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Cut Flowers

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Abstract

Designations of still life as *natura morta, nature morte, naturaleza muerta* are based on a gross misunderstanding. We are only beginning to fully understand how masterfully the genre played with the supposed boundaries between the living and dead. It is above all floral still life painting after 1600, in which the intermediate state between life and death is centrally thematized. Where do cut plants actually derive their mysterious liveliness? Throughout its history the study of botany focused on the reality and mystery of plant metabolism. As scientists fiercely debated the nutritional aspect of floral still life in the horizon of its precarious liveliness, Dutch painters experimented with making visible the mysterious interiority of vases. In this way, still life painters modelled the larger epistemic problem of plant nutrition, self-preservation, and life not in terms of a positive answer, or hypothesis, but as an enigmatic field, an open question.

Keywords

still-life painting – history of science – natural philosophy

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Quando assolutamente si pinge l'Acqua, significa la materia prima, e fu chi volse servirsene per Impresa ad esprimere confusione.[1]

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1 Giulio Cesare Capaccio, *Delle imprese* (Napoli: Giacomo Carlino and Antonio Pace, 1592), fol. 33[r].

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Art history and the history of images are principally well advised not to construct simple equations between scientific theories and images. It flagrantly underestimates the complexity of both cultural practices in most cases; even the sharp focus of art historical "Konstellationsforschung" tends to oversimplify in this respect. On the other hand, it would lead to a dead end to continue the fixation on meta-art, which dominated the writing of art history in the 1990s; in this perspective, science and art in the 17th century would move into different directions, and the mathematization of science would be a trigger of artistic "autonomy" increasingly relieved from the burden to represent nature. As an alternative to both simplistic models (art as an illustration of science; art as self-referential), art history and the history of images should rather try to reconstruct the larger epistemic problems of various scientific discourses, and their modelling in art as *enigmatic fields*.[2] The Book of Nature in the seventeenth century, especially in the "soft" fields of knowledge which resisted mathematization (e.g. zoology, botany, anatomy, geology, hydrology, etc.), still contained extensive illegible passages. Painting, however, possessed the singular ability to permit readings of the natural by continuously negotiating between positive objectivity on the one hand and the mysteriousness of a generating nature on the other hand.

I

Designations of still life as *natura morta, nature morte, naturaleza muerta* are based on a gross misunderstanding. By 1678, Samuel van Hoogstraten's listed under the label *stil leven* flowers, books, foodstuffs, living butterflies, lizards, and spiders.[3] We are only beginning to fully understand how masterfully the

2 Cf. the ambitious essay by Norbert Schneider, "Zum Zusammenhang von Stilllebenmalerei und Erkenntnistheorie in der Frühen Neuzeit," in *Vom Objekt zum Bild. Piktorale Prozesse in Kunst und Wissenschaft, 1600–2000*, edited by Bettina Gockel (Berlin: Akademie Verlag, 2011), pp. 21–41.

3 Samuel van Hoogstraten, *Inleyding tot de hooge schoole der schilderkonst: anders de zichtbaere werelt* (Rotterdam: François van Hoogstraeten, [1678] 1969), p. 75. The passage is quoted at the beginning of his article by Alan Chong, "Contained Under the Name of Still Life: The Associations of Still-Life Painting," in *Still-Life Paintings from the Netherlands, 1550–1720*, exhibition catalog (Amsterdam, Rkjksmuseum), edited by Alan Chong, Wouter Kloek (Amsterdam: Waanders Pub, 1999), pp. 11–37. A few sentences later, however, the author concludes: "Simply put, a still life is a painted arrangement of inanimate objects [...];" p. 11. Similarly, "Diese Versammlung toter Dinge – das meint ja der zeitgenössische Begriff 'Stilleven' [...]";

genre played with the supposed boundaries between the living and dead – quite in the sense of the Aristotelian dictum that nature makes no leaps.[4] A frequently cited archetype of the genre is instructive here. Norman Bryson, for one, has conducted a penetetrating analysis of two ekphrastic texts from the writer and orator Philostratus (ca. 200 AD).[5] But Bryson overlooked one crucial point: Philostratus' brilliant play with the contrast between and transition from life to death.[6]

Philostratus describes two paintings that represent deceptively veristic gifts of food (*xenia*). The first still life shows, among other things, fruits, some green and unripe, others overripe and glowing from the inside, with their skin broken open and their juices oozing forth. A living sparrow in the painting already picks at a sweet fig. The emphasis is on maturation and transformation; it is the first example of the "kitchen still life." In the second painting of the other "gift" is the origin of the "hunting still life" motif. Here partially plucked poultry hangs alongside a dead hare with its skin peeled back; a living hare cowers in the adjacent cage. Next to them is the hunting dog, as hungry as the spectator, who is addressed here directly. Still life thus wets the appetite, it calls for access, for consumption, so long as everything remains fresh. Neither still life simply shows beautiful objects from nature but rather displays edibles, which are so enticing because they were just living or continue to live

Carsten-Peter Warncke, "Die Stillleben von Willem van Aelst – Bilder als Quelle für eine Sozialgeschichte der Ästhetik," in *Mit Klios Augen. Das Bild als historische Quelle*, edited by Kornelia Imesch, Alfred Messerli (Oberhausen: Athena-Verlag, 2013), pp. 129–142: 131. On the "Begriffsgeschichte," see Karin Leonhard, "Stille Still(l)eben. Ein Versuch, nicht zuletzt über Stoskopff," in *Silence. Schweigen. Über die stumme Praxis der Kunst*, edited by Andreas Beyer, Laurent Le Bon (Berlin-Munich: Deutscher Kunstverlag, 2015), pp. 101–117. On the signs of life in *nature morte*, cf. Étienne Jollet, *La nature morte, ou La place des choses: l'objet et son lieu dans l'art occidental* (Paris: Hazan, 2007), pp. 185–186 (with reference to Claude Henri Watelet).

4 The seminal passages are in *Hist. An.* 588b and *Part. An.* 681a. Cf. *Met.* 1075a10 and *Gen. An.* 761a15. See the classical text by Arthur O. Lovejoy, *The Great Chain of Being. A Study of the History of an Idea* (Cambridge: Harvard University Press, 1964), pp. 55–58.

5 *Eikones* I, 31 and II, 26 of Philostratus, *Imagines. Callistratus. Descriptions*, translated by Arthur Fairbanks (London-Cambridge, MA: Heinemann, 1960), pp. 122–125, 242–245. On the *ekphraseis*, cf. Luca Giuliani, "Die unmöglichen Bilder des Philostrat: Ein antiker Beitrag zur Paragone-Debatte?," *Pegasus*, 2006, *8*:91–116.

6 Norman Bryson, *Looking at the Overlooked, Four Essays on Still Life Painting* (London: Reaktion Books, 1990), pp. 17–59. On classical still life painting, see Jean-Michel Croisille, *Natures mortes dans la Rome antique: Naissance d'un genre artistique* (Paris: Editions A&J Picard, 2015).

still. Indeed, both still lifes contain sources of nourishment that promise the viewer a fortifying vitality.[7]

Still lifes with animals can highlight the particularly refined transitions between the animated and expired. Often motile animals, as in Philostratus, are contrasted with dead specimens; more complex, though, are the numerous paintings in which animals are shown in the process of dying or having just perished. Other paintings put this distinction into question. Fish still lifes offer a veritable El Dorado for this ambiguity, if only because the fish lying in the picture – in contrast to mammals and birds – give us barely any information about their mode of existence.[8] Even in scientific representations like the colored drawings from Jacopo Ligozzi's the fish with their frequently opened mouths and open eyes propose no clear conclusion. Giuseppe Recco's painting in Capodimonte shows a gathering of marine life as it would have been swept by a powerful wave from the fertile Gulf to the rocky coast (Fig. 1). What is here already dead or what remains alive cannot be easily determined; it is not at all clear which eye actively looks back and which merely glistens.[9] From this ambiguity Spanish still life painting – like that of Tomás Hiepes and Juan Pedro Peralta – developed the fascinating subgenre of the sleeping hunters, which are surrounded by big-eyed, dead prey.[10]

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7 On this argument, cf. Sybille Ebert-Schifferer, "Die Kraft mit den Augen essen. Stilleben als Vitalitätsspeicher," in *Kraft – Intensität – Energie. Zur Dynamik der Kunst*, edited by Frank Fehrenbach, Robert Felfe and Karin Leonhard (Berlin-Boston: De Gruyter, 2017), pp. 177–190.

8 See Liesbeth M. Helmus (ed.), *Fish. Still Lifes by Dutch and Flemish Masters 1550–1700*, exhibition catalog (Utrecht) (Utrecht: Centraal Museum, 2004).

9 More examples in Giuseppe De Vito, "In cerca di un percorso per Giovanni Battista Recco," in *Ricerche sul '600 napoletano. Saggi e documenti 2008* (Napoli: Electa, 2009), pp. 39–56. On Neapolitan still life painting, cf. most recently Joris van Gastel, "Auf fruchtbarem Boden. Das neapolitanische Stillleben," in *Caravaggios Erben. Barock in Neapel*, exhibition catalog (Wiesbaden), edited by Peter Forster (Munich: Hirmer Verlag, 2016), pp. 226–237. Balthasar van der Ast takes up the constellation succinctly in his late floral still lifes with shells and crabs. One lying on its back seems to be dead; it could also been seen as if in a fight with the standing crab. Both animals seem to stare at the viewer (private collection, late 1630s). On the painting, cf. Sylvia Böhmer, Timo Trümper (eds.), *Die Stilleben des Balthasar van der Ast*, exhibition catalogue (Aachen and Gotha 2016) (Petersberg: Michael Imhof Verlag, 2016), p. 199. Ambrosius Bosschaert the Younger's small painting in the Lugt collection shows a supine frog surrounded by four flies. Is the frog dead? He seems to be gesticulating, or twitching; his eye glistens. Cf. L.J. Bol, *The Bosschaert Dynasty. Painters of Flowers and Fruit* (Leigh-on-Sea: F. Lewis Publishers Ltd., 1960), p. 97 (cat. no. 32).

10 See Ira Oppermann, *Das spanische Stillleben im 17. Jahrhundert. Vom fensterlosen Raum zur lichtdurchfluteten Landschaft* (Berlin: Reimer Verlag, 2007), pp. 158–162.

FIGURE 1 *Giuseppe Recco,* Natura morta di pesci *(detail)*
MUSEO NAZIONALE DI CAPODIMONTE, NAPOLI

In the representation of dead mammals painters were frequently willing to lend cadavers a sign of latent life. Marten van Cleve's painting of 1566 in Vienna conspicuously reveals the scale of lifelessness: from the utter objectification of an ox's body hanging at the composition's center (the children play with its bladder), through its slaughter by the butcher, and ultimately to the severed head, which still seems to glance from its large eyes.[11] Jusepe de Ribera's Madrid still life with the almost unbearable gaze of a bloody ram head and a chalice with red wine refers to the religious dimension of renewed life.[12] Giovanni

11 See Klaus Ertz, Christa Nitze-Ertz, *Marten van Cleve (1524–1581). Kritischer Katalog der Gemälde und Zeichnungen (Flämische Maler im Umkreis der großen Meister vol. 9)* (Lingen: Luca, 2014).

12 Cf., as *pars pro toto* of the animated gaze in "hunting still lives" the staring eye of the hare in Willem van Aelst's work of 1652 in the Galleria Palatina, Florence; on the painting, see *Elegance and Refinement. The Still-Life Paintings of Willem van Aelst*, exhibition catalog (Houston and Washington), edited by Tanya Paul (New York: Skira Rizzoli, 2012), pp. 110–113 (cat. no. 9). Sam Taylor-Wood takes up the paradox of painted dead animals in her video work "A Little Death" from 2002. In it, a dead rabbit like those from baroque hunting still

Battista Recco's large kitchen still life with ram's head (Naples, Capodimonte) is almost punctured by the "dead stare" of the ram's half-closed eyes, at which the precariously placed blade on the table's edge takes aim; between the head and the dead birds forming a circle lies a majolica on which a living rabbit, fleeing in midair, is pictured (Fig. 2).[13] The examples could be counted indefinitely. Art historical literature is blind to to this fundamental resistance in still life to the depiction of deceased animals as completely dead. In the catalog of the large exhition in Karlsruhe 2011 the author defines the genre as paintings in which "dead animals serve as the main motif." Next to this remark, Goethe is cited laconically. In his "Dichtung und Wahrheit" he praises Jan Weenix for "*reviving* those creatures robbed of life."[14]

II

As Caravaggio and his northern Italian contemporaries reinvented the genre of still life around 1590, the newly plucked and partially overripe fruits – kept permanently fresh through painting – promised new vitality for the viewer as nourishment.[15] But it is above all the subsequent development of floral still life, in which the intermediate state between life and death is centrally thematized. In real life, as cut flowers, the upper parts of these plants face an accelerated death while their matrix, the onions, continue to live and bring forth new flow-

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lifes hangs and sways eerily. It is offset by necrophagic creatures that decompose the hare's body in "fast forward." On the dynamism and temporality of still life in contemporary art, see (in the end, however, within the framework of *vanitas*) Monika Wagner, "Vom Nachleben des Stilllebens im bewegten Bild," in *Vom Objekt zum Bild. Piktorale Prozesse in Kunst und Wissenschaft, 1600–2000*, edited by Bettina Gockel (Berlin: Akademie Verlag, 2011), pp. 245–263.

13 Cf. De Vito, *In cerca di un percorso per Giovanni Battista Recco* (cit. note 9), p. 56.

14 Holger Jacob-Friesen, "Tierstillleben – Definition, Geschichte, Rezeption. Zur Einführung in Ausstellung und Katalog," in *Von Schönheit und Tod. Tierstillleben von der Renaissance bis zur Moderne*, exhibition catalog (Staatliche Kunsthalle Karlsruhe) (Heidelberg: Kehrer Verlag, 2011), pp. 15–37; the quotation after Goethe is at the beginning and at the end of the article (my emphasis). Fred G. Meijer's article in the same volume is titled as *Niederländische Stillleben mit toten Tieren zwischen 1600 und 1800*, despite the fact that many paintings include living animals and – more important – animals that do not allow for a clear distinction. This is laconically confirmed by some catalog entries, cf. pp. 242 or 272.

15 Cf. Sybille Ebert-Schifferer, "Caravaggios Früchtekorb – das früheste Stilleben?," *Zeitschrift für Kunstgeschichte*, 2002, 65:1–23.

FIGURE 2 *Giuseppe Recco,* La Natura Morta con testa di caprone *(detail), ca. 1650*
MUSEO NAZIONALE DI CAPODIMONTE, NAPOLI

ers. Unlike, for example, Dürer's *Großes Rasenstück*, Jacopo Ligozzi's flowers with roots, the beloved tulip beds from numerous artists (such as Joahnnes Bosschaert, Jacob Gerritsz Cuyp, Juan de Arellano), Luca Forte's potted plants, or the flora of undergrowth (*sottoboschi*), cut flowers die quickly – but not immediately. For in their vases are sources of nourishment, which according to botanical knowledge at the time renew their cold, damp consistency and thus bestow upon them an afterlife. Following Hans Beltings equation between corpse and image,[16] it could be said that cut flowers in a vase have become an image of the living flower with a semblance of life whose uncertain durability is not fundamentally different from the image, in which the flowers remain permanently alive. Images also age and pass away, as Erasmus of Rotterdam emphasized.[17]

16 Cf. Hans Belting, "Repräsentation und Anti-Repräsentation. Grab und Porträt in der frühen Neuzeit," in *Quel corps? Eine Frage der Repräsentation*, edited by Hans Belting (Munich: Fink, 2002), pp. 29–52.

17 "Habet suum et pictura senium." "Convivium religiosum," in Erasmus von Rotterdam,

Floral still lifes consitute a genre that is clearly meta-pictural since the imitation of nature (Italian *ritrarre*) is based on a removal or withdrawal (Latin *retrahere*; Dürer speaks of the ambiguity of *"Heraus-Reissen"* in his Theory of Proportion from 1528) which itself is structurally related to the cutting of flowers. Still lifes stage, mask, and transcend the violence (with Gorden Teskey) that accompanies just about every visual and semantic isolation and emphasis.[18] It therefore makes sense when Filippo Lippi signed 1459 on the ax with which the trees were cut down in his *Wilderness Madonna* from Berlin;[19] likewise, Manet places scissors next to his painted peonies.[20] Leonardo da Vinci, on the other hand, leaves the stalk of his large study of a lily for the Uffizi Annunciation unsevered, as it runs off the bottom edge of the sheet; he thus anticipates his explicit avoidance of physical mutilation in later anatomical studies.[21] Painting is a practice that deals with the isolation and fragmentation of its objects. By extending their afterlife, cut flowers triumph, if provisionally, over nature.

But so-called "self-referentiality," which as an interpretive method ultimately peaked two decades ago, cannot be the last word; with its large intepretive scope, it remains much too vague.[22] The fact is, the flower is nourished in the vase and survives for just a while. Precious flowers in the vase are therefore *pronk* (Hal Foster), a genre of ostentatious waste. It is precisely the unparalleled

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Colloquia, edited by Léon-Ernest Halkin (*Opera omnia*, Part 1, Vol. III) (Amsterdam: Brill, 1972), p. 236. On durability, see Michael Baxandall, "Is Durability Itself Not Also a Moral Quality?," *Common Knowledge*, 2012, *18*:22–31.

18 On allegory as a paradigm, see Gordon Teskey, *Allegory and Violence* (Ithaca: Cornell University Press, 1996).

19 Cf. Jeffrey Ruda, *Fra Filippo Lippi. Life and Work* (London: Phaidon Press, 1999), pp. 224–230.

20 On Manet's still life paintings, see James H. Rubin, *Manet's Silence and the Poetics of Bouquets* (London: Harvard University Press, 1994); Jollet, *La nature morte* (cit. note 3), pp. 222–228.

21 Windsor, Royal Library no. 12418; Leonardo's rejection of the representation of cut bodies is on no. 19035r (Anatomical Ms B fol. 18^{r}/ Keele-Pedretti fol. 77^{r}).

22 More nuanced: Elisabeth Oy-Marra, "Blumenstillleben zwischen Naturabbild, Metamalerei und antialbertianischem Bildkonzept: Von der Madonna in der Blumengirlande Brueghels d.Ä. zu den Kartuschenstillleben von Daniel Seghers und Umkreis," in *Vom Objekt zum Bild. Piktorale Prozesse in Kunst und Wissenschaft, 1600–2000*, edited by Bettina Gockel (Berlin: Akademie Verlag, 2011), pp. 65–91. Werner Busch pleads for a multiperspectival historical approach on still live beyond attribution and metapictorial "self-thematizing of art." See Werner Busch, "Rembrandts 'Muschel' – Nachahmung der Natur? Ein methodisches Lehrstück," in ibid., pp. 93–121.

value of their reference that makes it entirely unlikely that rare flowers in real life regularly became victims of accelerated transience. The visual rhetoric establishes here a contrast with the permanence of the likewise wickedly expensive vessels and the conches spread around them.[23]

Art historians of the second half of the twentieth century, for whom a moral index finger constituted a central professional attribute (now they are clearly in the minority), saw in each cut flower an exhortation to repentance. Indeed, the idea of the transience of the earthly is not foreign to this genre, even when the idea may have 'naturally' emerged from the contrast between a more durable medium and ephemeral image objects.[24] Jacob de Gheyn II's early still life in New York (1603) combines a skull, vase, and soap bubble in great clarity;[25] Philippe de Champaigne's sequence of tulips, skull, and a rather full hour glass (1646; Le Mans, Musée de Tessé) adds nothing new to the concept.[26] *"Itzt Blumen morgen Kot / wir sind ein Wind / ein Schaum // Ein Nebel / ein Bach / ein Reiff / ein Tau' ein Schaten // Itzt was und morgen nichts / und was sind unser Thaten? // Als ein mit herber Angst durchaus vermischter Traum,"* Andreas Gryphius aptly versified at the time.[27] Hans Holbein's Merchant Gisze in Berlin makes his business with time, which also governs the value of money; carnations are displayed in his vase (which could also point to his imminent wedding). The flowers pretend to live, and still we are to believe in the value of our savings, even when the motto on the wall, which reads *"Nulla sine merore voluptatis"* (no pleasure without remorse), sounds a note of caution.[28]

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23 On economical aspects, cf. the classical text by Simon Schama, *The Embarrassment of Riches. An Interpretation of Dutch Culture in the Golden Age* (London: Harper Perennial, 2004); also Richard Leppert, *Art and the Committed Eye* (Boulder: Westview Press, 1996); Anne Goldgar, *Tulipmania. Money, Honor, and Knowledge in the Dutch Golden Age* (Chicago: The University of Chicago Press, 2007); Julie Berger Hochstrasser, *Still Life and Trade in the Dutch Golden Age* (New Haven: Yale University Press, 2007).

24 Cf. Christopher Wood, "'Curious Pictures' and the Art of Description," *Word & Image*, 1995, 11/4:332–352; Harry Berger Jr., *Caterpillage. Reflections on Seventeenth-Century Dutch Still-Life Painting* (New York: Fordham University Press, 2011), pp. 10–11.

25 On de Gheyn, see Claudia Swan, *Art, Science, and Witchcraft in Early Modern Holland: Jacques de Gheyn II (1565–1629)* (Cambridge: Cambridge University Press, 2005).

26 Cf. Jollet, *La nature morte* (cit. note 3), p. 98.

27 Sonnett XLV; Andreas Gryphius, *Dichtungen*, edited by Karl Otto Conrady (Reinbek b. Hamburg: Rowohlt, 1968), p. 32. On the image of the withering flower as a symbol of baroque life "becoming clichee," see Ferdinand J. van Ingen, *Vanitas und Memento Mori in der deutschen Barocklyrik* (Groningen: J.B. Wolters, 1966), p. 62.

28 Cf. Oskar Bätschmann, Pascal Griener, *Hans Holbein* (Princeton: Princeton University Press, 1997), pp. 181–184.

FIGURE 3 *Lavinia Fontana,* Portrait of Costanza Alidosi, *ca. 1585*
NATIONAL MUSEUM OF WOMEN IN THE ARTS, WASHINGTON

Lavinia Fontana's Portrait of Constanze Alidosi Isolani (ca. 1585) shows the noblewoman as a beautiful cut flower, whose serious gaze and sumptuous jewelry point to the frailty of the earthly. The bunch of flowers in the water-filled vase are in full bloom as is the juniper corsage on the bosom of the lady, who was rather unusually serenaded by poets for her beauty even ten years after her arrival and marriage in Bologna (Fig. 3).[29] Paris Bordone's distressed beauty (Paris, Louvre), with her rosy complexion and bare chest, lets her hand down in melancholy. In it, she holds her botanical *alter ego*: a withered rose. The "dry" flower basket from which the flower was taken did not help to prolong

29 Cf. Caroline Murphy, *Lavinia Fontana. A Painter and Her Patrons in Sixteenth-Century Bologna* (New Haven-London: Yale University Press, 2003), pp. 92–97.

its *Dasein*.[30] "As for man, his days are as grass: as a flower of the field, so he flourisheth. For the wind passeth over it, and it is gone; and the place thereof shall know it no more" (Psalm 103).

Floral still life is an extravagantly melancholy genre even without the notorious agents of destruction – the beetles, worms caterpillars or chewed up leaves and rotting fruit.[31] Giuseppe Recco's symphonic picture in Capodimonte contrasts bloodied animals, just shot, with the overwhelming grandeur of fruit garlands, which hang heavy over tombs. A monochrome bust falling on the ground comments on the pain over the transience of earthly beauty; water dips on its breast just as tears stream (Fig. 4).[32]

But what the picked flower longs for is eternal life in the vase. The Master of the Paradise Garden (ca. 1410; Solothurn, Kunstmuseum; Fig. 5) does not overlook the analogy between flower and Christian soul: Mary extends her son a white rose, which he – *fons vitae* – will place into a pitcher: "[...] *he that shall drink of the water that I will give him, shall not thirst for ever: But the water that I will give him, shall become in him a fountain of water, springing up into life everlasting*" (Johannes 4:14). In Hugo van der Goes's Portinari altarpiece lilies in the vase next to the newborn Savior assure God's aid, following Matthew 6:28–29: "And for raiment why are you solicitous? Consider the lilies of the field, how they grow: they labour not, neither do they spin. But I say to you, that not even Solomon in all his glory was arrayed as one of these."

Already in the pursuit of self-preservation of plant and animals, Aristotle observes a longing for the eternal.[33] Bouquets are in this regard more than

30 On the painting and its numerous variations, cf. Andrea Donati, *Paris Bordone. Catalogo ragionato* (Soncino: Edizione dei Soncino, 2014), pp. 402–405.

31 Cf. Charles Sterling, *Still Life Painting from Antiquity to the Twentieth Century* (New York 1981), p. 63, Berger, *Caterpillage* (cit. note 24), pp. 69–76 points, with Paul Claudel, to the latent compositional *désagregation* of "overcrowded" floral still lifes. Berger masterly refutes the rhetorical fixation on 'vanitas.' Instead, he points to still life as, above all, a meta-pictorial statement. The extinction of (natural) objects through the attribution of meaning makes interpretation itself an agent of transience. Seen this way, the voracious insects in still life represent the 'rapacitas' of the meaning-searching spectator viz. art historian, for whom the facticity and beauty of the arrangements does not merit a second glance. Cf. Alan Chong's lucid interpretation of insects as "surrogates for viewers" and protagonists of the "microcosm of nature"; Chong, *Contained Under the Name of Still Life* (cit. note 3), p. 28.

32 Cf. Achille Della Ragione, *La natura morta napoletana dei Recco e dei Ruoppolo* (Napoli: Napoli Arte, 2009).

33 De An. 415a26–27.

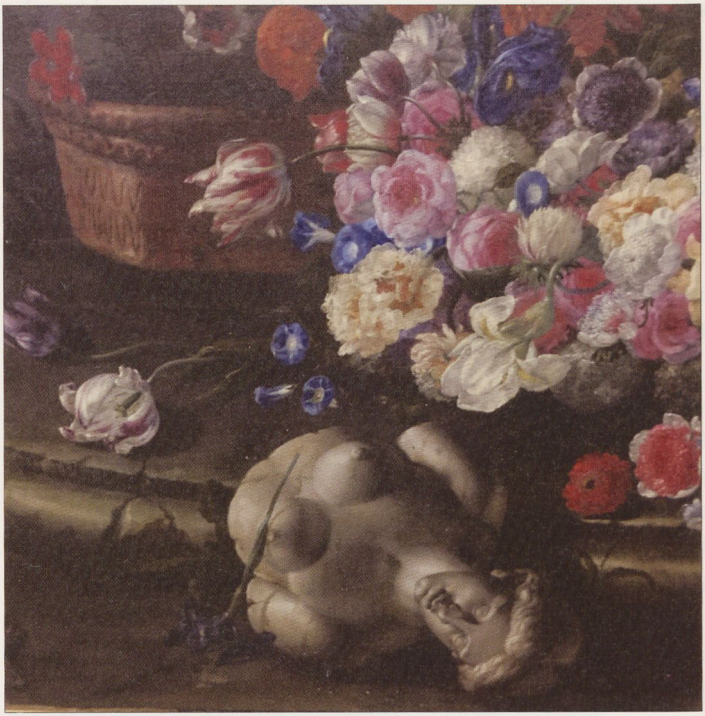

FIGURE 4 *Giuseppe Recco,* Natura morta con festoni di fiori e cacciagione *(detail), 1671*
MUSEO NAZIONALE DI CAPODIMONTE, NAPOLI

decoration; their permanent life at the feet of the Madonna and Child is a promise and a sign of life: "He restores me with flowers and refreshes me with apples: for I am sick of love" (Song of Songs 5:8). The likeness between flower vase and life-support can at times be straightforward, as in Sandro Botticelli's *Madonna lactans* from the Bardi altar (1484, Berlin, Gemäldegalerie): Here, the Madonna, surrounded by bouquets, appears as a giver of life with the Christ child as her nourished flower. Sometimes the religious comparison is more complex. In Palma Giovane's Mass of Padre Priamo Balbi in the Ospedaletto (1586–1587), the flowers represent the eternal life assured through Christ's death "*in locum mortui*" (Fig. 6).[34]

34 Cf. Stefania Mason Rinaldi, *Palma il Giovane. L'opera completa* (Milano: Mondadori Electa, 1984), p. 138 (cat. no. 520); Ead., "Jacopo Palma il Giovane all'Ospedaletto dei Crociferi: una nuova cronologia," *Arte Veneta*, 1977, *31*:240–250.

FIGURE 5 *Meister des Paradiesgärtleins,* Madonna of the Strawberries, *ca. 1410*
KUNSTMUSEUM, SOLOTHURN

FIGURE 6 *Palma Giovane,* Mass in the Oratorio dei Crociferi, *1568–1587*
OSPEDALETTO DEI CROCIFERI, VENICE

At this point, the *McGuffin* (Harry Berger) of art historians, *VANITAS*, is already out of sight; instead, the topos of *PERSEVERANTIA* prevails, as in Ludger tom Ring's early still life paintings in Münster. Here flowers testify to the omnipresence of God in creation: "in words, plants, and stones" as the inscription explic-

itly claims (*in verbis, in herbis, et in lapidibus est Deus*).[35] Paintings confirm here a living presence; they include a reflection on organic duration that was already elucidated by one of the early written sources on the genre. Writing in 1628, Cardinal Borromeo, who as a man of the Church would have had good reason to think from a more moral-theological standpoint than any art historian, felt pure joy from Jan Brueghel's magnificent bouquet in Milan, mainly because of "the diversity of flowers [...], which does not vanish as with [...] flowers that are encountered [in nature]."[36] The painting keeps the moribund flowers alive, which is analogous to another improbability: the immortality of the soul.

III

Nevertheless, the constellation remains precarious and the knowledge of deferred death accompanied the genre of floral still life from the outset. Aesthetic fascination over painted flowers centered not only on their similarity with *real* flowers but with *living* ones, as Erasmus emphasized.[37] But where do cut plants actually derive their mysterious liveliness? Since antiquity plants have been perceived as a great natural philosophical dilemma. While the parts and functions of animal-human organisms were interpreted and treated for almost two milennia following the authoritative triumvirate of Aristotle, Hippocrates, and Galen, many questions about plant life remained open.

This is already emphasised by Aristoteles, who counted plants not among creatures (the *zoa*) but rather living things (*zonta*).[38] Hans-Werner Ingensiep

35 Cf. Paul Pieper, "Ludger tom Ring d.J. und die Anfänge des Stillebens," *Münchner Jahrbuch der bildenden Kunst*, 1964, 15:113–122; Sybille Ebert-Schifferer, *Die Geschichte des Stillebens* (Munich: Hirmer, 1998), pp. 29–30.

36 Federico Borromeo, *Pro suis studiis*, as quoted by *Stilleben* (*Geschichte der klassischen Bildgattungen in Quellentexten und Kommentaren Bd. 5*), edited by Eberhard König, Christiane Schön (Darmstadt: Wissenschaftliche Buchgesellschaft, 2003), p. 129. Cf. Chong, *Contained Under the Name of Still Life* (cit. note 3), p. 26. On Brueghel, cf. Beatrijs Brenninkmeyer-deRooj, *Roots of Seventeenth-Century Flower Painting. Miniatures, Plant Books, Paintings* (Leiden: Art Books Intl Ltd, 1996).

37 "Praeterea bis delectamur, quum pictum florem cum vivo decertantem videmus, et in altero miramur artificium naturae, in altero pictoris ingenium." Erasmus von Rotterdam, *Opera omnia*, Part 1, Vol. III (cit. note 17), p. 236.

38 Cf. De An. 413a23–27; 413b1–4. A useful compilation of relevant passages by Aristotle is in Ernst H.F. Meyer, *Geschichte der Botanik*, 4 vols.: Vol. I (Königsberg: Verlag der Gebrüder Bornträger, 1854–1857), pp. 94–146.

pursued the natural philosophical problem of the "vegetal soul" in a large study from 2001.[39] He shows that throughout its history the study of botany focused on the reality and mystery of plant metabolism. "We shall call life nutrition, growth, and the decline through itself," Aristotle maintains in his writing on the soul.[40] Plants possess in this tradition an *anima vegetativa* (*psyche threptike* from *threphein*: nourishing), which as a nutritional faculty (*vis nutritiva*) provides the fundament for the self-preservation of a plant's individuality. "By a force of nourishment we mean the part of the soul on which plants also participate."[41] Add to this the ability to reproduce, *vis generativa*, which manifests itself in the flowering of plants. In this perspective, each floral still life constitutes a "soul painting" because it shows the effects of nourishment, formation, and procreative forces of the soul, which still linger while the severed plant approaches its death.

Its dying, however, is extended over time due to a mysterious force in the cut flower that enables it to nourish and, therefore, to stay alive. In animal organisms, the assimilation of food is regulated through "innate heat" (*calor innatus*); and the life-heat's origin is the heart.[42] In the case of plants, this constitutes a problem because their complexion is cold and damp; still, any process of nourishment must be based on some kind of innate heat. Aristotle left unanswered the question of how the localization of the animal heart corresponds to that of the plant; natural philosophers in the early-modern period took up this problem. Some authors favored the rootstock as the site of the plant's inner warmth. Shortly before the development of the first painted flower still lifes, Andrea Cesalpino began his botanical works (*De plantis libri XVI*) outright with the problem of ingestion and assumed that the plant's

39 Hans-Werner Ingensiep, *Geschichte der Pflanzenseele. Philosphische und biologische Entwürfe von der Antike bis zur Gegenwart* (Stuttgart: Kröner, 2001).

40 Aristotle, De An. 412a14.

41 Ibid., 416b29.

42 On the natural philosophical and medical concept of *calor innatus*, cf. Everett Mendelsohn, *Heat and Life. The Development of the Theory of Animal Heat* (Cambridge MA: Harvard University Press, 1964); Gad Freudenthal, *Aristotle's Theory of Material Substance. Heat and Pneuma, Form and Soul* (Oxford: Oxford University Press, 1995); Frank Fehrenbach, "Calor nativus-color vitale. Prolegomena zu einer Ästhetik des 'Lebendigen Bildes' in der frühen Neuzeit," in *Visuelle Topoi. Erfindung und tradiertes Wissen in den Künsten der italienischen Renaissance*, edited by Ulrich Pfisterer, Max Seidel (Munich: Deutscher Kunstverlag, 2004), pp. 151–170; most recently Maurice Saß, *Physiologien der Bilder. Naturmagische Felder frühneuzeitlichen Verstehens von Kunst* (Berlin-Boston: De Gruyter, 2016), pp. 222–231.

heart, which processed nourishment, was located precisely in the collar of the root between the rootstock and root itself (*cor medullae*); there the moisture, which is absorbed through the roots, is metabolized with the help of the *calor innatus*.[43]

Already the first generation of flower painters thematized plants as creatures of nourishment.[44] In Cardinal Borromeo's still life with precious conch snails Jan Brueghel the Elder points to the fundamental basis of plant nutrition: water. In a presumably earlier example now in Vienna, Brueghel added to his bouquet an intact living organism: not a shorn but a freshly uprooted blooming cyclamen, still carrying dirt (Fig. 7).[45]

Jan Brueghel's juxtaposition poses an open question; it does not provide an answer. In Ambrosius Bosschaert the Elder's roughly contemporary still life in London (National Gallery, 1609–1610) stylized plants in a Chinese vase – as a picture in picture – appear in their natural habitat, while the conches arranged in front of the vase hint at the invisible water inside.[46] In numerous still lifes, painted porcelain vases show the nourishing soil and therefore function as mnemonic objects that remind the viewer of an 'ecological' connection to a past life, which is now all but imaginary. In a painting from Bartholomäus Assteyn (1635, private collection) this disconnect is ironically

43 Alan G. Morton, *History of Botanical Science. An Account of the Development of Botany from Ancient Times to the Present Day* (London: Academic Press, 1981), p. 130.

44 An overview on the development is provided by Karolien de Clippel, "The Genesis of the Netherlandish Flower Piece. Jan Brueghel, Ambrosius Bosschaert and Middelburg," *Simiolus*, 2015–2016, *38*/1–2:73–86.

45 Aristotle identifies the mussel born spontaneously in wet mud as sea plant and the plant as land-clam; cf. *Gen. An.* 761a33–34. On the history of science of the "fiore del mare" (Filippo Buonanni, 1681), cf. Karin Leonhard, "Die Muschel als symbolische Form, oder: Wie Rembrandts 'Conus marmoreus' nach Oxford kam," in *Vom Objekt zum Bild. Piktorale Prozesse in Kunst und Wissenschaft, 1600–2000*, edited by Bettina Gockel (Berlin: Akademie Verlag, 2011), pp. 123–155. See Balthasar van der Ast's late pendant paintings (private collection) in which large shells serve as flower vases; both paintings were only recently exhibited together. Cf. Böhmer, Trümper, *Die Stilleben des Balthasar van der Ast* (cit. note 9), pp. 197–200 (cat. nos. 35–36). Also Chong, Kloek, *Still-Life Paintings from the Netherlands* (cit. note 3), pp. 156–157. A large nautilus shell serves as a flower vase in an example from Juan de Arellano (Privatsammlung); cf. Oppermann, *Das spanische Stillleben im 17. Jahrhundert* (cit. note 10), plate 65.

46 On the Bosschaerts, cf. Bol, *The Bosschaert Dynasty* (cit. note 9); Fred G. Meijer, "Balthasar van der Ast und die niederländische Stilllebenmalerei im 17. Jahrhundert," in Böhmer, Trümper, *Die Stilleben des Balthasar van der Ast* (cit. note 9), pp. 69–78.

FIGURE 7 *Jan Brueghel d. Ä.*, Kleiner Blumenstrauß, *1599–1607*
KUNSTHISTORISCHES MUSEUM, WIEN

emphasised by a grasshopper and snail, which have likewise left their natural habitat and have nothing to fear from a bird ceramically 'fixed' on the vase.[47]

The severing of plants is an act of looting, which is entirely fitting with a representation of a hunting scene on a tulip vase from Hamburg (Museum für Kunst und Gewerbe, ca. 1680). In a still life painting from Tomás Hiepes in Madrid, a vase displays a triumphant procession with prisoners; the flowers appear here *per analogiam* as beautiful trophies of painting (1643, Prado).[48] Nevertheless, the process of nourishment continues even in disclocated and

47 Cf. "B.H.G.," "Zwei Blumenstücke von B. Assteyn in Schweizer Sammlungen," *Weltkunst*, 1955, *25*/18:9.

48 On Hiepes, see Peter Cherry, *Arte y naturaleza: el Bodegón español en el siglo de oro* (Madrid: Ediciones Doce Calles, 1999), pp. 271–283; Oppermann, *Das spanische Stillleben im 17. Jahrhundert* (cit. note 10), pp. 51–56.

fragmented bodies. It is therefore unsurprising that already in the early modern period the genre established a likeness between botanical sustenance in the receptacles of water and human nutrition through plump and juicy fruits. Already in Caravaggio's iconic still life in the Ambrosiana, the dew drops on the fruits hint at the moisture underneath their surface. When flowers and drinking containers stand opposed to one another, as in the painting from Juan van der Hamen y León (1627, Prado), then the flowers anticipate what the viewer also expects: the rejuvenation through drinking.[49]

Moisture is critical for the process of plant digestion. When it is absent, the frailty of beauty in the sense of a *memento mori* inevitably comes to the fore. In Jan Brueghel the Younger's bowl of flowers (Los Angeles) the dew drops on the table seem to simulate human tears and therefore stand for an absence of life; yet the flowers still form part of the broader *oeconomia naturae*, which is indicated by the drinking butterfly (Fig. 8).[50] The flower baskets of Balthasar van der Ast and Juan de Arellano,[51] or the wall floral arrangements of Jean-Baptiste Monnoyers[52] from the second half of the century, show conversely in unsparing clarity, that only painting should be credited for the endurance of flowers' splendor; in real life, those flowers must wither, and rather quickly. At

49 See most recently Carmen Ripollés, "Fictions of Abundance in Early Modern Madrid: Hospitality, Consumption, and Artistic Identity in the Work of Juan van der Hamen y León," *Renaissance Quarterly*, 2016, *69/1*:155–199. Tomás Hiepes makes this point in a close-up in his "Drinking Hunters in the Landscape" (Valencia): living man and dead birds bow their heads to the surface of the water while an expansive, blooming thorn bush represents the nourished plant kingdom on the right side of the picture; cf. Oppermann, *Das spanische Stillleben im 17. Jahrhundert* (cit. note 10), plate 174.

50 On butterflies as image of the human soul, cf. Karin Leonhard, *Bildfelder. Stilleben und Naturstücke des 17. Jahrhunderts* (Berlin-Boston: De Gruyter, 2013), pp. 123–134. This paper sees itself as aperçu to Leonhard's inexhaustible body of work, which deals with the relationship between image and biotopic concepts of the "lower world" in the seventeenth century. There, processes of generation stand in the foreground; my paper focuses on nutrition. On the concept of *oeconomia naturae*, which Linnaeus' versifies as "natura nihil frustra creaverit," cf. Erwin Morgenthaler, *Von der Ökonomie der Natur zur Ökologie. Die Entwicklung ökologischen Denkens und seiner sprachlichen Ausdrucksformen* (Berlin: Erich Schmidt Verlag, 2000), p. 97.

51 On van der Ast's flower baskets, cf. Böhmer, Trümper, *Die Stilleben des Balthasar van der Ast* (cit. note 9), pp. 111–113 (cat. no. 6), and pp. 143–144 (cat. no. 17); on comparable works by Juan de Arellanos, cf. Alfonso E. Pérez Sánchez (ed.), *Juan de Arellano 1614–1676*, Exhibition catalog (Madrid) (Madrid: Caja Madrid, 1998), cat. nos. 48–66.

52 On this artist, cf. Claudia Salvi, "Jean-Baptiste Monnoyer et Antoine Monnoyer. Problèmes d'attributions," *Revue du Louvre*, 2002, *52*/2:55–63.

FIGURE 8 *Jan Brueghel d. J.*, Flowers in a Gilt Tazza, *ca. 1620*
THE NORTON SIMON FOUNDATION, PASADENA

the same time, Spanish painters play with the illustion of flowers' endless nourishment. Juan Bautista Espinosa's fantastical table fountain is portrayed as an artificial habitat, a mechanical *Pays de Cocagne* in miniature, which purports to sustain the growth of fruit and the blooming of flowers in perpetuity (Fig. 9).[53] Neopolitan virtuosos of the genre, like Paolo Porpora and Giuseppe Recco, pursue a more subtle strategy. Recco's still life in Capodimonte with water melons and pomegranates, for example, covers not only the broken fruits but also the entire surface of the picture with a moist sheen, which seems to condensate

53 Cf. Oppermann, *Das spanische Stillleben im 17. Jahrhundert* (cit. note 10), pp. 30–31; Cherry, *Arte y naturaleza* (cit. note 48), pp. 209–214.

FIGURE 9 *Juan Bautista de Espinosa,* Still Life with Fruits and Flowers, *ca. 1645*
PRIVATE COLLECTION

in the numerous depicted drops of water; this provides a fascinating contrast to the tulips, carnations, and peonies, which, longing for humiditiy, are shown partially wilted.

The beauty in this deferred death becomes metonymic of political discourse in Jan van den Hecke's still life paiting in Vienna (Fig. 10, 1652). What else could be meant by comparing the flowers with the Siege of Graveling depicted in the background? This southern Dutch city, which had been held by the Spanish, was besieged and occupied in 1644 by French troops. In 1652 the Archduke Leopold, the patron of van den Hecke, besieged it once again. Recaptured and kept alive thanks to the river Aa, Graveling was nourished by water – like the flowers in their vase. Ultimately, the city, like the flowers, would have to surrender. The tenacity of their occupiers would prevail. The still life thus

FIGURE 10
Jan van den Hecke, Still life with Flowers and the Siege of Graveling, *1652*
KUNSTHISTORISCHES MUSEUM, WIEN

stands for both sides of the political antagonism and interprets its struggle in terms of powers of resistance, self-preservation, and conquest.[54]

IV

The natural philosophy of plants took a fascinating course in sixteenth-century Italy. The Aristotelian order of nature was undermined by the Aristotelian dictum that nature does not make leaps; instead, the principle of continuity governs the transitions between its various kingdoms.[55]

Marsilio Ficino states in his "Theologica Platonica" of ca. 1470 succintly: plants that are begotten often spontaneously out of the damp earth[56] feed

54 On van den Hecke, see Adriaan van der Willigen, Fred G. Meijer, *A Dictionary of Dutch and Flemish Still-Life Painters Working in Oils, 1525–1725* (Leiden: Primavera Pers, 2003), p. 101. On the history of the siege, cf. Martin Barros, *Vauban: L'intelligence du territoire* (Paris: Service Historique Défense 2006), p. 166.

55 See note 4.

56 "[...] the then commonly held view"; Morton, *History of Botanical Science* (cit. note 43), p. 138.

themselves and grow; they therefore possess a soul. If they are separated from the earth, their growth come to an end (*"quae si evellantur et extirpentur e terra, non crescent"*).[57] Elsewhere he adds, surprisingly, that "both plants and animals move. Thus where there is an inner and general force of movement, there is life."[58] Later in the 16th century, in the wake of the delayed influence from the work of Paracelsus in Italy, Girolamo Cardano, Giambattista Della Porta, Bernardino Telesio and Tommaso Campanella tried to level the boundaries between plant and animal (an argument that is presently gaining a new actuality, it appears).[59] In addition to the general sensibility of recognizing physiognomic analogies with human-animal organisms and plant's latent motile abilities – the sunflower served as a paradigm[60] – plant nourishment and digestion stood at the center of debate. Giambattista Della Porta notes in the eighth chapter of the first book of his *Magia naturalis* of 1558 (completed 1589) that external actors, such as the moon, exert power over the movement of saps from both living and dead plants (e.g. felled wood). In the fifteenth chapter he recommends cutting flowers only when they begin to nourish themselves again after winter; according to him, this is the moment when they possess not only full moisture but also maximal (therapeutic and thus magical) potency.[61]

Regarding our initial question about the mysterious vitality of plants, such heterodox positions are of lesser importance than the reaction of the Aristotelian mainstream around 1600. All botanists at the time followed Aristotle in that plants, in principal, nourished themselves through their roots from wet

57 Marsilio Ficino, *Theologia Platonica / Platonic Theology*, ed. by James Hankins and William Bowen, 6 vols (Cambridge MA: Harvard University Press 2001–2006), Vol. IV, i.

58 Ibid., Vol. III, ii.

59 For the discourse on animated plants in 16th century Italian natural philosophy, see Ingensiep, *Geschichte der Pflanzenseele* (cit. note 39), pp. 183–207. On related current trends in botany, see Stefano Mancuso, Alessandro Viola, *Brilliant Green. The Surprising History and Science of Plant Intelligence* (Washington DC: Island Press, 2015), and, a best-seller on the German book market, Peter Wohlleben, *Das geheime Leben der Bäume. Was sie fühlen, wie sie kommunizieren – die Entdeckung einer verborgenen Welt* (Munich: Ludwig Buchverlag, 2015).

60 Giambattista Della Porta, *Magia naturalis sive de miraculis rerum naturalium libri IIII* (Naples: Salvian 1589) I, viii; cf. Id., *Natural Magick* (London: Thomas Young, 1658), I, viii; on Della Porta's *Phytognomonica* (1588), see Meyer, *Geschichte der Botanik* (cit. note 38), vol. IV, pp. 438–444. On 16th century research on heliotropism, see Ingensiep, *Geschichte der Pflanzenseele* (cit. note 39), pp. 201–216.

61 "Flowers are then to be gathered when they begin to feed, while their juice is in them, and before they wax limber." Della Porta, *Natural Magick* (cit. note 60), I, xv.

matter; Johan Baptista van Helmont tried around 1630 to prove that plants were kept alive and could grow exclusively due to water.[62]

Andrea Cesalpino was one of the most important botanists of his time and a personal physican to Pope Clement VIII. In his work on plants from 1583, the problem of nourishment and digestion served as the *"main subject matter of his physiological thinking."*[63] Cesalpino assumed, that plants through an active power of suction (*bibula natura*) conducted moisture mixed with dirt through the canals in their roots and ultimately into the center of their inner warmth: the root collar (*medulla cordis*). The extremely narrow channels or veins for liquid, according to Cesalpino, transformed (through contact) the absorbed liquid into a plantlike substance, which was drawn upward like a sponge.[64]

A convinced Aristotelian like Peter Lauremberg had his hands full with repudiating the recent advances of 'pan-psychic' botanists – chiefly the theses of Cardano. Lauremberg should be mentioned here because of a recommendation by George H. Palmers, cited by Arthur Lovejoy: *"The tendences of an age appear more distinctly in its writers of inferior rank than in those of commanding genius."*[65] Born in 1585 in Rostock, the prodigy already stood out at age 11, when he translated the Argonautica from Greek into Latin. After studies in mathematics and astronomy in Leiden and medicine in Paris, Lauremberg landed hapilly in Montaubon in 1611. Zedler's encyclopedia states: *"He also possessed the will to go to Italy. But when he came to Montauban, he enjoyed it so much that he remained after summer."*[66] Out of this came three years spent as a philosophy professor in the south of France. Thereafter, he could not resist the call to return to his Nordic roots. After 1615, the polymath served ten years as the founding Professor of the Academic Gymnasium in Hamburg before he ultimately returned to his birthplace of Rostock. There he published in 1631 a particularly impressive work on the art of gardening.[67]

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62 Cf. Julius Sachs, *Geschichte der Botanik vom 16. Jahrhundert bis 1860* (Munich: Oldenbourg, 1875), pp. 492–493 ("Geschichte der Ernährungstheorie der Pflanzen").

63 Ibid., p. 481.

64 See ibid. pp. 487–490. On Cesalpino, see Ingensiep, *Geschichte der Pflanzenseele* (cit. note 39), pp. 189–191; Morton, *History of Botanical Science* (cit. note 43), pp. 128–144.

65 Lovejoy, *The Great Chain of Being* (cit. note 4), p. 20; on Lauremberg recently: Veit Rosenberger (ed.), *Die Acerra Philologica. Ein frühneuzeitliches Nachschlagewerk zur Antike* (Stuttgart: Steiner Verlag, 2011).

66 Johann Heinrich Zedler, *Grosses vollständiges Universal-Lexicon aller Wissenschaften und Künstler* (Halle and Leipzig: Johann Heinrich Zedler, 1731–1754), col. 1073.

67 Peter Lauremberg, *Horticultura Libris* II (Frankfurt/M.: Matthaeus Merian 1631). I owe the reference to Lauremberg to Jasmin Mersmann.

In the eighth chapter of the first book of the *Horticultura* (*Opera vita in stirpibus*), Lauremberg deals with the vital functions of plants, mainly with reference to Cesalpino. Unlike animals and humans, plants possess neither perception nor motile abilities. Nevertheless, according to Lauremberg, it would be false to assume that plants do not produce heat. We do not perceive this, he says, because we ourselves are much warmer.[68] The vitality of the plant is based on its internal moisture. But how does the plant absorb the nourishing fluid through its roots out of the ground? Lauremberg challenges the assumption that the attraction (*attractio*) of moisture requires an animalistic *anima sensitiva*. Furthermore, the aqueous nourishing fluid ascends the plant stem and trunk not because plants possess a dry-warm complexion or a sense for thirst.[69] For Lauremberg, plants are fundamentally cold and humid in nature. So how does the nurturing liquid flow from the bottom up into the parts of the plant above ground? Lauremberg explicitly paraphrases an example from Cesalpino:[70] when the wick of a candle burns, it draws oil upwards from out of the lamp below.[71] This reference to an artificial paradigm elucidates the transitions between older models based on "spiritual" agents (*calor innatus*) and mechanical models; it shows that the "mechanization of the world picture" in the Early Modern period is no foregone conclusion but rather should ward off advances that one would call pan-psychic or animistic today. In botany, Francis Bacon would serve as another example for this underresearched dialectics in the history of science.[72] For Lauremberg and Cesalpino, then, it was important to reject the blurring of boundaries between animal and plant organisms.

In the ninth chapter of the first book – *De animae in plantis* – Lauremberg suspected that the nourishing *anima vegetativa* (*pace* Cesalpino) did not alone reside in the root collar (*medium inter Radicem et caulem*). According to him, there were many plants that could continue to live after their roots were cut away.[73] In reality, Lauremberg concludes, the plant soul is spread throughout its entire core: "*anima plantae non esse affixam uni magis quam alteri parti plantae,*

68 "Namquanquam tactus [...] calorem in iis actu nullum deprehendat, propterea non inest illis nullus: quoniam quae quam nos minus calida sunt, ea tactus frigida iudicat." Ibid., p. 59.

69 Ibid., p. 60.

70 Cf. Morton, *History of Botanical Science* (cit. note 43), p. 133.

71 "[...] humorem illum trahat, velut in lucernarum luminibus flamma oleum, per funiculum allectum [...]." Lauremberg, *Horticultura* (cit. note 67), p. 60.

72 On Bacon's "mechanistic" objections against Della Porta's arguments, cf. Ingensiep, *Geschichte der Pflanzenseele* (cit. note 39), p. 216.

73 Lauremberg, *Horticultura* (cit. note 67), p. 62.

sed diffusam per totum stirpis corpus, id totum animare, vegetare, informare, & facultatum suarum efficacia donare."[74] In addition to the technical paradigm of the burning lamp, the activity of the anima vegetativa could thus explain why the movement of fluid, which maintained a plant's form, can take place in the cut flower after its separation from the root, so long as nourishment subsequently becomes available.

V

The case of Peter Lauremberg demonstrates, that the history of botany at the beginning of the seventeenth century agonized over the *question* of plant nourishment and sustenance. Only in the eighteenth century, mechanical-chemical theories ascribed decisive roles to air and light on plant nutrition.[75] What kept mutilated flowers alive was beforehand quite unclear. And it was the genre of still life painting in its first century that visualized this process *as a problem* to be contended with.

As scientists fiercely debated the nutritional aspect of floral still life in the horizon of its precarious liveliness, Dutch painters experimented with making visible the mysterious interiority of vases. What appears inside the painted vase is often the "confused," the "dark," and sometimes sinister foundation of botanical life. This is a striking contrast to the microscopic definition of flowers, insects, shells, and objects outside these vessels.[76]

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74 Ibid., p. 63.

75 Most important: Stephen Hales, *Vegetable Staticks. An Account of Some Statical Experiments on the Sap in Vegetables* [...] (London: W. and J. Innys, 1727). I thank Joyce Chaplin (Harvard) for this reference. On the Theory of Joachim Jungius, who speculated in 1660 about the specific permeability of roots for various nutrients, see Morton, *History of Botanical Science* (cit. note 43), p. 175. John Ray, *Historia plantarum*, 3 vols.: Vol. 1 (London: Clark, 1686) later identified mineral content in water that also facilited the growth of cut plants. Still Ray explicitly admits that he cannot specify a mechanical cause for the rising of sap into a plant's interior anatomy; cf. Morton, *History of Botanical Science* (cit. note 43), pp. 209–210.

76 On the comparable role of the soil in *sottoboschi* paintings, cf. Leonhard, *Bildfelder* (cit. note 50), pp. 74–77. Leonhard's and my argument ramifies into larger issues of image theory; cf. Gottfried Boehm, "Der Grund. Über das ikonische Kontinuum," in *Der Grund. Das Feld des Sichtbaren*, edited by Gottfried Boehm, Matteo Burioni (Munich: Wilhelm Fink, 2012), pp. 29–92.

FIGURE 11 *Ambrosius Bosschaert d. Ä.*, Flowers in a Glass, *1606*
MUSEUM OF ART, CLEVELAND

In the background of Ambrosius Bosschaert the Elder's flower vase now in The Hague, a "Weltlandschaft," like those set behind a portrait, opens itself out through a window, spawning both flowers and snail shells alike. The barely overlapped and sensationally pigmented flowers are juxtaposed with the brown-green stems that are bunched in the glass as if they were harshly cramped prisoners. In his still lives in Cleveland (1606) and London (1614), Ambrosius goes one step further: the nourished flower stems lose their positive determinability; now they are embedded in the dark ground of a seemingly infinite depth while the light source is collected on the nubs of the vessels as in the glint of numerous eyes (Fig. 11).[77] Ambrosius's son Abraham continues this tradition

77 On the flower painting in Cleveland (oil on copper), cf. Chong, Kloek, *Still-Life Paintings from the Netherlands* (cit. note 3), pp. 117–119. On a comparable, contemporary, though less complex painting in Frankfurt by Ambrosius Bosschaert, see Böhmer, Trümper, *Die Stilleben des Balthasar van der Ast* (cit. note 9), pp. 99–101 (cat. no. 2).

FIGURE 12 *Giovanna Garzoni, ca. 1640*
UFFIZI, FIRENZE

when he shows the interior of a vase as an underwater kingdom of flower stems floating in their fortified floral broth while the reflection of light on the vessel's surface avoid any hint at the painter or a spectator who looks into the picture.

Particularly striking are the contrasts between the flower petals and stems, between the realms of air and water; light, pastel color versus monochrome grey in Giovanna Garzoni's still life paintings on parchment in Florence (Fig. 12).[78] The contrast enhances the opposition between the aqueous stems and the petals, in which, according to Lauremberg, the subtle spirit in the form of color and fragrance frees itself from the coarser material of the plant.[79]

78 Maria Matilde Simari, Elisa Acanfora (eds.), *Pergamene fiorite. Pitture di fiori dalle collezioni medicee*, exhibition catalog (Poggio a Caiano) (Livorno: Sillabe, 2014), esp. pp. 56–59 (cat. no. 4), and pp. 63–67 (cat. nos. 6–7); Silvia Meloni Trkulja, *Giovanna Garzoni. Nature morte* (Milano: L'ippocampo, 2008).

79 "[...] spirtuosa substantia sublimatur, ex qua flos." Lauremberg, *Horticultura* (cit. note 67), p. 174.

In Juan de Arellanos's still life paintings the cut surfaces of the flowers in the inscrutable semidarkness of the vase often turn themselves demonstrably toward the viewer. What exactly happens here is a mystery because the rootstock, the seat of the *anima vegetativa*, can no longer serve as the conduit for the plant's nourishment. Nevertheless, the plants live. They prop themselves upright and seem to lengthen their stride into space, offering nourishment to butterflies and maintaining their form, although gravity gradually pulls them downward.[80] Jean-Michel Picart's floral still life of 1665–1670 (private collection) shows the stems of tulips, peonies, irises, and carnations moving with the breeze and the stems are covered with fine air bubbles as if the air were also a participant in the living process of the plants.[81]

In contrast to the positive sensation of the blossom – a triumph of color painting, bliss and refreshment for the eyes of the spectator (according to Lauremberg)[82] – the dynamics of nourishment behind the glass (often with uneven surfaces, ribs, rosettes, knobs etc.) mark a visual withdrawal, the blurring and dissolution of bodies in the dark. In Jacque Linard's Large Bouquet (ca. 1630, private collection) the surface of the half-filled vase marks the height of the spectator. Right at this spot a *Saturnia* moth flies by. The highlighted "eyes" on its wings are blind – and the tightly packed flower stems lose themselves in the uncertainty of the imageless depth (Fig. 13).[83]

Perhaps the mystery of the nourishing force of the plant's soul, the *vis nutritiva*, was never more poignantly painted than by Jan Davidsz. de Heem, a student under Baltahasar van der Ast.[84] The dewy flowers of his still life

80 See Pérez Sánchez, *Juan de Arellano 1614–1676* (cit. note 51), esp. cat. nos. 19, 20, 22, 35, 37, 38, 44, 45. A speciality of this painter are the almost opaque vases of crystal with "scratches"; cf. Ibid., cat. nos. 24–26, 42, 43. Cf. the fascinating, already withering bouquets, ibid., cat. nos. 67–68. On the painter, cf. Matthias Weniger, "Das Dresdener Blumenstilleben des Juan de Arellano," in *Juan de Arellano, Blumenstillleben*, edited by Gemäldegalerie Alte Meister (Berlin-Dresden: Kulturstiftung der Länder, 2008), pp. 7–18.

81 Cf. Claus Grimm, *Stilleben. Die italienischen, spanischen und französischen Meister* (Stuttgart-Zurich: Belser, 1995), p. 168.

82 Lauremberg, *Horticultura* (cit. note 67), p. 175.

83 Cf. Grimm, *Stilleben* (cit. note 81), p. 168.

84 Cf. Sam Segal, *Jan Davidsz de Heem en zijn kring*, exhibition catalog (Utrecht) (Utrecht: SDU, 1991), esp. cat. nos. 30–33. Compare with van der Ast's floral still life in a niche, which has been signed and dated (1621) directly under the dark gray-green glass vase (private collection). In the floral still life of the Galerie Costermans in Brüssels van der Ast seems to have hinted at his signature through a calligraphic stem extending in the water. In his "showpiece" of 1620/21 in the Rijksmuseum individual stems fascinatingly overlap and surface before the black-green ground only to disappear with the dense relief of the ribbed

FIGURE 13 *Jacques Linard,* Still Life Painting *(detail), ca. 1630, Paris*
PRIVATE COLLECTION

in Madrid offer nourishment and protection to numerous microorganisms,[85] while the stems of the roses seem to entwine around one another in the impalpable darkness of the vase.[86] In de Heem's image in Pasadena (Fig. 14)

glass vase. In another painting (private collection), the tulip "Summer Beauty" appears in heroic isolation; this is a singular work from van der Ast, in which the drama of the temporary existence of full bloom finds its unsurpassed expression. Thick dew drops flow over a petal, and on the ground of the vase a dark "eye" seems to stare. On the mentioned works, cf. most recently Böhmer, Trümper, *Die Stilleben des Balthasar van der Ast* (cit. note 9), pp. 120–122 (cat. no. 9), and 139–142 (cat. no. 16); 161–162 (cat. no. 23); 170–172 (cat. no. 26).

85 The fixation on *vanitas* often prevented the understanding of floral still lifes as primarily a metabolic genre, even when they emphasise traces of *rapacitas* (wormholes, leaf damage, etc.), see Berger, *Caterpillage* (cit. note 24).

86 Rachel Ruysch elevates the contrast in her London still life of ca. 1685; here the stems appear in a largely monochrome brown of impenetrable depth (see Paul, *Elegance and Refinement* [cit. note 12], p. 19); on Ruysch, cf. Chong, Kloek, *Still-Life Paintings from the Netherlands* (cit. note 3), pp. 281–283; Susanne Knuth, *Das Stillleben und die Entdeckung der Welt*, exhibition catalog (Rostock: Kulturhistorisches Museum, 2015). Against this background it seems significant that in the eighteenth century the glass vase is increasingly replaced by opaque ceramic or terracotta vessels. The water disappears just as the

FIGURE 14 *Jan Davidsz de Heem,* Vase of Flowers, *1654*
THE NORTON SIMON FOUNDATION PASADENA

the flowers and fruits shine and flame up before an elusive darkness; but then the view is hypnotically pulled into the twilight of the blue-black base (Fig. 15), where things beyond the visible occur – things about which we have no conception: a nature that yields, ever and ever creating, unfathomable, inscrutable, and without scale.

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nourishing matrix does, which forms a clear parallel to the paradigm shift in plant physiology of the late seventeeth century (Malpighi, Mariotte, Ray et al.), whereby chemical changes in plant bodies and the role of gaseous ingestion stood increasingly at the center of discussion; see Sachs, *Geschichte der Botanik* (cit. note 62), pp. 494–514. In this perspective, Jan van Huysum's still lifes take on unsurpassed complexity. See the brilliant observations by Hanneke Grootenboer, "Rhetorik der Transparenz: Jan van Huysums Tautropfen und das Bild des Denkens," in *Zeigen. Die Rhetorik des Sichtbaren,* edited by Gottfried Boehm, Sebastian Engenhofer and Christian Spies (Munich: Wilhelm Fink, 2010), pp. 116–138.

FIGURE 15 *Detail from Figure 14*