All Dutch painters.

One easy case of naturalistic aphid lie in the paintings of Maria Sibylla Merian, a painter and entomologist of the seventeenth century who painted aphids in numerous works, and both entitled some of her paintings with the word, and depicted the whole aphid ecosystem including all trophic levels in the global picture (Rode akelei met bladwesp en bladluis, 1684).

One important item in our quest is the topos of the female aphid (and eventually superfemale aphid). It probably did not start with Christ (Jesus). This invasion by the female-only character over the Holy Trinity was increasingly popular in central Europe from the fortieth to the sixtieth century (https://fr.wikipedia.org/wiki/Sainte_Anne_trinitaire), and was recurrent and frequent topos of the modern art blog Quadriavia, between parthenogenesis and the codified representation of “Sainte Anne marquée” in Maurine Carême’s poem entitled Le Puceron.

The complementary figure of the humble aphid is an apt metaphor for a real tribute to parthenogenesis in the masterpiece of Simone de Beauvoir, Le deuxième sexe (Volume 1, Chapter 1, “The data of Biology”). One may also quote in this very context the interesting parallel, made by the contemporary art blog Quadriavia, between parthenogenesis and the codified representation of “Sainte Anne marquée” in Maurine Carême’s poem entitled Le Puceron.

In modern art, the appearance of aphids tends also present in post-nineteenth-century occurrences, typically suffering no aphid is represented in such topoi, and parthenogenesis has been used many times in French literature. Victor Hugo listed the vile evil aphid among a list of biological fearsome fellows (Les Contemplations, T3 L6 26, p. 467 as appears in the Frantext database). However, the complimentary figure of the humble aphid is also present in post-nineteenth-century occurrences, typically shown in Maurine Carême’s poem entitled Le Puceron.

Coming to modern art, the appearance of aphids tends to explode, and I will only quote two examples. One is what could be called the surrealistic oulipian aphid by Boris Vian (Fig. 2), the other being the situationist aphid of the musical theme of the Polish artist Duy Gebord in the well-named Mildew album (https://duygebord.bandcamp.com/album/mildew). The former merits a short outline, as it is emblematic of the mosaic Carolian style of Boris Vian (Les Fourmis, Fig. 2A). The prose starts as a very standard description of a explicitly boring subject, to fall out into the final black-hole of Oulipian fantasy (which translates as “The rearing of the Tyrolian ‘gnatlet’ or the milking of woolly aphids”). The induced parallel between parthenogenesis and viviparity, somehow unique to aphids, and the mystery of immaculate conception ought to be underlined.

Already exemplified by Eugène Delacroix, cited above as the recurrent and frequent topos of the evil aphid has been used many times in French literature. Victor Hugo listed the vile aphid among a list of biological fearsome fellows (Les Contemplations, T3 L6 26, p. 467 as appears in the Frantext database). However, the complimentary figure of the humble aphid is also present in post-nineteenth-century occurrences, typically shown in Maurine Carême’s poem entitled Le Puceron.

Fig. 2 The milking of woolly aphids, as cited by Boris Vian in Les Fourmis (Gallimard, La Pléiade) and reported on the left, with a possible representation on the right: Le Génie des alpages, F’Murr, Casterman.

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4 The shining world of beetles
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Twisted liquid-crystalline organizations are ubiquitous in living matter [1,2]. Many insects own a tessellated carapace with bumps, pits, indentations, stripes or spots (Fig. 1). These geometric variation often exhibit iridescent colors, which are the consequence of a complex twist of chitin macromolecules. Such optical information with vivid structural colors might be of paramount importance in the life and the evolution of most day-living insects. Many biological functions are yet debated. They are related to conspecific or intra-species communication, thermoregulation, camouflage, survival or navigation [1,3]. For example, the cuticle of the scarab beetle Chrysina gloriosa exhibits two bands (Fig. 2). The green band serves as a wavelength-selective (green) diffuser due to the set of polygons...
Fig. 1 A set of insects with a variety of patterns and iridescent colors issued from the State Museum of Natural History in Karlsruhe, Germany (image by H. Zell).

Fig. 2 Chrysina gloriosa, from a macroscopic view to microtextures as observed in the green and silver bands.

arranged on a curved surface and, at the mesoscopic scale, it behaves as an array of wavelength-selective micromirrors [4]. The silver stripe plays the role of a flat metallic reflector operating over the visible spectrum and into the infrared spectrum [4]. The orientation of the helicoidal structure varies in green stripes (Fig. 3), whereas it is fixed in silver stripes. The outermost part of insect cuticles is very often covered with wax, which restricts water loss, prevents desiccation, may lend superhydrophobic and self-cleaning properties to the cuticle, and serves for chemical communication in many species. While cuticular waxes are considered isotropic, the wax layer of the cuticle of C. gloriosa exhibits an intriguing nanoscale laminate texture, as revealed by electron microscopy of the transverse sections [5].

Micro-textured cuticles of scarabs may inspire researchers and engineers to make their replicas as optical materials. Potential applications are in the field of wavelength-specific light modulators in routing technologies, broadband reflectors for energy savings, coatings for cryptography purposes (wavelength-dependent and polarization-dependent micro- and nanoscale patterns), camouflage (suits with a broad reflection in the IR spectrum identical to the one of the background) or thermoregulation for buildings.

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5 Géopolitique du moustique
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Pour l’économiste que je suis, double d’un romancier passionné par les ménages à trois et les meurtres, aucun animal n’est plus intéressant que le moustique, vieux de 250 millions d’années et riche d’environ quatre mille espèces.

D’abord, même s’il ne peut voler loin, on le retrouve partout, d’un bout à l’autre de la planète. Il incarne donc la mondialisation et l’unité de la santé: one health, une bonne santé des humains n’est possible que si se portent aussi bien les animaux et les végétaux.