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*The paper aims at reconstructing the centennial history of the so-called "El Greco fallacy", namely the hypothesis that the extremely elongated figures painted by the Cretan artist were due to his astigmatism and not to a stylistic option intentionally assumed by the painter. This hypothesis interestingly and problematically intertwines the status of the perceptual image with the status of the represented picture. While offering a survey of the main positions defended by ophthalmologists, psychologists, art critics and art historians on this optical issue, the essay tries to reject the false alternative between a physiologicistic and a spiritualistic approach to art, both based on an unsustainable causalistic assumption. Drawing on David Katz and Merleau-Ponty, the author rather outlines an expressive model in which the optical element in visual arts is not denied, but on the contrary metabolized in the embodied representation.*

### 1. Artists and doctors

Over the last one hundred and fifty years, many prestigious names in the history of the (visual and non-visual) arts have been put on the clinician's couch, inspected by doctors, microscopically investigated, examined thoroughly inside and out, *in vivo* and *in vitro*, in order to diagnose the specific pathology that might be considered etiologically responsible for that particular brushstroke, chord or rhyme. Not only «genius and madness» (to quote the title by Cesare Lombroso)<sup>1</sup>, but genius and physical illness. A complete list of the case studies would be a daunting task: limiting ourselves to the cases of visual deficiency, we can mention among the painters at least Dürer's squinting gaze (the famous "Dürerblick"), the cataracts of Turner and Monet, the chronic infection of Pissarro's tear duct, Van Gogh's glaucoma, the loss of central vision in Degas, Munch's haemorrhagic eye, the macular degeneration of Georgia O'Keeffe. Some ophthalmologists passionate about the visual arts have collected rich compilations that, judging by the number of their editions, also had in some cases a significant response from the public<sup>2</sup>.

But even in such good company, it is difficult to imagine an artist who was more medicalized than El Greco. His unmistakable style has been interpreted as the figurative manifestation of various diseases, physical and mental, attributed not only to the painter, but even to the models that he used to paint (allegedly

taken from the asylum of Toledo; or suffering from the disease of the connective tissues known as Marfan's syndrome)<sup>3</sup>. The variety of morbidities evoked in order to justify El Greco's figurative deformations is vast, including the abuse of marijuana and a pathological repression of homosexuality, as suggested by William Somerset Maugham<sup>4</sup>. But the lion's share was undoubtedly played by the hypothesis of a visual defect, namely astigmatism. The characteristic elongation of his figures (fig. 1) that so stimulated the debate around his art (even to excess, according to André Malraux)<sup>5</sup>, was deemed to be due to an ophthalmologic deficiency of the Cretan painter: a defective curvature of the cornea or of the lens, which produces a blurred vision. *A-stigmatism* is precisely the inability of the eye to see a point (*stigma*) as such: and such incapacity was thought to have affected El Greco's eyes, endowing his art with those strange shapes.

Of course, his is not the only case of a supposedly astigmatic painter; other artists before and after him were judged similarly: Botticelli, Holbein, Cranach the Elder, Titian, Modigliani, Sargent. But like no other painter El Greco has given rise to a tremendous polarization of interpretations, leading at the same time to the extreme physiologicistic approach (namely the ophthalmological) and to the most spiritualistic readings relating to the sphere of his alleged mysticism. During the "grecomania" that enthusiastically affected Europe in the early years of the last century, the image of the astigmatic painter was opposed to the contrary but equally powerful image of the mystical and visionary artist adopted by certain avant-gardes (to mention only der Blaue Reiter), who rediscovered in El Greco their spiritual father.

Precisely because of this extreme polarization – art of the (sick) body vs. art of the (holy) spirit –, his case study appears paradigmatic of two antipodal approaches which nevertheless share a common ground: the explanation of an artistic phenomenon is to be found not in the phenomenon itself (*iuxta propria principia*, as it were), but outside it, either in the bodily structures or in the spiritual sphere.

## 2. Crystalline, corneas and brushes

After his death in 1614, the star of El Greco had to wait more than two hundred years to rise again. This did not happen in Spain, but in Paris, thanks to the Louvre section of Spanish art promoted in 1838 by Louis Philippe, which included nine of his paintings. Encouraged by the Hispanophilia inspired by Théophile Gautier<sup>6</sup>, the second Romantic generation was enthusiastic about the visionary artist and his exasperated sensibility. This was the first of a long series of strategies to ap-

appropriate El Greco as a spiritual father: Delacroix, Millet and Manet saw in him a rediscovered ancestor<sup>7</sup>.

In Spain, the first personal exhibition of his works took place only much later, at the Prado in 1902. The first catalogue of his corpus was published in 1908 by his biographer Manuel Cossío<sup>8</sup>. And it was precisely Cossío that the man most responsible for the spread of “grecomania”, the influential critic Julius Meier-Graefe, wanted as his El Greco-cicerone during his voyage to Spain in that same year. *Spanische Reise*, Meier-Graefe’s 1910 account of that trip<sup>9</sup>, produced a true shift in the European reception of Spanish art and its relations with modernity: a shift that could be condensed in the formula “from Velázquez to El Greco”.

The whole text is pervaded by a vehement polemic against the art historian Carl Justi. In his monograph on Velázquez, Justi had stigmatised El Greco for his excessive deformations, especially affecting the figures of saints and the historical characters, evidence of a savage manner that can be explained only by way of some physiological disorder, probably a disease of the visual organ as in the case of the late Turner. In such cases Justi argued that the art critic had to give way to the ophthalmologist and the psychiatrist<sup>10</sup>.

Not many years before, in a lecture held on March 8, 1872 before the Royal Institution of Great Britain, Richard Liebreich<sup>11</sup> (ophthalmic surgeon at St. Thomas’s Hospital) had formulated the hypothesis that Turner’s late art was due to a visual defect. Let us take a closer look at his argument, since its pioneering approach defines a methodology that would be successively replicated in many ophthalmological accounts of visual artworks. Recounting a visit to the National Gallery, Liebreich reports his astonishment when passing from the room of the works of the first Turner to that of the late paintings. Was that possibly the same artist, given the enormous difference between the paintings? Was such a change perhaps due to an «ocular or cerebral disturbance»? The surgeon knew from the biography of the painter that in the last five years of his life he had suffered from both ocular and mental problems; but those stylistic changes had already occurred in his last fifteen years. Liebreich engages himself in «a direct study of his pictures from a purely scientific, and not at all from an aesthetic or artistic point of view», aiming to investigate the formal elements of Turner’s paintings such as color, design, distribution of lights and shadows, trying to interpret these as clues to a possible medical condition. What Liebreich is looking for is a recurrent error in Turner’s late way of painting that, regardless of the picture’s subject, could be interpreted as a symptom of a visual defect. If until 1830 everything appears «normal», afterwards he recorded an increasing intensity of the scattered light coming from the most illuminated parts of the depicted landscapes, together with a progressive verti-

calization in the orientation. What before 1839 might become evident only upon close examination, afterwards becomes patent to anyone: it is as if the paintings had been «wilfully destroyed by vertical strokes of the brush before they were dry, and it is only from a considerable distance that the object and the meaning of the picture can be comprehended»<sup>12</sup>. This comprehension becomes very difficult, however, in the last paintings.

According to Liebreich, these progressively dominant vertical streaks are not the sign of a «peculiar manner» or of a «deranged intellect», but «the result of a change in his eyes», which modified the painter's vision in his last twenty years of life. Turner has done nothing but continue to paint faithfully and naively what he saw, after as before; but he simply did not see the same things. Liebreich is not only convinced that he can guess from those images the type of disease that affected the artist; he also claims he can enable us through an optical device to see the world as the last Turner saw it, and through that same device to make the first paintings look like the last ones. The surgeon hypothesizes both a physiological clouding of Turner's lens after the age of fifty-five and a pathological opacification of the lens itself, preventing the homogeneous diffusion of the light in all directions and causing it to disperse mainly in vertical vectors, which would precisely explain those vertical streaks progressively increasing in his last works. Take for example some strange trees that Turner painted after 1833 – trees unknown to botanists, trees that had never been seen in nature nor ever painted that way by any artist. But the ophthalmic surgeon does not believe that Turner has invented a tree that he had never seen; he must rather have painted the tree just as he saw it in nature. In front of his listeners, Liebreich demonstrates, as promised, the correctness of its deductions with the help of a specially arranged lens: «Here is a common tree; the glass changes it into a Turner tree »<sup>13</sup>.

But is it permissible to characterize as pathological precisely the period judged by critics and connoisseurs as the climax of Turner's art? After all, Liebreich remarks, one does not need to be physiologically normal to be a great artist, and it is absolutely understandable that the post-1831 Turner has many admirers. But there is a limit: to respond enthusiastically for the latest Turner, in which everything is «disfigured and defaced», and to call him a style master, is really too much: Liebreich is not willing to follow the admirers of such a shameless degeneration. A little deformation is fine, but let's not exaggerate. Liebreich's intention to devote himself exclusively to a scientific consideration and to steer clear of artistic or aesthetic assumptions, proclaimed by at the beginning of his investigation, now clearly gives way to a axiological judgment: a shift from the descriptive to the normative level that will be often repeated in the following years.

But Liebreich is not satisfied with the aetiological diagnosis of Turner's last style and turns to broader considerations on the relationship that binds the ocular conditions to visual arts. He takes into consideration emmetropia, hyperopia, myopia, and – what particularly interests us here – astigmatism. Liebreich mentions two examples of astigmatic artists examined by himself: the first is a landscape painter, admirable at rendering truthful backgrounds, but less satisfactory in close-ups, mostly depicting rivers or streams, in which the doctor notices strange horizontal strokes that do not seem congruous with the nature of water. After having made himself artificially astigmatic through lenses prepared for this purpose, Liebreich observes that those horizontal stripes do not stand out unusually any more, but mingle with the other colors, thus producing a perfect illusionistic effect of the liquid movement. The second is a portrait painter, whose fame in Paris over the years has given way to a concern of the critics due to a certain vagueness and lack of distinction in his way of portraying his clients, combined with distorted and overly elongated proportions: it is clear that it is an astigmatism worsened by presbyopia due to aging.

If we have dwelt at length upon the treatment of Liebreich, it is because his approach early on inaugurates a way of exploring the relationship between representation and visual deficiency that presents paradigmatic traits. This is clearly demonstrated by the ophthalmologist August Goldschmidt's 1911 article devoted to El Greco's «mannerism»<sup>14</sup>. A putative mannerism, according to the doctor, since what seems to many a stylistic decadence can actually be explained on physical grounds. Justi was right: it is a visual defect that, considered as a «purely medical question», appears as a «typical case of astigmatism». The ellipse that Meier-Graefe<sup>15</sup> had noticed as a favourite compositional structure of the painter here assumes its true meaning: it is not a conscious stylistic intention, as the critic suggested – quite the opposite. It is, as one can easily see by observing the Beruete collection, an astigmatic distortion due to a malformation of the eyeball, namely to a hyperopic astigmatism, in which the vertical axis refracts more than the horizontal one. If the readers want to be definitively convinced, they can wear corrective glasses, and the disturbing «mannerist» excesses of his figures will immediately cease.

This approach does not exhaust the attempts to medicalize the artist, and indeed must compete – always within a reductionist framework that understands style as a pathology – with other medical hypotheses. It is a conflict that can be seized in the different El Greco readings offered in 1912 by the Portuguese doctor Ricardo Jorge and the following year by the ophthalmologist Madrid Germán Beritens<sup>16</sup>: a conflict successively amplified for a wider audience by the Parisian



magazine «La Chronique Médicale», where Dr. Menier presented the position of Jorge, and Dr. Mathé that of Beritens<sup>17</sup>.

Jorge offers a wide survey of the morbidities of a painter who, disdainful of every morphological standard, has created its own special anatomy, a personal anthropological type, between the caricatural marionette and the superman: the «grecoide» figure, characteristic of his «anomalía pintural», affected by a rancorous and antisocial temperament, a hyperaesthetic and delirious personality, a megalomaniac and misanthropic attitude, an isolated and maladjusted condition. His style was disproportionate and extravagant mainly in religious subjects, where there was less control of the patrons, whose portraits on the contrary bound him to a certain realism. With Christs, saints and martyrs, the painter was instead free to give vent to his hallucinations, which affect every element of his figuration. Take for example the color of the skin, and in particular those greenish faces that seem to represent chlorotic or cyanotic individuals. Or the muscles: El Greco thins them, he eliminates the aponeurosis and the adipose layers, he displaces them. To say nothing of skulls: while elongating the bodies, he shrinks the heads with an Inca-like violence, reducing them to insignificant appendages located on extremely long necks. Microcephaly, but also stenocephaly – scaphocephaly (elongated skull, compressed at the sides), acrocephaly (tower-like skull), trochocephaly (round skull), plagiocephaly (oblique skull): a museum of cranial deformations, so that his martyrs are martyred twice, by their persecutors and by the painter himself. But the artist is not satisfied with such operations: he also deforms the jawbone causing disgusting prognathisms, he paints facial paralysis, he abounds with exophthalmos and strabismus, he transforms the lips of some of his figures into a maniac's smile, and represents their mimic gestures in an epileptic and hysterical attack. We witness a real sabotage of the human figure, which makes this primitive painter appear as a mentally ill artist: if his biography presents him as a paranoid, one should add graphomania and even «ecography» (the tendency to stubbornly repeat the same motives) in order to complete the image of a genius devastated by a deep psychic aberration that becomes reflected in the physical aberrations of the painted figures.

Entirely different is Beritens's view: every deformed element in El Greco's art is not due to madness or eccentricity, but simply to a defect in vision: astigmatism combined with a pronounced squint (of the right eye, as can be seen from his self-portrait inserted in the *Burial of the Count of Orgaz* or from his presumed self-portrait: fig. 2). The Cretan artist paints what he sees; and he gradually sees worse and worse from the age of thirty-seven, when the power of accommodation of his lens begins to decrease. Formal distortions are progressively accompanied

by a difficulty in clearly perceiving colors and the contours; the artist sees nothing but blurs, which vary depending on the position of his eyes; his astigmatism offers different appearances of the same thing at each movement of his head, which explains the repeated tweaks that are so frequent in his later paintings.

### 3. *Deep motives*

This was basically the state of the art at the time in which the psychologist David Katz was writing his essay *War Greco astigmatisch?*, published in 1914<sup>18</sup>. His conclusions are clear: the style of the Cretan cannot be understood by linking it to his alleged astigmatism, but it should be investigated in its “deep motives” as an expression of “pure painting”. Although he thinks that no psychological or physiological factor should be sufficient to explain an artistic phenomenon, which has always to be understood in terms of aesthetics and *Kunstwissenschaft* (science of art), he is nevertheless far from dismissing the significance of the ophthalmologic element for an adequate understanding of visual arts. Leaning on Liebreich (whom he knows through the mediation of Arréat)<sup>19</sup>, Katz agrees with the idea that the yellowing of the lens in old age or a change in the refractive power of the eye may have consequences for the palette, the drawing and the composition of a painter: if painting is a *visual* art, why should the ocular conditions be considered uninfluential?

Katz is aware that he is not inventing a new approach, and that he is following in the wake of a noble tradition counting among its remote ancestors Leonardo da Vinci, with his *Treatise on Painting*, and more recently the physiologist Hermann von Helmholtz, with his essay *Optisches über Malerei*<sup>20</sup>.

The basic data of the El Greco problem are quite clear: an unusual stretch of the normal ratio between length and width of the human body, which is almost doubled; a number of asymmetries between the two halves of the human body and in specific body parts; an unusual treatment of space (incorrect if measured with the rules of perspective, in spite of the fact that the painter knew its laws).

If it can be proved that El Greco painted in a certain way because he was astigmatic, any stylistic argument becomes non-sense, because one can talk about stylization only if the artist has intentional recourse to figurative and formal motifs, but not when the painter acts under the constriction of an optical mechanism. The mistake made by the interpreters who have spoken out in favour of the astigmatic hypothesis was to adopt a criterion too naively flattened on the model of the photographic camera (if the optical system of the camera is defective, also the photographic picture will necessarily result as defective). But human



vision cannot be interpreted according to those mechanical principles. However, even if we wanted to adopt this mechanical and photographic perspective, the pro-astigmatism arguments would be unsustainable: the ophthalmologists in favour of the astigmatic hypothesis have erroneously mixed up different and heterogeneous aspects, putting on the same level the strains that elongate the bodies and the deformations caused by the bodily asymmetries. But if the former are regular (the whole shape is homogeneously elongated), the latter are irregular and affect only this or that bodily element. This difference cannot be explained connecting both types of alteration to the same visual defect. In the first case, one should appeal to a regular astigmatism, in the second one to an irregular one (in the former the different curvature of the meridians of the eyeball is constant; in the latter there is a difference of curvature even on the same meridian). But the fact that these different species of alteration appear in the same painting, often combined in the same depicted character, requires a unitary explanatory principle. This is even more urgent for the presence both of distorted and non-distorted images in the same painting. An optical system always functions in the same way, and does not produce different types of images at different times. It is not possible, then, for the same canvas to show distorted figures and normal figures, as is for example the case of the *Entierro del conde de Orgaz* (the famous painting on two registers: the upper celestial one, with hyper-elongated figures, and the lower terrestrial one, with regular shapes). Nor it is possible that in the same period El Greco realized paintings with and paintings without distortions. Furthermore, the astigmatic eye sees all objects elongated in the same direction (vertical, horizontal or oblique), and cannot stretch a part of the thing from the bottom to the top, and another part of the same thing from left to right, according to different directions as we find in the corpus of the Cretan.

Thus, even adopting the vantage point of mechanical optics, the examination of the pictures cannot support the astigmatic hypothesis, and encourages us to opt for the stylistic one. Not to mention the fact that sometimes the representatives of the astigmatic hypothesis have recourse, however surreptitiously, to the stylistic hypothesis in order to confirm their thesis: when for example they insist on the elliptical form as a privileged compositional structure, they do not realize that this could have some diagnostic saliency only if it could be shown that El Greco wanted to use “stylistically” the circle, and that he shifted from the circle to the ellipse only because mechanically obliged by his visual defect. But this has not been demonstrated.

Moreover, an eye that sees regularly can correct the strains in his paintings with different lenses; there is not a single lens that, once worn, allows one to establish

exactly the type of astigmatism the painter had allegedly suffered from. It is on the contrary more reasonable to discuss the difference between *congenital* and *acquired* astigmatism, in their different relationship with representation from life and from memory.

In order to explain some distortions in certain paintings by El Greco, it is very unlikely that we can draw on the hypothesis of congenital astigmatism, while the case of an acquired astigmatism – due to a disease of the cornea or lens – is slightly more likely (however, no biographical element authorizes us to suppose such a pathogenic event, therefore one can only formulate indirect suppositions). Let's see the four possible combinations:

1. Regular congenital astigmatism in the case of drawing from life: although it is true that a congenital astigmatism produces blurred images and the inability to perfectly render the details of the observed object (like in the case of myopia), the astigmatic individual is able to portray without distortion the object observed: in fact, while admitting that he looks at a circle and sees an ellipse instead, if he wants to reproduce what he sees on the canvas, in order to get a picture that matches the visual representation he must draw a circle (which he then will see precisely as an ellipse).

2. Regular congenital astigmatism when drawing from memory and imagination: if El Greco has recorded in his memory a figure and wants to reproduce it on the canvas, he must draw it in an objective and correct way (a circle if it was a circle), so that the drawing can match with the mnemonic image.

3. Regular acquired astigmatism when drawing from life: even if we suppose that El Greco had not noticed the occurrence of the defect, and that he had continued to paint as before, for the same reasons applied in the case of the drawing from life with congenital astigmatism we must conclude that the representation had to properly represent the object to make sure that the depicted image matched with the perceptual image of the object.

4. Regular acquired astigmatism when drawing from memory and imagination: Katz admits that this is the only case in which one should take into account a possible astigmatic distortion of the figures and speaks in this connection of a «partial hypothesis». It is the case of a person who, before the onset of the disease, saw a circle as a circle, of which he retains a mnemonic image. Now, after the outbreak of astigmatism, the circle is seen as an ellipse. If required to draw a circle from memory without referring to any model, what will the drawing look like? The experimental test, which Katz conducts directly upon himself, shows that the subject draws an elliptically distorted image. The mnemonic images of the circle stored by memory when the eye could see properly interfere with the distorted percep-

tion due to the present astigmatism, and produce a deformation of the shapes.

But, even assuming that El Greco may have acquired an astigmatic defect during his lifetime, it is not likely that both eyes were simultaneously affected. In the event of a defect in one eye only, it must be assumed that the healthy eye would compensate for the deformation, allowing a non-distorted depiction, as shown by experiments in which one eye is made artificially astigmatic, while the other is kept open.

While making extensive use of experimental procedures on himself and on others (in order to observe, through lenses that correct astigmatism the pictorial distortions in El Greco's corpus, or, conversely, to see through lenses causing astigmatism the world as seen by an astigmatic subject), Katz warns from accepting the results of such experiments as if they were recordings of the ocular behaviour in the practice of real life. In particular, the constant motor processes that characterize the activity of the eye are frequently neglected in the lab, where one tends to conceive the eye as if it were immobile and fixed. Moreover, an individual affected by congenital astigmatism has had plenty of time to develop a compensation of his or her own imperfections, and cannot be compared to an emmetropic subject who has been made artificially astigmatic for a few minutes in the lab.

Finally, whether El Greco's way of painting was a deliberate and conscious stylization or a mechanical constraint due to an ocular defect, this does not affect the status of the aesthetic and artistic value of his work, which remains independent of its genesis. In order to appreciate his paintings we do not really need to know how he came to paint them and for what reasons. Such appreciation depends primarily on the «intuitive factor that exerts its effects in a sensible way»<sup>21</sup>, that is on the sensitive relationship between the beholder and the artwork, and not with the man who created it, whether healthy or sick.

#### 4. *Endless El Greco*

Rudolf Arnheim considered Katz's refutation of the astigmatic argument definitive<sup>22</sup>. However, this opinion was not shared by some German ophthalmologists, who continued to debate the issue in specialized journals like the «Klinische Monatsblätter Augenheilkunde» or the «Zeitschrift für Augenheilkunde». Although some of them were engaged on the battlefields of the Great War, the *vexata quaestio* of El Greco's visual defect demanded their attention.

The resumption of the confrontation was triggered by the idea – already sketched by Liebreich in 1872 – that each type of visual defect corresponds to a

particular pictorial inclination. A student in Paris, Aron Polack, conducted in 1900 a statistical research on teachers and students of the École des Beaux-Arts in Paris, finding that 14.84% were emmetropic, 48.44% myopic, and 27.34% farsighted<sup>23</sup>. Commenting on these results and examining the various defects in relation to painting, Dr. Patry concluded in 1917 that the myopia is the ideal visual acuity of the painter<sup>24</sup>.

Dr. Levi-Sander<sup>25</sup> wanted to rectify his colleague, arguing that only in certain periods and styles (as in the case of impressionism) is myopia an advantage, while it would be a disadvantage for expressionism (based on outlines and on flat images) and Nazarene art (with its predilection for the line). But soon, and without mentioning Katz's study, they start to argue about El Greco. Levi-Sander repeats an argument we are already familiar with: while admitting that the astigmatic painter sees ellipses when he looks at circles, the circles painted on the canvas obey exactly to the same dioptric rules governing the perception of circles in the real world. In other words: El Greco must paint a circle if he want to see on the canvas the same circle that he sees in the external model, even if his astigmatism presents it phenomenically like an ellipse. Moreover, the normal eye perceives the circle not in its geometrical precision, but always influenced by the point of view; yet that circle appearing in countless changing forms is still recognized as a circle. For these reasons Levi-Sander concludes his argument against Patry, claiming the exclusively artistic status of the style option.

In his reply to Levi-Sander, Dr. Isakowitz<sup>26</sup> objects that his colleague has taken into consideration only the graphic or pictorial reproduction of a circle based on the perception of a model. But it is a totally different case when the painter has acquired astigmatism during his lifetime: if required to draw a circle from memory, retrieving the mnemonic images of the circle preserved from the times when the eye could see normally. This is how the double register of the *Burial of the Count of Orgaz* can be understood: in the lower register El Greco painted properly their clients according to the faithful reproduction of the natural pattern; in the upper register he gave instead free rein to his imagination, painting from memory and therefore distorting.

In his famous 1922 study on the art of the mentally ill Hans Prinzhorn<sup>27</sup> touches on the controversy, judging simply shameful that psychologists have not been able to see that an astigmatic El Greco should have painted the image on the canvas faithfully reproducing the object taken as a model in order to achieve the same visual appearance. The conditioning of pictorial representation by visual abnormalities (such as color blindness) should undoubtedly not be excluded, but he believes it more productive to address the psychic components of that repre-

sentation as revealed by the main components of the 'formal representation' or *Gestaltung*.

A year later the French nationalist writer and politician Maurice Barrès<sup>28</sup>, who in 1911 had offered a religious and Catholic reading of El Greco as an anti-naturalist, wanted to add some *Marginalia* in which he commented on the astigmatic hypothesis, which he had found in the exposition of the ophthalmologist Germán Beritens. The elongated and thin shapes that in the first 1911 edition had been metaphysically interpreted as tormented and glorious, sublimated and spiritualized bodies, assume in the 1923 notes a new optical meaning. Some late paintings of the Cretan seem to him like pictures produced by a camera out of focus. And if El Greco had lived in our times, he would have certainly decided to be treated by an eye doctor, in order to return to paint correctly. We just need to look at those paintings through corrective glasses and the deformations will disappear.

The debate resumed in 1932: Dr. Huber<sup>29</sup> doubts that a painter like El Greco could not notice that he had painted his *Entierro* proportionately in the lower register and disproportionately in the upper register. This different treatment of secular and celestial figures was desired, and not derived from astigmatism. Examining other paintings by the artist, Huber points out that the forms are stretched not only vertically (as with some entire bodies), but also horizontally (as with certain hands, such as in *Saint Jerome as a Cardinal* in the National Gallery in London: fig. 3): should we then absurdly hypothesize that El Greco had assumed different positions of the head to astigmatically distort in the vertical and in the horizontal sense? The way of his painting has nothing to do with astigmatism, but rather with its pronounced subjectivism, with a spiritual idea of the image, with a religiosity that leads him to dematerialize the bodies, to represent them in their ecstatic effort to ascend to higher spheres of existence.

Already Dr. Manuel Márquez<sup>30</sup>, in various papers published in the journal of the Sociedad Oftalmológica Hispano-Americana, had drawn attention to the horizontally- and vertically-stretched hand to conclude that El Greco painted not under the constraint of a visual defect, but by virtue of a pure «capricho imaginativo», conforming moreover to the thin and slender anatomical canon of the ideal-typical Spanish knight as immortalized by the *Quixote*. Apart from the fact that the same painting contains both elongated figures of saints and proportionate secular figures, the astigmatic argument is inconsistent on perceptological grounds: the astigmatic subject does not see elongated objects. The retinal images are elongated, but the human being does not see the image of the retina, but the object itself. The examination of strongly astigmatic painters of his time allows Márquez to observe that they depict without major distortions. It is there-

fore the genius of El Greco, and not his visual defect, that determines his way of painting: if such a genius involves something abnormal, this is a matter for the psychiatrist and not for the ophthalmologist (a position substantially shared by Dr. Isakowitz)<sup>31</sup>.

However, the astigmatic hypothesis was far from being put to rest as a mere supposition. In 1933 the ophthalmologist Strebel<sup>32</sup> published a long article reaffirming the right of ophthalmology against the claims of the «*extreme Psychologisten*» and of those who base their interpretations on pure philosophical principles: certainly the psychological and even the psychoanalytic reasons are not negligible, but one should never dismiss the biological causes. In support of his view Strebel refers to an abundant number of clinical cases that he has personally followed<sup>33</sup>, and to his rich collection of drawings, paintings and engravings of various periods, wherein one can precisely deduce the refractive error that affected the visual organ of the artist. As specifically regards El Greco, Strebel vigorously denies his mysticism: the Cretan was a perfect realist with expressionistic inclinations, what made him ultimately alien to Spanish culture. The paintings of his last period in Toledo reveal in certain shades of blue and green the classic yellowing of the lens due to aging. But astigmatism is also evoked to support the ophthalmologic argument. The counter-argument of the differently stretched hands, exposed by Márquez and Huber, does not preoccupy Strebel: what do we know of the way artists painted at that time? The painter also had to fulfil a cultural requirement of the epoch, which demanded the depiction of very long hands as a sign of distinction: the painter might have easily turned the canvas in order to comply with such a request. With regard to the controversial *Burial*, Huber and Patry are wrong when they argue that the difference between the two scenes – the realistic lower one and the mystical upper one – is not due to an optical factor: the proximal vision involves a different assessment of the images if compared to the distal vision. And such a difference increases in the presence of an astigmatic defect. As has been demonstrated, astigmatism is reduced in the near vision, so it is obvious that the portraits from life of the lower part of the painting, realized by looking closely at the models, are more proportionate than the figures of the upper register, painted from memory.

In 1935 Huber<sup>34</sup> intervenes once again to defend his anti-astigmatic assumption, while providing at the same time a useful summary of the main positions taken by the participants in the El Greco debate. Replying specifically to Strebel, Huber provides experimental rebuttal to the cases cited by his opponent, and emphasizes the fact that one can not plausibly compare what a supposed astigmatic painter saw with what we see when we become artificially astigmatic wearing



a cylindrical lens. As for the vexed question of the length of the hands, Huber ironically comments upon the assumption that the artist had turned over the canvas, and objects that one and the same phenomenon of distortion (namely the stretched hands) cannot be explained both by recourse to the fashion of the epoch (as a mark of social distinction) and to an ocular defect (namely astigmatism). Moreover, having examined contemporary artists who resort to stretching and distortions similar to the Cretan, Huber relates that he has found no trace of astigmatism. Such deforming manners are by no means rare in the early decades of the Twentieth century: one might just think of Amedeo Modigliani, who presents even more pronounced elongations than those of El Greco, for which, however, no supposition of astigmatism had been thus far (i.e. until 1935) advanced.

Since the Thirties the discussion has been going on, but the ranks of the opponents of the astigmatic hypothesis – labelled in the Sixties the “El Greco Fallacy”<sup>35</sup> – has increased and has become mainstream. The almost unanimously recognized error has been ironically summarized by the ophthalmologist Marmor in these verses:

I think the old fox  
Would NOT have painted an image oblong,  
Since then he'd see it as doubly wrong!<sup>36</sup>

We can mention here the names of the ophthalmologist James G. Ravin<sup>37</sup>, of the psychologist James J. Gibson<sup>38</sup>, of the ophthalmic surgeon Patrick Trevor-Roper<sup>39</sup>, of Jane Itzhaki<sup>40</sup> and finally of Stuart Anstis, a psychologist at the University of California at San Diego, who as recently as 2002 opens his article wondering «Why did El Greco paint such elongated human figures?»<sup>41</sup>. Proposing to test the hypothesis of astigmatism, Anstis uses an experimental procedure and arguments that we are now well familiar with: he transforms the subjects of his experiment in «artificial El Grecos», asking them to look through a cylindrical lens. When invited to draw a square from memory and freehand, they produced a vertically elongated rectangle, «an El Greco effect». When requested instead to copy a square model, they correctly reproduced it, even if both the model and the drawing appeared to their eyes as rectangles. However, to simulate an astigmatism which is assumed to have lasted an entire lifetime, like that of the painter, the psychologist asked a volunteer to bring the cylindrical lens for two days (!), during which he had to draw a square from memory and one from life four times a day. The copies were regular squares, while the freehand drawings based on memory seemed at first very distorted as rectangles; these became gradually more and more squared, however, until they appeared normal by virtue of an adaptation to the

optical distortion. Anstis therefore concludes that even if El Greco was astigmatic, he would have adapted to his defect, and his figures, whether drawn from memory or reproduced from life, would have had normal proportions. His elongations were thus an artistic expression, and not an optical symptom.

In 2014 (exactly one hundred years after the publication of Katz's essay), Matthew P. Simunovic<sup>42</sup> has added an important caveat: if the arguments adduced by Katz in order to demonstrate the unsustainability of the ophthalmologic explanation are to be accepted, we should nevertheless avoid adding fallacy to fallacy, considering astigmatism as a visual defect that can produce a constant error in perception: the astigmatic distortion can indeed vary depending on the distance at which the percept is placed, and the elongation grows with the increase of the distance.

In the same year the argument of the El Greco fallacy was used in order to support the refutation of the cognitive penetrability of visual perception<sup>43</sup>.

### 5. *El Greco according to Cézanne*

In its rigid opposition, the passionate conflict between the astigmatic party and the stylistic party (with the final victory of the latter) nevertheless risks obscuring some important issues that are crucial to a kind of art which is, after all, called "visual".

A careful reading of Katz's argument shows that the German psychologist actually has no intention of liquidating the saliency of the ophthalmologic factor for a total understanding of visual artworks: «Why should an organization of the eye that results in an altered depiction be of no significance for the shaping of the artwork?»<sup>44</sup>.

The unsustainability of the astigmatic hypothesis as a plausible explanation of El Greco's stylistic options does not imply *eo ipso* the universal rejection of the ophthalmologic factor for any other artist. The refutation of a particular case does not allow the extension of this conclusion to all cases. If painting is a *visual* art, the disproof of an inconsistent hypothesis (in our case the "El Greco fallacy") must not result in the assumption of a spiritualistic thesis according to which style becomes a matter of a more or less metaphysical "interiority" and a completely disembodied issue.

A case study in which the physiological hypothesis might be a useful tool would be, for example, precisely the one with which the history of this ophthalmological approach started with Richard Liebreich, namely the "too blue" typical of the palette of elderly painters suffering from a progressive yellowing of the

lens. Such an argument would imply neither the restoration of a certain conception of “retinal” art, already stigmatized one hundred years ago by Duchamp, nor the naturalistic reduction of a painter’s style to his or her visual skills, with the consequent exclusion of other determinant factors like intentionality, authorship, socio-cultural context, art-historical tradition and so on. Simply, in the wake of Helmholtz and du Bois-Reymond, it would mean the acknowledgment that an art like painting has in vision one of its conditions of possibility, and can therefore be influenced by vision and its operations. This acknowledgment would be more *natural* than *naturalistic*.

Merleau-Ponty, a philosopher sensible of the reasons of physiology when understood in a non-reductive way, has hinted at a similar approach in his reflections on El Greco and on Cézanne (an artist who intensely confronted himself with the Cretan<sup>45</sup> and who doubted that his way of painting was a consequence of an ocular disease or of a morbid constitution).

In *The Structure of Behavior*, published in 1942, Merleau-Ponty rejects the astigmatic hypothesis (that he had known through the mediation of Cassou)<sup>46</sup>: if El Greco suffered from a visual anomaly, this does not mean that his style can be explained by a “physiological” cause. But this does not mean that the visual factor and an organic malfunction played no role at all in determining his manner of painting. Reabsorbed in the complexity of life, the physiological factor ceases to act as a mere cause, and is metabolized by the totality of existence along with a thousand other factors: «A visual anomaly can receive a universal signification by the mediation of the artist and become for him the occasion of perceiving one of the “profiles” of human existence. The accidents of our bodily constitution can always play this revealing role on the condition that they become a means of extending our knowledge by the consciousness which we have of them, instead of being submitted to as pure facts which dominate us. Ultimately, El Greco’s supposed visual disorder was conquered by him and so profoundly integrated into his manner of thinking and being that it appears finally as the necessary expression of his being much more than as a peculiarity imposed from the outside»<sup>47</sup>.

So El Greco may well have painted in his peculiar style because he was astigmatic; but this fact, far from being the *cause* of his style, is a sub-element that, like many other partial elements, «has been assimilated and centred in his deeper life»<sup>48</sup>: an optical blur reabsorbed by an existential focus. What Merleau-Ponty is here trying to do – in a book devoted to the relationship between consciousness and nature and in a chapter dedicated to the relationship between the soul and the body – is to avoid the false choice between a biological model and a psychological explanation, which are opposed but homologous in their attempt to

understand an artistic style according to the abstract scheme of a cause/effect relationship: style as the effect of an either physic or psychic cause, so as to link psyche and soma in a fictitious relationship, the psycho-physiological “parallelism”.

An analogous case can be made for Cézanne. In a famous letter written in October 1905 to Émile Bernard the painter remarked: «Now being old, nearly seventy years, the sensations of color, which give light, are for me the reason for the abstractions that do not allow me to cover my canvas entirely or to pursue the delimitation of objects where their points of contact are fine and delicate; from which it results that my image or picture is incomplete. On the other hand the planes fall one on top of the other»<sup>49</sup>. In his memories written in 1907 Émile Bernard emphasizes the pathological implications of that remark: «The failing of which Cézanne most complained was his vision. “I see overlapping planes,” he told me, “and sometimes straight lines appear to me to fall.” These faults, which I was considering as products of his wilful disregard, he blamed on the weaknesses and bad habits of his vision. It was his constant preoccupation to find a way to better see the values. He talked frequently about Chardin’s eyeglasses and his visor as a possible remedy, but he never tried them»<sup>50</sup>.

Although he wanted to defend Cézanne against his detractors, Huysmans had defined him as early as 1889 «un artiste aux rétines malades»<sup>51</sup>. And Émile Zola, representing him through the character of the failed painter Claude Lantier in *L’œuvre*, wondered: «Was he losing his sight that he was no longer able to see correctly?»<sup>52</sup>. In his essay on *Cézanne’s Doubt* – written in the same year 1942 like *The Structure of Behavior* – Merleau-Ponty, while explicitly connecting the fate of Cézanne to that of El Greco, urged going beyond a causalistic approach, invoking the category of *expression*, which does not reject the psychophysiological factors but interprets them under a totally different light in which freedom and determination lose their opposition and collapse into a single expressive phenomenon: «There is no difference between saying that our life is completely constructed and that it is completely given. If there is a true liberty, it can only come about in the course of our life by our going beyond our original situation and yet not ceasing to be the same: this is the problem. Two things are certain about freedom: that we are never determined and yet that we never change, since, looking back on what we were, we can always find hints of what we have become»<sup>53</sup>.

Five years later André Malraux published his famous *Musée imaginaire*, in which, speaking of El Greco, he observed that the Cretan painter «knew that self-coherent distortion is a legitimate method of creation»<sup>54</sup>. Merleau-Ponty intensely deliberated about the concept of «*déformation cohérente*», and finally delivered his reflections in a long essay published in 1952, dedicated to Sartre and entitled

*Indirect Language and the Voices of Silence*. Here is described the intimate connection between such a deformation and expressivity, which goes far beyond the opposition of reality and its stylistic representation: «The painter at work knows nothing of the antithesis of man and the world, of signification and the absurd, of style and “representation”. He is far too busy expressing his communication with the world»<sup>55</sup>. Such an expression metabolizes the perceived world into a style, which is not to be measured according to a mimetic criterion of replication of sensory data, but rather according to a system of equivalences: «For each painter, style is the system of equivalences that he makes for himself for the work which manifests the world he sees. It is the universal index of the “coherent deformation” by which he concentrates the still scattered meaning of his perception and makes it exist expressly»<sup>56</sup>.

While Katz believed it necessary to keep carefully separated the “aesthetic-artistic” meaning of the art of El Greco on one hand, and Domenikos Theotokopoulos’ life on the other, Merleau-Ponty rejects the traditional oppositions between life and art, figuration and representation, perception and stylization. In this impressive and at the same time everyday metabolism, even the «corporeal destiny» (and with it the possible astigmatic, myopic, colour-blind fate) ceases to be the effect of a cause, and becomes «the bread the painter consecrates and the food which nourishes his painting»<sup>57</sup>.

*I am very grateful to Matthew Vollgraff for his generous help in revising my text and for his valuable suggestions.*

- 1 C. Lombroso, *Genio e follia*, Milano, 1864, 3<sup>rd</sup> augmented ed. 1877; see the English translation *The Man of Genius*, London-New York, 1891.
- 2 See: P.D. Trevor-Roper, *The World Through Blunted Sight. An Inquiry into the Influence of Defective Vision on Art and Character*, London, 1970, 1988<sup>2</sup>, 1997<sup>3</sup>; A. Linksz, *An Ophthalmologist Looks at Art*, San Francisco, 1980; M.F. Marmor, J.G. Ravin (eds.), *The Eye of the Artist*, St. Louis, 1997; P. Lanthony, *Les yeux des peintres*, Lausanne, 1999; P. Lanthony, *Art & Ophthalmology. The Impact of Eye Diseases on Painters*, Amsterdam, 2009.
- 3 J. Kwoczyński, *The fig.res in El Greco’s Paintings Have Signs of Marfan’s Syndrome*, in «Kardiologia Polska», 64, 2006, pp. 1214-1220.



- 4 «I cannot now help asking myself whether what I see in El Greco's work of tortured fantasy and sinister strangeness is not due to such a sexual abnormality as this» (W. Somerset Maugham, *Don Fernando* (1935, rev. ed. 1950<sup>2</sup>), London, 2001, p. 141).
- 5 «The elongation of his figures has been talked of overmuch. Doubtless because this is the most striking characteristic of his pictures, when reproduced in black and white» (A. Malraux, *The Psychology of Art* (1947), vol. 2: *The Creative Act*, New York-Geneva, 1949, p. 186).
- 6 See Th. Gautier, *Voyage en Espagne* (suivi de) *España*, ed. by P. Berthier, Paris, 1981.
- 7 See J. Alvarez Lopera, *De Céan a Cossío: la fortuna crítica del Greco en el siglo XIX*, 2 vols., Madrid, 1987.
- 8 M.B. Cossío, *El Greco*, Madrid 1908. See also by Cossío, *Lo que se sabe de la vida del Greco*, Madrid, 1914.
- 9 Cf. J. Meier-Graefe, *Spanische Reise*, Berlin, 1910, 1923<sup>2</sup>, p. 107. On the paradigm shift see M. Warnke, *Julius Meier-Graefes "Spanische Reise": ein kunstkritischer Paradigmenwechsel, in Kunst in Spanien im Blick des Fremden: Reiseerfahrungen vom Mittelalter bis in die Gegenwart*, ed. by G. Noehles-Doerk, Frankfurt am Main, 1996, pp. 221-228.
- 10 C. Justi, *Velazquez und sein Jahrhundert* (1888, 1903<sup>2</sup>), Zürich, 1933, pp. 84-86 (the passage on El Greco's pathologies was added by Justi only in the second edition and is therefore not present in the English translation of the first edition: *Velázquez and His Times*, London-Philadelphia, 1889. See also his article *Die Anfänge des Greco*, in «Zeitschrift für bildende Kunst», 8, 1897, pp. 182-184; reprinted in *Miscellaneen aus drei Jahrhunderten spanischen Kunstlebens*, 2 vols., Berlin, 1908, vol. I, pp. 217-218.
- 11 R. Liebreich, *Turner and Mulready – On the Effect of Certain Faults of Vision on Painting with Especial Reference to their Works*, in «Notices of the Proceedings at the Meetings of the Members of the Royal Institution of Great Britain», 6, 1872, pp. 450-463; reprinted in *Turner and Mulready – The Real and the Ideal in Portraiture – The Deterioration of Oil Paintings. Three Lectures*, London, 1888, pp. 5-18. Cf. P. Geimer, *Getrübte Blicke. William Turner in augenärztlicher Betrachtung*, in *Kunstmaschinen. Spielräume des Wissens zwischen Wissenschaft und Ästhetik*, ed. by A. Mayer and A. Métraux, Frankfurt am Main, 2005, pp. 139-165.
- 12 R. Liebreich, *Turner and Mulready*, cit., p. 6.
- 13 *Ivi*, p. 9.
- 14 A. Goldschmidt, *El Greco und sein "Manierismus"*, in «Süddeutsche Monatshefte», 5, 1911, pp. 632-637.
- 15 J. Meier-Graefe, *Spanische Reise*, cit., p. 227.
- 16 R. Jorge, *El Greco: nova contribuição biográfica, crítica e médica ao estudo do pintor Doménico Theotocópuli*, Coimbra, 1912; G. Beritens, *Aberraciones del Greco científicamente consideradas*, Madrid, 1913; *El astigmatismo del Greco. Nueva teoría que explica las anomalías de las obras de este artista*, Madrid, 1914; *Algo sobre el Greco*, in «Archivos de Oftalmología Hispano-Americanos», 16/183, 1916, pp. 176-180; *Sobre el supuesto astigmatismo del Greco: contestando al Dr. Márquez*, in «Archivos de Oftalmología Hispano-Americanos», 27/315, 1927, pp. 192-199; *El mundo exterior, la imagen retiniana y la función visual*, in «Archivos de Oftalmología Hispano-Americanos», 29/338, 1929, pp. 70-83. Against Beritens see R. Pereiro Jáuregui, *¿Por qué El Greco pintó como pintó?: Contestación al artículo des doctor Beritens*, in «Por Esos Mundos», 14/216, 1913, pp. 95-96.



- 17 Cf. «La Chronique Médicale», July 1<sup>st</sup> 1913, pp. 385-395; October 15<sup>th</sup> 1913, pp. 627-630.
- 18 D. Katz, *War Greco astigmatisch? Eine psychologische Studie zur Kunstwissenschaft*, Leipzig, 1914, pp. 46 and 48.
- 19 L. Arréat, *Psychologie du peintre*, Paris, 1892, pp. 242-245.
- 20 H. von Helmholtz, *Optisches über Malerei* (1876), in *Vorträge und Reden*, 2 vols., Braunschweig, 1903<sup>5</sup>, vol. II, pp. 93-135, in part. p. 97. See also E. du Bois-Reymond, *Naturwissenschaft und bildende Kunst* (1890), in *Reden*, 2 vols., Leipzig, 1912, vol. II, pp. 390-425 (see p. 402 for a reference to Liebreich, Turner and astigmatism).
- 21 D. Katz, *War Greco astigmatisch?*, cit., p. 26.
- 22 R. Arnheim, *Inverted Perspective and the Axiom of Realism*, in *New Essays on the Psychology of Art*, Berkeley-Los Angeles, 1986, p. 160.
- 23 A. Polack, *Rôle de l'état de réfraction de l'œil dans l'éducation et dans l'œuvre du peintre*, Paris, 1900.
- 24 A. Patry, *Welchen Einfluss hat die Refraktion auf das Werk des Malers*, in «Klinische Monatsblätter für Augenheilkunde», 58, 1917, pp. 597-602, in part. p. 597.
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- 26 J. Isakowitz, *Zur Frage der Beziehungen zwischen Refraktion und dem Werk des Malers*, in «Klinische Monatsblätter für Augenheilkunde», 61, 1918, pp. 454-455.
- 27 H. Prinzhorn, *Artistry of the Mentally Ill* (1922), New York, 1972, pp. 28-29.
- 28 M. Barrès, *Greco ou le secret de Tolède* (1911), Paris, 1988; on the astigmatic hypothesis see the *Marginalia de 1923*, pp. 134-137.
- 29 O. Huber, *Zu Grecos Astigmatismus*, in «Klinische Monatsblätter für Augenheilkunde», 89, 1932, pp. 97-98, in part. p. 98.
- 30 See in «Archivos de Oftalmología Hispano-Americanos» the following papers by M. Márquez: *El supuesto astigmatismo del Greco*, 26/311, 1926, pp. 687-688; *Sobre el supuesto astigmatismo del Greco*, 26/312, 1926, pp. 715-727; *Más sobre el supuesto astigmatismo del Greco*, 27/316, 1927, pp. 244-251; *El mundo exterior, la imagen retiniana y la función visual: con motivo del pretendido astigmatismo del Greco*, 29/341, 1929, pp. 249-270.
- 31 J. Isakowitz, *Zu Greco Astigmatismus. (Eine Replik)*, in «Klinische Monatsblätter für Augenheilkunde», 91, 1933, p. 110.
- 32 J. Strebel, *Prolegomena optica zum bildnerischen Kunstschaffen*, in «Klinische Monatsblätter für Augenheilkunde», 91, 1933, pp. 258-272.
- 33 Strebel had already reported the results of his examinations of some significant case-studies in his article *Prolegomena zum bildnerischen Kunstschaffen*, in «Praxis», 37, 1923, pp. 35-48.
- 34 O. Huber, *Kunst und Auge*, in «Zeitschrift für Augenheilkunde», 86, 1935, pp. 37-49.
- 35 I. Rock, *The Nature of Perceptual Adaptation*, Oxford, 1966, p. 12. See for a brief history of this label see C. Firestone, *On the Origin and Status of the "El Greco fallacy"*, in «Perception», 42, 2013, pp. 672-674.
- 36 M.F. Marmor, *El Greco's Glasses*, in «Survey of Ophthalmology», 51/4, 2006, p. 445.

- 37 J.G. Ravin, *El Greco: Astigmatism or Calculated Distortion*, in «Journal of Pediatric Ophthalmology», 4, 1959, pp. 55-59; Idem, *Eye Problems Attributed to El Greco*, in M.F. Marmor, J.G. Ravin, *The Eye of the Artist*, cit., pp. 43-47.
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- 39 P.D. Trevor-Roper, *The World through Blunted Sight*, cit., pp. 52-61.
- 40 J. Itzhaki, *El Greco Had Style, not Astigmatism*, in «New Scientist», 147, 1996, p. 12.
- 41 Cfr. S. Anstis, *Was El Greco Astigmatic?*, in «Leonardo», 35, 2002, p. 208.
- 42 M.P. Simunovic, *"The El Greco fallacy" fallacy*, in «JAMA Ophthalmology», 132/4, 2014, pp. 491-494.
- 43 C. Firestone, B.J. Scholl, *"Top-Down" Effects Where None Should Be Found: The El Greco Fallacy in Perception Research*, in «Psychological Science», 25/1, 2014, pp. 38-46.
- 44 D. Katz, *Was Greco astigmatisch?*, cit., p. 5.
- 45 Cf. E. Foundoulaki, *From El Greco to Cézanne*, in the catalogue *From El Greco to Cézanne*, Athens, 1992, pp. 98-117.
- 46 See J. Cassou, *Le Greco*, Paris, 1931, p. 35.
- 47 M. Merleau-Ponty, *The Structure of Behavior* (1942), Boston, 1967, p. 203.
- 48 *Ibidem*.
- 49 P. Cézanne, letter to É. Bernard, October 23, 1905; in M. Doran (ed.), *Conversations with Cézanne*, Berkeley, 2001, p. 209.
- 50 *Ivi*, p. 78. The allusion to Chardin's visor refers to the 1775 self-portrait of the artist called "à l'abat-jour" (in the Louvre Museum).
- 51 J.-K. Huysmans, *Certains* (1889): <http://www.huysmans.org/certains/certains1.htm>
- 52 É. Zola, *His Masterpiece* (1886), London, 2013, p. 52.
- 53 M. Merleau-Ponty, *Cézanne's Doubt* (1942, published 1945), in *Sense and Non-Sense*, Evanston (Ill.) 1964, p. 21.
- 54 A. Malraux, *The Psychology of Art*, cit., p. 184.
- 55 M. Merleau-Ponty, *Indirect Language and the Voices of Silence* (1952), in *Signs*, Evanston (Ill.), 1964, pp. 53-54.
- 56 *Ivi*, pp. 54-55. On the notion of deformation see M. Carbone, *An Unprecedented Deformation: Marcel Proust and the Sensible Ideas*, Albany (NY), 2011.
- 57 M. Merleau-Ponty, *The Indirect Language* (1951 preparatory version of the essay *Indirect Language and the Voices of Silence*), in *The Prose of the World*, Evanston (Ill.), 1973, p. 75.



Fig. 1: EL GRECO: *Left*: detail from *Saint Martin and the Beggar*, 1597-1599. Washington, National Gallery; *Center*: detail from *Laocoön*, 1610-1614. Washington, National Gallery; *Right*: detail from *The Adoration of the Shepherds*, 1612-1614. Madrid, Museo del Prado



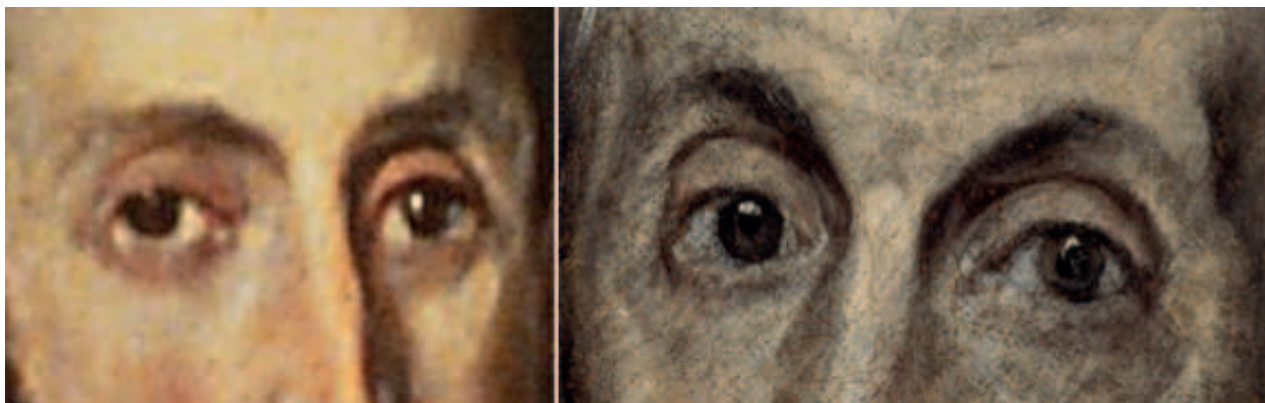


Fig. 2: EL GRECO: *Left*: detail from *The Burial of the Count of Orgaz*, 1586-1588. Toledo, Church of Santo Tomé; *Right*: detail from *Portrait of a Man* (presumed self-portrait), 1595-1600. New York City, Metropolitan Museum of Art



Fig. 3: EL GRECO, detail from *St. Jerome as Scholar*, 1610. New York City, Metropolitan Museum of Art