a box, should one wish to recall it later. Bachelard also said that ‘the chest, and above all the box, that one has at hand’ share the distinction of being objects that ‘can be opened’, objects that in the instant of their discovery reveal not only their existence but also their contents. This is exactly what happens to the perception the painter has of the outside world, to the interpretation of this perception in a picture, and to the final reception of this picture – yet another perception – through the eyes of the viewer. Yet, all three of these receptacles or boxes are not linked in a continuous chain of communication until the moment that they relinquish their autonomous existence in favour of their revelation, or, as Bachelard called it, in favour of the dis-covery of their contents. When an object is put into a box and closed up, a message is placed into an envelope and sealed, or a fleeting moment is captured and affixed to the surface...
of the canvas, the purpose of the entire process is first to preserve and then to remember. Yet there can be no doubt that this process only makes sense if the contents are at some time withdrawn from their receptacle and beheld, just as it is necessary to break the seal on a letter in order to get the message. The act of sealing up a note must lead to its eventual disclosure and conveyance if the message is to be thought of, to be remembered at all. The conveyance of the message then is not to be understood only in the sense of delivering it, but of reproducing it without even the slightest change in any of its components. Like a note sealed in an envelope, so should any other message reach its destination as protected and as unaltered as possible. For no other purpose than this was it necessary to have a receptacle in the first place.

In art, this translated into the desire to develop ways to create the most genuine reproduction possible. It was thought that this was the only way to keep the message intact over time and space. Certainly the most suitable means to accomplish this was through mimesis or pictorial realism. This form of representation made the picture strikingly life-like, giving it the appearance of reality. Like a second skin, it wrapped itself around the visible world, the world in full view all one’s life, the world in which one moved and associated with others. Granted, the purpose was to close the circle, to connect the beginning and the end of a chain of messages and reinforce our belief that nothing could escape from inside it if this place of safekeeping could be made sufficiently round and leakproof. A painting conforming to the laws of mimesis always serves as such a bowl or sphere or protective box. There is an archetype after which such paintings were modelled and which was repeated with variations throughout the entire history of art since the early Renaissance. Such paintings each:

- receive and transmit
- like a ball or a box
- like a cavity
- equipped with an opening
- with a curtain, a lock
  (the ideal medium of reproduction since the early Renaissance)

The picture shown here (plate 14) illustrates all the important features typical of this archetype: the interior with the covered window opening, in front of which hangs a curtain that can be pulled aside; an intruder armed with a sword, who seeks to catch a glimpse of the room in the sense of the maxim *Interiora vide*. The reason why we find these features so often in painting, particularly in the painting of interiors and in Vermeer’s work, should no longer be difficult to understand. Once we have become aware that the representation of a closed and re-openable receptacle is linked from beginning to end with the idea of reproducing its content, we can never again forget the true profundity of this motif. We then see that at the moment a painter focuses on an interior and contemplates its functions, he or she imbeds the painting with self-reflection. When we understand this concept, then the process of production appears to proceed very naturally and simply. First comes the painter, who places something in an interior; then comes the viewer, who will extract what the artist inserted. In short, the idea of representation as we
know it since the early Renaissance is based on an input of form, on the one hand, and an output or reproduction of the same form, on the other.

Pregnant women in Vermeer’s work – this subject illustrates an interpretation of artistic creativity found in history. To adhere to this interpretation would mean to believe that the process of artistic production was nearly devoid of creative interaction. At least in the ideal case, picture-making was thought here to be tantamount to an outright act of begetting. But we know better from our studies.
of Vermeer, a slow painter who often changed or painted over his compositions and produced relatively few pictures. At any rate, we would have had to expect ardent protest on the part of the artists had their engagement been defined as a mere recording, reflection and imitation of reality, as if they played no more than a thoroughly passive role in the creation of their work. The moment the picture plane is compared to a flawless mirror, a *speculum sine macula*, it is being purported that neither an interpretation by the painter nor material and labour went into creating a painting. We have seen that the basis of such concepts is an age-old myth on creation. The legend of Vermeer flourishes from it. And although the myth was nearing its demise in the seventeenth century, Friedländer, Claudel, Gowing and many other interpreters of Vermeer have continued to perpetuate the legend up to the present day. The myth is idealistic and based on a strictly linear model of transmission, in which a picture merely appears on the empty canvas of the painter as the immediate reflection of life. At the beginning of my essay, I referred to this idea as the belief in the ultimate transparency of the artist’s drawing, because many critics were truly of the opinion that there was an obvious relationship between a picture and its model in reality and that one could effortlessly be layered on top of the other. In other words, the picture was like a thin, silky membrane to be easily layered over as well as removed from the represented object. However, this interpretation contradicts the obvious materiality of the picture. In other words: despite the efforts of Dutch Baroque painting to produce a uniform model of reality and to transform the canvas into a mirror for this purpose, pictures nevertheless remained the result of a strenuous process of production and not that of a simple method of copying. The insight is not particularly new, but in the light of the pictures seemingly conjured up by Vermeer, it is overlooked again and again. Certainly the idea of referring to a picture as a replica of reality or a retina image can be attributed to the talent of the painter to combine all the elements of a picture into a convincing syntax. Still, the idea overlooks the syntactic skills that helped get such convincing representations into the picture field in the first place. Ignore them still and we have little option but than to view the picture as no more than a passive entity, a reflection, beneath the glossy surface of which reality has retreated and created a realm of its own.

With regard to Vermeer, we should not allow such concepts to satisfy us, but should challenge them with something far more definitive. Perhaps a painting can be thought of as a mirror or a camera obscura, or be seen to withdraw into a static form and remain there, as has been argued so often. Yet we should retort by questioning whether even the most well-balanced state is not indeed based on a calculated input of energy, which has only seemingly come to rest and is actually a product of unrest. Unrest in the sense, stated so poignantly by Hannah Arendt, meaning the nec-otium\textsuperscript{30} of public activity and action. What is a picture otherwise?

Karin Leonhard

*Munich*
Notes


4 More recently, Albert Blankert questions the pregnancy motif in Vermeer’s work. See Albert Blankert, Vermeer’s Modern Themes and Their Tradition, exh. cat., National Gallery of Art, Washington, 1996, p. 39: ‘The above mentioned idea that this attractive little lady . . . before her toilet is pregnant seems to have originated no earlier than in Vincent van Gogh’s 1888 letter to Emile Bernard, from which the notion migrated to Philip Hale’s Vermeer monograph of 1913, and has since reemerged repeatedly. No mention of pregnancy occurs in any of the seven extensive descriptions of the Woman in Blue Reading a Letter written before 1809. The belly of the virgin goddess Diana, too, looks bulbous to twentieth-century eyes. (Letter by Van Gogh of c. 23 July 1888: “Do you know Vermeer, who, amongst other things, painted a very beautiful, pregnant Dutch lady?”) Hale 1913, 282, related this to the Woman in Blue Reading a Letter. Van Gogh may have seen this painting on his 1885 visit of the then newly opened Rijksmuseum.’

5 Actually, it is possible to link the names of those three men who rose to fame near the mid-seventeenth century: ‘De kleine Hollands stad Delft telde in het midden van de zeventiende eeuw onder haar burgers een drietal mannen, wie namen voor het nageslacht nog mit roem in hun omgeving: Johannes Vermeer (1632–1675), de beroemde schilder, wiens gezicht op Delft nog het oog verrukt; Antoni van Leeuwenhoek (1632–1723), de autodidact, die met zijn door hem zelf vervaardigde microscopen een overstelpende hoeveelheid nieuwe waarnemingen heeft gedaan, en de jong gestorven Reinier de Graaf, die met behulp van nieuwe, experimentele methoden aan een volkomen onbegrepen orgaan zijn plaats in de lichaamshuishouding heeft gegeven en het meer dan twee duizend jaar oude vraagstuk der generatie door eigen onderzoek en inzicht een beslissende stap nader tot zijn oplossing heeft weten te brengen.’ G.A. Lindeboom, De Geheimen van de Man met de Microscoop: Des Antoni van Leeuwenhoek, Arcana Naturae Detecta, Soest, Selfprint: 1993, p. 6.

6 It was for this reason that Vermeer’s Art of Painting was intended to be auctioned. However, this was prevented from happening by immediately declaring the painting to be the property of Catharina’s mother, Maria Thins. Based on these documents, Vermeer researchers have ascertained that the painting was never sold by Vermeer himself and that Catharina herself intended to keep it in her family’s possession, even after the death of her husband.

7 The aristocratic visitors included Kings Charles II and George I of England, King Frederik I of Prussia, King August of Poland, King Charles II of Spain and the Russian Czar Peter the Great. C. Dobell, Antoni van Leeuwenhoek and his “Little Animals”, London: John Bale, Sons & Danielsson, 1932.

8 This frequently cited assessment was made in 1692 by Hooke, who was truly in a position to know all the facts and circumstances: ‘The fate of microscopes . . . now reduced almost to a single votary, which is Mr. Leeuwenhoek, beside of whom I hear of non that make any other use of that instrument, but for diversion and pastime.’ Cited in Klaus Meyer, Die Geheimnisse des Antoni van Leeuwenhoek: Arcana Naturae Detecta, Soest, Selfprint: 1993, p. 6.

In reference to Leeuwenhoek’s refusal to sell his microscopes and his associated fear of potential plagiarism, see the contemporary report of the German Zacharias Conrad von Uffenbach, who visited Leeuwenhoek in 1710 on one of his educational travels (Merkwürdige Reisen durch Niedersachsen, Holland und England [Ulm, 1764]): ‘Den 4. September morgens gingen wir zu dem berühmten Observatore microscopico Leeuwenhoek, von welchem wir . . . gar höflich empfangen wurden. Seine einzige Tochter, wo er hatte, eine Person bey vierzig Jahren, führte uns erstlich in ein Zimmer, und erzählte uns, daß ihr Vater seit einigen Jahren viel neues durch seine Microscopia entdeckt hätte, er wollte aber in seinem Leben nichts mehr von seinen Observationen herausgeben. . . . Zuletzt wies uns Herr Leeuwenhoek sein Cabinet, in welchem er wohl ein Dutzend lackierter Kästchen, und in diesen wohl anderthalb hundert obvermeldeter kleinen Futeralgen hatte, in deren jedem zwey solcher Microscopien von der kleinen Sorte lagen. Als wir uns über diesen Vorrath wunderten und fragten, ob er denn seine verkaufte, indem wir gerne etliche haben mochten, sagte er, nein, bey seinem Leben nicht. Er war auch sehr geheim mit seiner Arbeit, wie er sie machte . . .’

So far, it has been assumed repeatedly that Leeuwenhoek introduced Vermeer to the working of lenses, optical devices and even the camera obscura, although he himself was seemingly protracted with the science of microscopy and the study of small-scale lenses, often not larger than a millet-seed optical lenses that he would never sell or give away. Even though this report is dated somewhat later than the time in question and does not provide any information necessary to draw conclusions on his actual circle of
acquaintances and friends, it is supported by what Christiaan Huygens’s brother Constantijn reported in 1685 about Leeuwenhoek, who did not want to show any of his microscopes to the Landgraf of Hessen ‘außer denen, die er jedermann vorweist. . . . Und als der Landgraf ihn fragte, ob er nicht einige davon erwerben könnte, antwortete L. mit großem Stolz, daß er noch nie und niemanden eines abgegeben habe und dergleichen auch nicht beabsichtige. Wenn er sich solchem Ansinnen fügen wollte, würde er sich zu jedermanns Diener machen – anders ausgedrückt: zu seinesgleichen. Nachdem er zwei oder drei seiner Mikroskope vorgezeigt hatte, nahm er sie weg, bevor er ebensowie andere holte. Das tät er, sagte er, aus der Befürchtung, es möchte sonst das eine oder andere von den Besuchern verlegt werden . . .’


10 The original Dutch letter is lost, but twenty years later Leeuwenhoek repeated a long passage from it in a letter to Harm von Zoelen dated 17 December 1698 (Lindeboom [1982], p. 136).

11 Leeuwenhoek insisted that the miniature embryo remained invisible to the human eye as well as to the microscope, whereas the microscopist Hartsoeker reproduced a sketch of a homunculus encased in the male sperm cell in his Essay de Dioptrique in 1694 (as plate 9, page 299).

12 De Graaf, for example, arrived in Delft with a clear intention to present his opinion on the female organism to a circle of experts and then to make it fully known to the public. In 1668, his first work – De vironum organis – was published, which he immediately sent to the Royal Society in London. Two years later he proudly presented it to his old colleague from university and renowned insect scientist Jan Swammerdam. Swammerdam, who is still known to us today, visited De Graaf in 1670. According to an early source, De Graaf himself was known for covering great distances to visit the sick in and around Delft and was particularly well acquainted with s’ Gravesande, the man holding the official position of city anatomist. Because of his scientific convictions, de Graaf would later fall out with Swammerdam over their disagreement in setting scientific priorities and would speak out against Antoni van Leeuwenhoek, the discoverer of the male sperm cell. Henricus Wetsenius, ’Narratio de auctoris vita’, in Reinier de Graaf, Opera Omnia, Amsterdam, 1705.

13 The Delft Anatomic Theatre was located at the Verwersdijk, in the former St Magdalene’s Convent. During Vermeer’s time, it was Cornelis s’ Gravesande who held the office of city anatomist. He was a friend of both Antoni van Leeuwenhoek and Reinier De Graaf. ‘On the ground floor were located the meeting room, the library, and the kitchen, while on the first floor the collection of the surgeon’s guild was on display – an assemblage of rarities, such as skeletons of animal and human origin, stuffed maritime creatures, birds, and mammals. Further, anatomic compounds, conserved in fluids, were exhibited together with sea shells, minerals, and other curiosities brought back by the ships of the United East India Company from their explorations. A physician employed by the city, the so-called city anatomist, gave lectures on anatomy there every Wednesday . . . . Although these presentations were targeted primarily to his scientific colleagues, the city anatomist welcomed interested citizens to join his audience.’ (author’s translation) Klaas van Berkel, ‘Johannes Vermeer und Antoni van Leeuwenhoek’, in Johannes Vermeer. Der Geograph und der Astronom nach 200 Jahren wieder vereint, Frankfurt a. M.: Städelisches Kunstinstitut, 1997, p. 25.

A contemporary etching tells us that the Anatomic Theatre shared its locale with Delft’s civic guard, to which Vermeer was an associate member: ‘His name was recently discovered on a list of civic guards dated from 1664. The most important duty of the civic guard was to defend the town. Guards were expected to assist in keeping public order in case of emergencies. All able-bodied men of some substance were obliged to take part in the exercises of the guard. The Delft civic guard was reorganized by order of William of Orange in 1580. The town was divided into four quarters, each with its own company, referred to by the colour of its banner. The Green, Orange, White and Blue companies were formed with a captain at the head of each, assisted by a lieutenant, an ensign and two or three sergeants. A company consisted of six squads of thirty-two guards. Vermeer was a guard in the Orange company. An inventory of 1676 shows that he was equipped with armour, a helmet and a pike. He went to Gouda on 8th May 1673 under the leadership of Captain Van Hurk to fight the French troops who had invaded the Netherlands, The Delft civic guard met in the new “Doelen” or shooting range on the Verwersdijk after 1655. The old Doelen building had been destroyed in the powder explosion of 1654, along with some of their group portraits. Only four of these could be restored. The town council put the site of the former St Mary Magdalen’s convent at the disposal of the Delft civic guard for their new accommodation. Leonaert Bramer was commissioned to paint mural decorations in the hall. Bramer was a sergeant in the same company as Vermeer. There is a triptych by Bramer in
Stedelijk Museum the Prinsenhof, which was probably the draft design for these murals. The Doelen was demolished in 1830. Michel P. van Marseen, *Vermeer of Delft, his life and times*, Amersfoort, Stedelijk Museum Het Prinsenhof: 1996, pp. 50–1.

14 It was De Graaf who, in 1673, was forwarding a further letter of recommendation of Leeuwenhoek to the Royal Society: ‘I only wish to inform you that a very inventive man by the name of Leeuwenhoek has developed a microscope that by far exceeds the capabilities of those by Eustachio Divini and others. In his letter, which I am herewith forwarding to you, he describes things that have never yet been observed in detail by any other scientist; this may help you to understand the extent of his observations. Should you find favour with these observations and would like to learn more about the very diligent man and assess his capabilities, then write to him and present him with the most difficult questions concerning you currently.’


17 Referring to the individual notions, please also see Reinier De Graaf’s condensed manuscript that was published one year ahead of his main work: *De Partibus Genitalibus mulierium*, Lugd. Batavorum 1671, pp. 209–16.


20 See Leisegang’s comment on Descartes’s *Dioptric*, 1954, p. 28.


‘Wanneer de vrouwe draeght, soo dient de man te letten
Dat niemant door het huys misschien en kome setten.
Lat dat wanschapen is, een wreet of selsaem beelte,
Dat ons het ooge tergh, en soo de sinnen steelt,
Al wat onbolligh staet, of vreese kann verwecken,
of met een snelle schrick ons in de leden trecken,
En dient geen jonge vrouw, vorr al niet, daerse slaept,
En van de reyne trou de soutte vruchten raepht.
Wilt oock om dese tijt u niet te seer vergapen.
Aen eenigh selsaem dier, als simmen, katten, apen;
En draeght niet in den arm, en leght niet aen
den mond
Een vreemden baviaen, of plat-geneusden hont:
T’is by de vrouwen selfs in geenen deel te merken,
Hoe dat een vreamt geval kann of de vrouwen wercken,
Hoe onverwachte schrickt tot aen de vrucht belent,
En hoe een selsaem spookk zich in de moeder prent:
Wanneer een vrouwe draeht, het schijnt dat alle krachte
Sijn besigh aen de vrucht, en op de moeder wachten;
Dies waerde eenigh ding sich in de sinnen vest,
Dat sacht van stonden aen en druckt in dat gewest.’

22 ibid.

‘De Schrift getuyght het selfs, dat Jacob voor de dieren
Van Laban heeft geleyt gestreepte populieren,
Om, even als het schaep soll paren met de ram,
De plecken van het hout te drucken in het lam:
Een man, die verder sah, ging al het huys beschouwen.
Ging letten op het stuc ter eeren van de vrouwen,
Hy vint een schoon vertreck, daer op een kleyn buffet
Een aerdigh kinderbeelte stont geestigh afgeset,
Hy vont een ledekant behangen met gordijnen,
Een leger voor de weert gelijck het mochten schijnen,
Hy vraeght wie dat’erslaept, hem wort bescheyt gedaen,
En strax soo gist de man hoe dat de saecken staen;
Hy spreeckt tot al het volck: ick fal het cordeel vellen,
Laet maer het jonxte kint hier in de kamer stellen;
Ghy de genegen sijt om saet te mogen winnen,
Hebt geen wanschapen dier, geen monster in de sinnen,
Stelt liever voor het oog, wanneer ghry vruchten teelt,
Een schon en geestigh kint, een aerdigh menschenbeelt.
[…]
Daer gaet de kloecke geest met vaste reden wijsen
Wat dat’eruyt het oog kann in de sinnen rijsen,
En hoe een diep gepeys, door onbekende macht,
Het ingenomen beelt kann prenten in de dracht slaept;
(The scriptures say that Jacob lay
Striated poplars before Laban’s herd,
So that, when the sheep and bock paired,
The pattern of the wood should imprint upon the lamb:’
A far-sighted man visited a house.
He noticed every piece that belonged to the women,
He found a beautiful room, where on a small commode
A beautiful picture of a child was tastefully displayed,
He found a bed draped in curtains,
A lair for the married couple, it seemed to appear,
He asked who slept there and they tell him,
And right away the man guesses how things stand.
He says to the people, I now pass my judgment,
Let the younger child be brought into this chamber;
You, who which offspring,
Have no disfigured animal and no monster in mind,
Better to keep before your eye, when you conceive,
A fair and intelligent child, a beautiful human image,

[...] The clever man points out in his convincing words,
What can infiltrate into the senses through the eyes,
And how a strong emotion, through a power unknown,
Can impress a held image upon the fruit in the womb...

23 Descartes, *Dioptric* (1954), p. 98 (translator’s translation): ‘I could also show you how images sometimes reach certain limbs of the child carried under a mother’s heart through the veins and arteries of the pregnant woman. This is how the birthmarks are created that so puzzle scholars.’
24 *prent =* dutch: engraving.
25 Nicole Malebranche, Search after truth, or Treatise of the Nature of the Human Mind and Of its Management for avoiding Error in the Sciences, London: Bennet, 1694, vol. 1, book 2 145f. Also: ‘There are many other examples in authors of the power of imagination of mothers . . . . For they not only make children deformed, but also marked with such fruits as they have longed for, as plumbs, pears, grapes, and such things. For instance, some mothers having a strong inclination to eat pears, the children imagine and desire them with the same ardour, and the course of the spirits excited by the image of this desired fruit, disposing it self through the little body, is able to change its figure, because of its softness: So that these poor children become like those things they wish’d for with so much ardour.’
26 ibid.
28 There is an additional iconographic reading of the motif of pregnancy in Vermeer’s *Woman in Blue Reading a Letter* by Bärbel Hedinger, *Karten in Bildern*, Studien zur Kunstgeschichte, Hildesheim, Zürich, New York: Olms, 1986, vol. 34. According to Hedinger, it is that the main protagonist before the wall map ‘represents the growth and the future of the province of Holland, embodied in the shape of a mother-to-be (Hollandia Gravida) . . . She can be understood as the “allegory of good hope”,’ pp. 89, 87.