Light animates a quiet monochromatic still life painting. Its few objects sit on a laid table — two pewter dishes, a roemer and an overturned tazza, some nuts, two oyster shells, a knife, a lone olive. Diffuse light wafts from the left gently illuminating these well-articulated surfaces: a reflection of the window in the lip of the roemer reveals its source. Light gleams along the edge of the small plate filled with pepper, limns the edges of the oysters, and glances off the knife in the foreground. It reverberates around the liquid of the half filled roemer and dazzles the underside of the tipped tazza whose hollow foot catches its brilliance. The edges of the brown cloth-covered table, outlined in white, bracket the stage of action — theater for the play of light.

The effects of light, requisite to all fine art, hold a singular place in Dutch art theory and practice not seen elsewhere in European art. They shimmer off the surfaces of Dutch paintings – from still life and landscapes to the domestic interiors of Vermeer, and the portraits and history paintings of Rembrandt – as decisive proponents of convincing Dutch realism. And so it is – and, paradoxically, is not. The descriptive realism of Dutch painting, the pictorial articulation of surfaces, textures, materials of all kinds, answered the art theorists’ call to ‘truly natural painting’, and yet such paintings were

1  Samuel van Hoogstraten took the camera obscura as the model of “paintings made by nature,” an artifice he recommended that painters adopt; Celeste Brusati, Artifice and Illusion: The Art and Writing of Samuel van Hoogstraten (Chicago 1995) 70-74. Samuel van Hoogstraten, Inleyding tot de Hooge Schoole der Schilderkonst, anders de Zichtebaere Werelt (Introduction to the academy of painting; or, The visible world; Rotterdam 1678) 263.
never transcriptions of reality, but entrants in an ever-escalating contest in artifice. The observation and imitation of nature in all its visible guises, matched by consummate craft, created images of fiction, hewing more truthfully to optical experience and contrived effects than to any objective reality. Whether painters worked naer het leven (from life) or uyt den geest (from the imagination), they aspired to great feats of artifice, none more so than when depicting the action of light.

Ever conspicuous in Netherlandish paintings, as in Pieter Claesz’s (1597/98-1660) Still Life with Roemer and Tazza parsed above (undated, mid-century; Fig. 1), light and its effects are also identified, theorized, and codified in an early – seventeenth century treatise whose importance is difficult to overstate. Het Schilderboeck (The Book on Picturing), 1604, by painter and art theorist Carel van Mander (1548-1606), was the result of ten years of research, and became the basis of all subsequent theoretical treatises on Dutch art from Samuel van Hoogstraten’s 1678 text to that of

2 Northern art as an “art of describing” rather than an Italian art of narrative is most fully argued by Svetlana Alpers, Art of Describing: Dutch Art in the Seventeenth Century (Chicago 1983).
his student, Arnold Houbraken's of 1718.\(^3\) ‘[Van Mander] seemed to have said it all,’ writes Walter Melion, a foremost interpreter of the treatise.\(^4\) Born in Flanders, Van Mander eventually moved to Haarlem where he worked in close association with the painters Hendrick Goltzius (1558-1617) and Cornelis Cornelisz (1562-1638) and where he wrote his treatise; thereafter, he moved to Amsterdam where he died in 1606.

Het Schilderboeck is a complex text comprising three books. The first – Den Grondt der Edel vry Schilder-const (Foundations of the Noble and Free Art of Painting) – is a didactic treatise in verse on the art of painting, print, and drawing, as well as on technique, practices, and genres.\(^5\) The other two books offer the biographies of the ancient, Italian, and Netherlandish painters, and an interpretation of Ovid’s Metamorphoses. Het Schilderboeck’s first edition quickly sold out in 1604, as did annotated copies of the posthumous second edition of 1618, demonstrating both its popularity among collectors and the probability that Rembrandt had had access to it.\(^6\) Indeed, it would have been a rare member of the Dutch artistic elite who did not know of it by mid-century.

Dutch painting is an art of surfaces – opaque, reflective, refractive – struck by various forms of light – sunlight, daylight, candlelight. Northern practice technically favored the depiction of light: with the fifteenth-century attention to detail and its adoption of oil paint arose the capacity of painting materials to transmit light between layers of paint with a translucency and reflectivity not possible with tempera used in Italian painting. Suddenly, the practical possibilities of artifice greatly expanded. Questions of illuminated surfaces are especially conspicuous in still life painting, a genre whose aim

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3 Van Hoogstraten, Inleyding: Arnold Houbraken, De groote schouburgh der Nederlantsche konstschilders en schilderessen (The great theater of Dutch painters) 1718.
5 The full title reads Den Grondt der Edel vry Schilder-const: Waer in haer ghestalt, aerdt ende wesen, de leer-lustighe Jeught in verscheeyden Deelen in Rijm-dicht wort voor ghedraghen.
6 Melion, xvii.
is the description of an infinity of objects both lowly and exotic (Van Mander recommends both still life and landscape as vehicles for such effects). A Dutch invention, still life (stilleven) celebrated various subgenres from flower painting to dead game and vanitas images, but above all, food - both the muted and spare breakfast table (ontbijtje), and the sumptuous display of exotic foods and collectibles (pronk stilleven).7 We find an example of the former in Claesz’s painting (Fig. 1). Though notable for its spare composition, its stark simplicity should not be confused with poverty: both silver tazza and glass roemer were luxury items, as was the imported pepper in the small dish. The quiet stillness of the image is belied by the action of light in a brilliant demonstration of the ‘art of reflection’, or reflexy-const, a distinctly Netherlandish addition to artistic lexicon: while all art theorists write about the pictorial effects of light, only the Netherlandish theorists name them in all their particularity.

Chapter seven of Van Mander’s Den Grondt, entitled Van de Reflecty, Reverberaty, teghen-glaus oft weerschijn (On Reflection, Reverberation, and Re-reflection), details effects of light as an art in themselves with their own vocabulary embedded within a discourse about artistic conception (inventy) and the smooth, almost enameled manner of painting (net-ticheydt). The discourse of reflexy-const necessarily imbricates the optical and material, dealing as it does in the properties of light and their representation in the material substance of paint, an act of artifice that transmutes lowly matter into luminescence. Rather than using gold leaf and its inherent light-reflecting qualities to depict a gilded goblet, say, the painter must conjure up in oil and pigment the effects nature effortlessly produces. The description of light in Het Schilderboeck, while poetic and allusive, is weighted toward the technical observation of sunlight and clouds, and the nocturnal phenomena of firelight, forges, lightening, moonlight. Van Mander specifies the colors appropriate to various light sources which are not an abstraction, but a matter of color.8 Van Hoogstraten will later insist


8 The vexed and evolving understanding of the relation of light to color, from Alhazen to Newton and the different uses of the terms lux and lumen are explored in John
that only the sunlight properly reveals color to the eye.  

Van Mander's taxonomy of reflection was taken up almost unaltered by subsequent theorists. Several and overlapping, his terms denote effects from a dull shine to a full mirroring. All reflective surfaces, he explains, have varying degrees of glans (sheen or luster) and he relates this capacity to the properties of oil paint's translucency and the net, or neat, smooth and almost brushless manner of painting. The net manner finds its epitome in Gerard Dou's meticulously painted surfaces, frequently lit by candlelight (see, for example, Astronomer by Candlelight, late 1650s, J. Paul Getty Museum, Los Angeles). Most of the objects in the Claesz still life painting demonstrate the sheen of glans, especially as set off by the matt surface of the brown tablecloth. The term reflectie denotes both highlights and reflection, 'the action of colored light' tinting the surfaces it hits. At its most fully reflective, reflectie becomes spiegeling, or mirroring, where objects reflect legible doubles. Weerglans or weerschijn, also called tegen-glans, designates 're-reflection' or 'the reflex of reflected light'. 'Weerglans', Melion explains, 'is the process by which light is colored by the surfaces it strikes.' As Van Mander instructs his readers, 'The painter must attend, too, to gold and silver vessels, clear transparent crystal, and presentation glasses full of wine, which stain white linen clothes with their reflection.' Lastly, reverberatie, or reverberation, signifies light effects appearing in darkness and the similitude of one object to another, as when we recognize various shapes in clouds.

Samuel van Hoogstraten, painter and art theorist writing some 74 years later, discusses the effects of weerglans and spiegeling in terms very similar to those of Van Mander:

10 These are best addressed by Melion, chapter 4, esp. pp. 60, 73-75.
11 Though of course not writing of Dou, who succeeded him, Van Mander speaks to the difficulty of rendering candlelight, “Van de Reflecty,” fols. 31v-32r, stanza 34.
12 Melion, 74.
13 Ibid.em, 73.
'Re-reflection (weerglans) is actually a reflex of the reflected light of all illuminated things, but in art we use weerglans or reflectie only to refer to the secondary reflection which falls in shadow. The most complete reflection is mirroring (spiegeling), since it is almost identical to its source except that it represents everything in reverse or upside down.'

'Mirroring (spiegeling) occurs in water, glass, metal, polished stones, and other similarly smooth surfaces...'

Still, Van Hoogstraten would have painters be judicious and sparing with these effects, warning against overindulgence. There is little danger of such excess in Claesz’s painting. An example of the so-called ‘monochrome banketje,’ the picture, measuring 42 x 59 cm, displays an ensemble of objects depicted in shades of green, grey and silver against an only slightly varied gray-green ground. Diffuse light radiates evenly from the left, save for the deeply shadowed left foreground where sit a few nuts. The painting’s other objects are easily perceptible and demonstrate their various degrees of reflectivity. While light gleams dully off the small pewter dish, it dances around the glass and liquid of the roemer whose lip reflects the window, in an example of reflectie, or reflection; highlights also sparkle from the prunts applied to the stem. In a case of weerglans, the roemer and its wine refract the light streaming through them, lending a golden tint to the side of the tipped tazza.

16 Ibidem, ‘Weerglans is wel eygenlijk een wederomkaetsing van het licht van alle verlichte dingen, maer in de konst noemen wy maer alleen reflectie of weerglans, de tweede verlichting, die in de schaduwe valt. De volmaektste weerglans is spiegeling; wantze haer oorzaek byna gelijk wort, behalven datze alles averechts of omgekeert vertoont,’ 262.

17 Ibidem, ‘De Spiegeling geschiet in water, glas, metael, gepolijsten steen, en dergelijke gladdicheit, maer de dingen, die mat ruil en oneffen zijn, ontfangen maer (Weerglans van verscheide verwen) alleen een gemeene verlichting, na de verwe van’t geen, daerzy door verlicht worden, ook na de tusschenwijte, en haere eygenschap.’

18 Van Hoogstraten, Inleyding, ‘…zoo moet men toezien, dat men het grootse geheel door te veel fateringen niet en bederve,’ 263.


20 Melion, 74.
The tazza itself presents a virtuosic tour de force of detailed reflectivity along its round form, highlights (another kind of reflectie) modulating as the bowl curves away from the light. Reflectie - turned-spiegeling is demonstrated in the brilliant reflection of the tazza’s hollow foot double-led in the plate beneath, granting even the olive its twin. Reflexy-const need not conform to the laws of physics which dictate that light travel in straight lines; indeed light bends flexibly in order to illuminate the tazza’s hollow foot. No more is it logical that dull pewter shine so brightly or be perceptible from both side and top simultaneously. Never mind: the nature of artifice cleaves far more to virtuosic opticality than to strict physical or logical principles.

While the uniform fall of light in the Claesz still life articulates each object, a pronk still life painting by Willem Kalf, Still Life with Nautilus Goblet, painted in 1660, demonstrates reflexy-const of a very different

nature (Fig. 2). A larger painting, measuring 79 x 67 cm., it is also much darker. Once again, in conformity with a common trope, a nut and some shells sit to the left, this time on a marble-topped table. The other objects, however, are hardly humble. Partially covering the table is an imported Turkish carpet with several luxury items placed atop it. A rare mid-century Chinese porcelain bowl sits on a silver platter, its lid removed to reveal the interior which holds a silver spoon. Just in front of the bowl the peel of an opened lemon spirals downward; next to it protrudes an agate-handled knife. Behind the Chinese bowl stands an elegantly wrought nautilus cup, its gilded foot in the form of a sculpted merman and its top depicting a vignette from the Bible, Jonah escaping from the mouth of the whale; the whole is surveyed by a trident-armed figure of Neptune. The target of Jonah’s headlong dash is a tall covered goblet, half-filled with red wine; another goblet of white wine barely glimmers from behind the nautilus cup, set behind a glowing Seville orange.

Even when viewed in person some objects in this painting are difficult to discern, blending as transparent things do with the deep darkness. Kalf is reticent with light, choosing to illuminate relatively few objects which appear as if by magic from impenetrable darkness. Those chosen few seem to generate their own light; notice how the nautilus shell glows as if translucent, its luminosity shedding a golden light upon the orange below it. While the irregular lighting barely picks out the edges of the silver platter, it describes in great detail the decorations and figures of the Taoist immortals on the porcelain bowl. Such an arbitrary play of light is highly theatrical, summoning the power and allure of shadow, the dark twin of light and reflectivity.

*Chiaroscuro* – ‘dark-light’ – an expressive, atmospheric use of shade and shadow, used to great effect, characterizes Kalf’s painting. So do cast shadows deployed in an interplay no less complex than that of *reflexyconst.* Shadows in Kalf’s painting fall capriciously: the porcelain bowl casts one to the left upon the silver platter at the same time as its lid casts a shadow to the right. The nautilus cup casts none at all, while the underside of the platter shading the Turkish carpet serves as a dramatic foil for the brightly lit lemon. The two forms of darkness not only obscure the laws of

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22 See Van Hoogstraten on the “shadow dance,” (*Schaduwendans*), a performance he staged in his studio to illustrate the projection of shadows where, in a reversal of the usual relation, shadow assumes the role of figure and light that of ground (Fig. 3) *Inleyding,* 259-64.
cause and effect, but diminish the perception of pictorial depth rendering the image unpredictable and disorienting. Unlike shaded shadow, which exists as a gradient, darkness in Kalf appears as an ontological void, an extreme form of *chiaroscuro* that, as in a binary operation, is either on or off. When ‘on,’ each illuminated object is brilliant, its detail crisp and tactile, eerily animated, almost self-determining. The three Chinese immortals seem ready to speak, the lemon to drip juice, the orange to be opened, the knife handle to be grasped. In a theatrical gesture, Jonah barely escapes the whale’s sharp teeth while Neptune readies his trident. When ‘off,’ on the other hand, we recognize our dependence on the good will of the painter to dispense light and legibility. Kalf’s painting offers little assurance that we penetrate and behold it entire, unlike the lucid clarity of Claesz’s forms. That such exotic and expensive luxury items, the envy of any collector, are only partially revealed, that so much of the canvas is given over to the void, seems perverse and paradoxical, and yet it underlines the degree of control wielded by the painter over our desire and our complicit acceptance of its denial.

Both Claesz and Kalf lay claim to a virtuosic performance of *reflexy-const* and shadow play, their paintings demonstrations of Van Mander’s text in its many particulars. Imitating nature, yes, but also exploiting its effects, competing with nature and winning. Reflection, we might say, is nature making a picture – the swan doubled in a pond, Narcissus gazing at his likeness in a pool. But the painter must artifice the whole, swan and reflection both; representation is always constructed, never more so than in the depiction of reflections, the act of representation writ small, a *mise en abyme* of the entire representational project. *Reflexy-const*, as a meta-pictorial discourse, comments upon representation itself. Surfaces, so important to a Dutch art of description, are thus never simple, but problematized through the art of reflection, multiplied and ramified in almost countless ways. In the end, *reflexy-const* may be understood as an art of self-reflection.

It’s important to keep in mind that the site of pictorial production was physical and particular, a studio often located in the home and subject to the constraints of space and light: seventeenth century Dutch painters did not paint en *plein air.* But the studio was the interface between the world and its representation, and sometimes the space set aside for representation is itself the subject of representation. We see this in the window’s reflection

23 For the studio as laboratory, see Svetlana Alpers, “The Studio, the Laboratory, and the Vexations of Art,” *Picturing Science, Producing Art,* eds. Caroline A. Jones and Peter Galison (New York 1998) 401-17.
in Claesz's painted roemer: sign of both implied light source and evident artifice. And further: painters would include their likeness or some token of their presence within a reflective surface of the picture; artificed somewhere within the painting the painter peers back at us. Jan van Eyck’s Van der Paele Madonna (1436) Bruges, Groeningemuseum, in which he paints his reflection into the armor of St George comes to mind as an example. Claesz includes himself quite explicitly in Vanitas with Violin and Glass Globe, 1628, where he depicts himself at his easel in the very process of painting the image we see before us (Fig. 3). So does Clara Peeters include her own likeness over and over again in her Still Life, 1612, Karlsruhe, Staatliche Kunsthalle, where she depicts herself from different angles in the eight rounded globes circling the gilt goblet.24 Not only do these artists identify themselves with their virtuosic mimetic skill, they place themselves at the very center of representation – the moment of reflectivity, the birth of representation, an art of light and of reflections upon light.