The

Hexapodarium

Gail Wight

in conversation with Lawrence Weschler
with essays by Iain Boal & Meredith Tromble

Anemone volitavi

Deep Time, Shallow Space

Iain A Boal

‘I prefer the time of insects to the time of stars’

Wislawa Szymborska

“I’m making art in the contemporary terrain”, Gail Wight remarked in a recent conversation with Lawrence Weschler. The terrain in question, on which the California artist has found herself engaged for three decades and more, is modern science and the technosphere. Her projects consistently deploy methods and tools - artisanal in scale, no megatechnics - devised for the probing of nature’s ways and wonders.

Recently, well within the artist’s working lifetime, ‘the contemporary terrain’ has unexpectedly

acquired a fashionable new name. “The vogue of all things ‘anthropocene’ has become as unstoppable as global warming itself”, observes Mike Davis (1). The California urbanist and historian of the earth sciences goes on: “The shock of the Anthropocene is being felt across the entire spectrum of theoretical and speculative thought”. After some apt caveats challenging the supposed novelty of planetary-scale changes due to human activity (especially the forgotten conjectures about climatic desiccation by the Russian anarchist-scientist Pietr Kropotkin, during his peregrinations in Central Asia), Davis surmises: “If industrial capitalism, as millions of us now believe, has changed fundamental parameters of earth history, catapulting us into a catastrophic future, then there is an urgent case for a root-and-branch rethinking of what we mean by nature, society and agency.” (1)

The ferocious logic of accumulation, which has managed to hitch the spirit of inquiry (‘science’) to its own purposes, suggests that it will take more than the oscillation of political regimes currently on offer to instigate the rethinking that Davis has in mind. It will mean understanding the ways in which the human imagination has been effectively colonized, and refiguring the relationship between art and science, as modes of seeing and intervening.

This is not a new proposal. In the long shadow of the second world war the logician and philosopher of art Nelson Goodman argued, in *Ways of Worldmaking*, for a dismantling of the positivist divide between art and science, between the aesthetic and the cognitive. Indeed he scandalized the department lounges of cold war Anglo-American philosophy, by disputing science’s hegemony as *the* royal road to knowledge, as the privileged generator of veridical accounts. Art, for Goodman, is also a fundamental component of our cognitive relationship to the world. Such a claim challenged the self-understanding of modern science, but appeared to open up a vertiginous relativism, letting loose a bestiary of monstrous alternative facts, which was not what Goodman had in mind. But neither did they frighten him. They were all there to be judged, according to criteria not given either divinely or *a priori*, but critically and intersubjectively, as human constructions forged within a community of interpreters.

Hexapodarium bears the stylistic signature of Gail Wight’s oeuvre, straddling the domains of art and science. Along with all symbolic activities in general, artworks are to be judged for the *classifications* they bring about, for how novel and insightful those categorizations are, and for how they change our perception of the world and relations to it. Goodman would have appreciated *Hexapodarium* on account of its semantic *density*, together with the work it performs towards the necessary revolution in attention to ‘underfoot things’, in Gail Wight’s phrase. It is not only about classification within nature’s ‘kingdoms’, or about monstrosity, disgust and sublimity, but about the history of classification itself. The aim is the transvaluation of the overlooked, the unvalued and the underfoot - most everything, in fact, that capitalist accounting regards as an ‘externality’, as a free reservoir or a sink for the system’s waste. Wight modestly claims to be speaking only for herself, but there is no doubt that a general revolution in attitude - to ‘soil’, to microbes, and to insect pollinators/scavengers, for example - must be part of that necessary root-and-branch rethinking required of the coming generation burdened with the responsibility of steering our species (and myriads of fellow-creatures) back from the brink.

Let us take Mike Davis at his word and, in the spirit of Nelson Goodman, pose three questions: What kinds of attunement of the human sensorium - if that’s not offensively instrumental - are indicated at this historical moment? What forms of attention might be the precondition for thinking through the current crisis? What, in short, might ‘an art for the anthropocene’ look like? I want to say: artmaking of the kind that Gail Wight has been practising, in accord with Goodman’s precept of a continuum between the cognitive and the aesthetic. Scientific and environmental ideas are constituted through vocabularies that carry normative force, and which sanction experimental practices that have been central themes in Wight’s work. If you want to develop a wetland, call it a swamp; if you want to save a jungle, call it a rainforest. Very often, for example, human hierarchy is read unchallenged into nature – unchallenged because we are typically introduced to such terms when we are young and first learning to observe the world.

Hexapodarium turns upon the cultural power of zoological nomenclature (bearing the imprimatur of science) that incorporates royalty, as in the animal ‘kingdom’. Popular botanical labelling typically describes the sequoia as ‘monarch’ of the forest, biology textbooks describe ‘master’ genes, and so on. Innocent as these descriptors may seem, it is evident that how the environment is conceived — whether as feudally ordered or sacred or animate or mechanical or gendered or benevolent — naturalizes institutions and practices such as the private ownership of land, strip mining, vivisection, gene-splicing, defoliation, bottom trawling, etc. There is, to be sure, no avoiding a certain anthropocentrism in relation to the rest of nature; the perceptual grip of Durer’s ‘armored’ rhinoceros on the visual imagination across several centuries attests to the power of particular cultural lenses to inform representation and the legibility of an image.

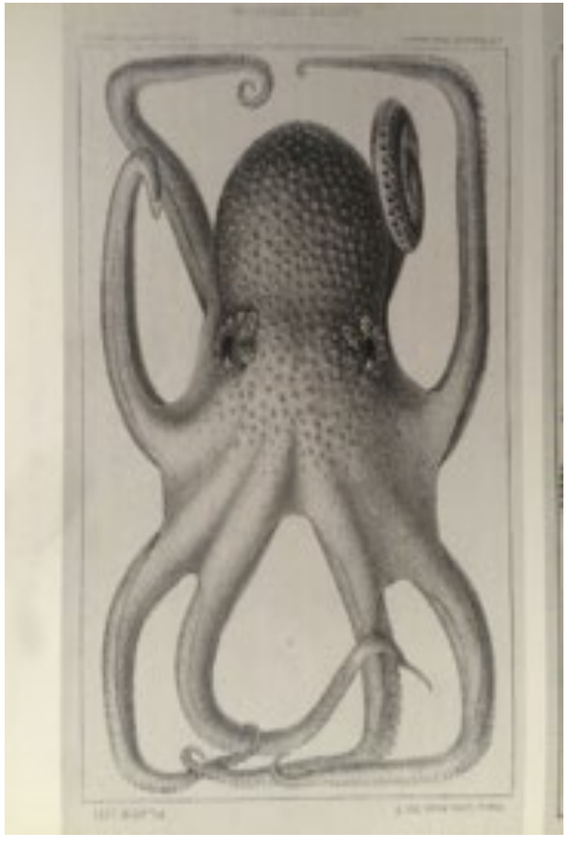
Hexapodarium wittily lends the viewer a cultural lens through which to observe - and interpret - its images. The title is a clever portmanteau conflation of ‘hexapod’ and ‘herbarium’. It locates the work in a long tradition of zoological illustration and display, winding back to its source in the Renaissance

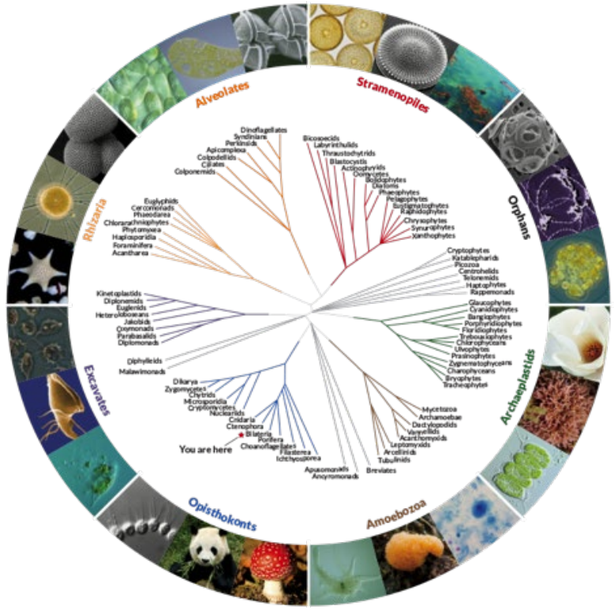
passion for collecting exotic flora and fauna. 'Herbarium' originally denoted a treatise on the properties and virtues of useful plants, often medicinal, but later came to refer to a *hortus siccus* ('dry garden'), a collection of desiccated plant specimens systematically arranged and labelled.

In *Hexapodarium* the humorous, sometimes cryptic, Linnaean labelling of each Frankenflower evokes Edward Lear's *Nonsense Botany*. Lear's floral jokes were hand-drawn, while Gail Wight's meticulous and brilliantly crafted fly-flower designs - whether singly, grouped, or in the collaged panels of the 'four seasons' - deploy a mix of new technical means (computational, photographic, microscopical) and the traditional constraint of a flat surface and shallow picture space. In the panel collage three planes can be discerned - containing sky, trees, and flowers. No strong sense of depth is established. Are we meant to be amused by the spider webs which here and there appear to connect, *per improbabile*, the floral foreground with the foliage? I'm not sure. Wight's drollery can be a match for Edward Lear, who was himself rivalled by another Victorian artist-illustrator, James Emerton, likewise drawn to playing with convention in the context of innovations in printing technology which were transforming taxonomic illustration in the mid and late 19th century. Photomechanical processes, for example, favored line and stipple because it offered greater clarity and the illusion of contour,

with implications for symmetry, simplification and schematization of display. Here Emerton's octopus (*Eledone verrugosa*) is reminding the viewer that it is trapped in the page, and perhaps in a jar of alcohol too.

Beyond the playful nomenclature and digital capers of *Hexapodarium* - "I can spoof a lily-of-the-valley with a homely fly's wing" - lurk some far from trivial questions related to taxonomy and aesthetics (which latter is by no means reducible to experiments in behavioral patterns of cultural aversion to spiders and insects). *Hexapodarium* exemplifies a task that will have to be central to any 'art in the anthropocene', namely the place and self-understanding of *homo industrialis* in the web of life. The aesthetic - and indeed ethical - impulse behind Wight's Darwinian fossicking and botanizing implicates the overall classification of life on earth. Another bug-hunter, the Swiss zoological illustrator Cornelia Hesse-Honegger, also working on insects with damaged body parts, has meditated along similar lines: "We feel lions are 'closer' to us than ticks. But why? Why do we feel this peculiar kind of humanism toward some animals and not others, even now, as the conviction that man is the pride and glory of creation has begun to waver? The idea that there are higher and lower creatures still determines our thinking and feeling."

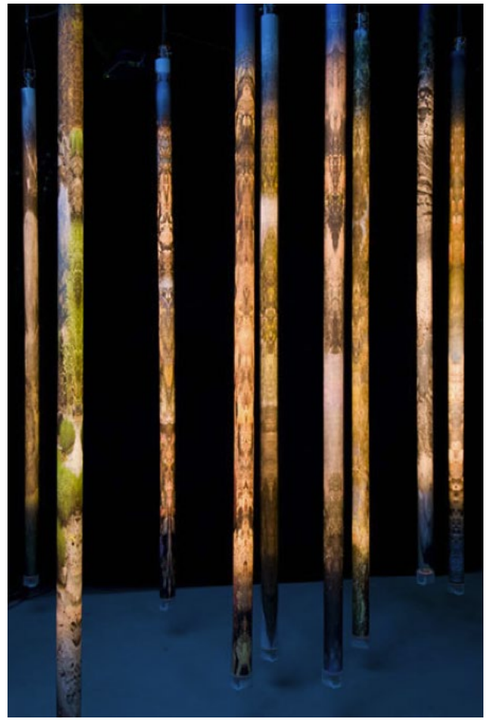




The overturning of humanist hubris seems to be the issue here, just as Gail Wight's interest in the decentering phylograms of Lynn Margulis was predictable. An important strand of her other work - *Meaning of Minuscule, Copepodelia, Restless Dust, Linnaeus Unbound* - also implies a dethroning of *homo*, Darwin's fundamental conclusion which clearly has yet to penetrate the creationist cortex. Even, or especially, liberal captains of industry - I confess to this worry - might misread the message of *Hexapodarium*; the 'wing-petal' analogy/convergence might be taken as a kind of artistic manifesto aligned with biomimicry research by DARPA, or in aid of some green, low-fat technofix favored among the
bioneers of Marin County.

While Gail Wight rejects species chauvinism - "If there's nothing left but flies and mossy plants, so be it" - she's no misanthrope either. Nor a Jain. Having no qualms about brushing away flies was one of the puzzles that set her off on the project. The thrust of her art is that evolution has no *telos* and lepidoptera may well inherit the earth. But meanwhile the shallow space of the biosphere *is* our home , and we have yet to accommodate the full implications of science's recent *double* discovery - of 'deep time' *and* of the present catastrophe destroying the conditions of life. Wight is "not that interested" in raging against the dying of the light. Which makes her unusual among those whose practice engages with living forms in the face of mass extinction. But that is perhaps because Gail Wight takes the very long view, with no particular nostalgia for species whose fixity in any case Darwin showed to be illusory. Wight first heard the phrase 'deep time' in the lab of the paleobiologist Liz Hadley at Stanford, and it sparked her interest in the litter of living things, in what can be gleaned by, say, panning for teeth among woodrat middens.

It also drove her to tackle one of the most challenging conundrums at the heart of the anthropocene, namely, how on earth to imagine - to come to terms with - the interacting scales of the geological and the ephemeral, the time of stars and the time of flies, flowers and *homo faber*. If I had to choose a piece of work exemplifying an art adequate to the anthropocene, it might be *Center of Gravity*, a forest of life-core samples from fragile landscapes meaningful to the artist and now threatened by climate change.



Picasso, in the midst of the long emergency at the center of the 20th century, asked "What do you think an artist is? An imbecile who, as a painter, has only eyes, as a musician has only ears, as a poet, has a lyre in each chamber of his heart...?" And then immediately answered his own question: "On the contrary, they are at the same time a political being, constantly alert to the heart-breaking, stirring, or pleasurable events of the world, taking their own complexion from them." Gail Wight does indeed take her complex-

ion from the contemporary terrain, and she well understands that both her current laboratory - the shoreline of Sonoma - and her nearby studio may be drowned soon enough. Meanwhile there are pleasurable events down in the tidepool, and in the footsteps of Maria Sibylla Merian and Cornelia Hesse-Honegger there is the ethical obligation of slow and accurate looking. For the heart-break, however, it is time to apply the ancient art of *kintsukuroi*.

References

(1) Davis, Mike, "The earth as a dying planet', in River of Fire, Cal Winslow (ed.), Pumping Station Press: MA, 2016.

(2) Blum, Ann, Picturing Nature: American Nineteenth-Century Zoological Illustration, Princeton UP: NJ, 1993.

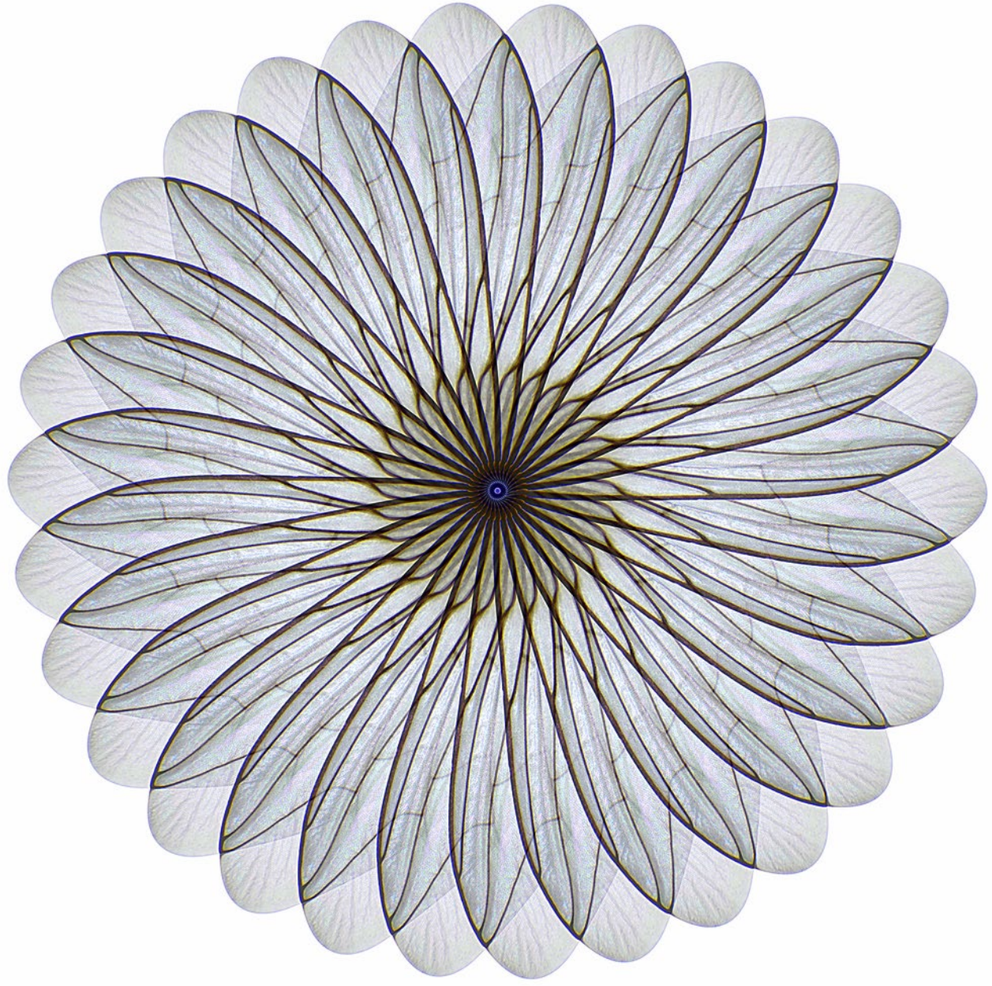
(3) Hesse-Honegger, Cornelia, Heteroptera: The Beautiful and the Other, or Images of a Mutating World, Scalo Press: Zurich, 2001.

Salix muscarium

Bellis arthropodia

Arctosis pennipotentis

Nelumbo muscarii

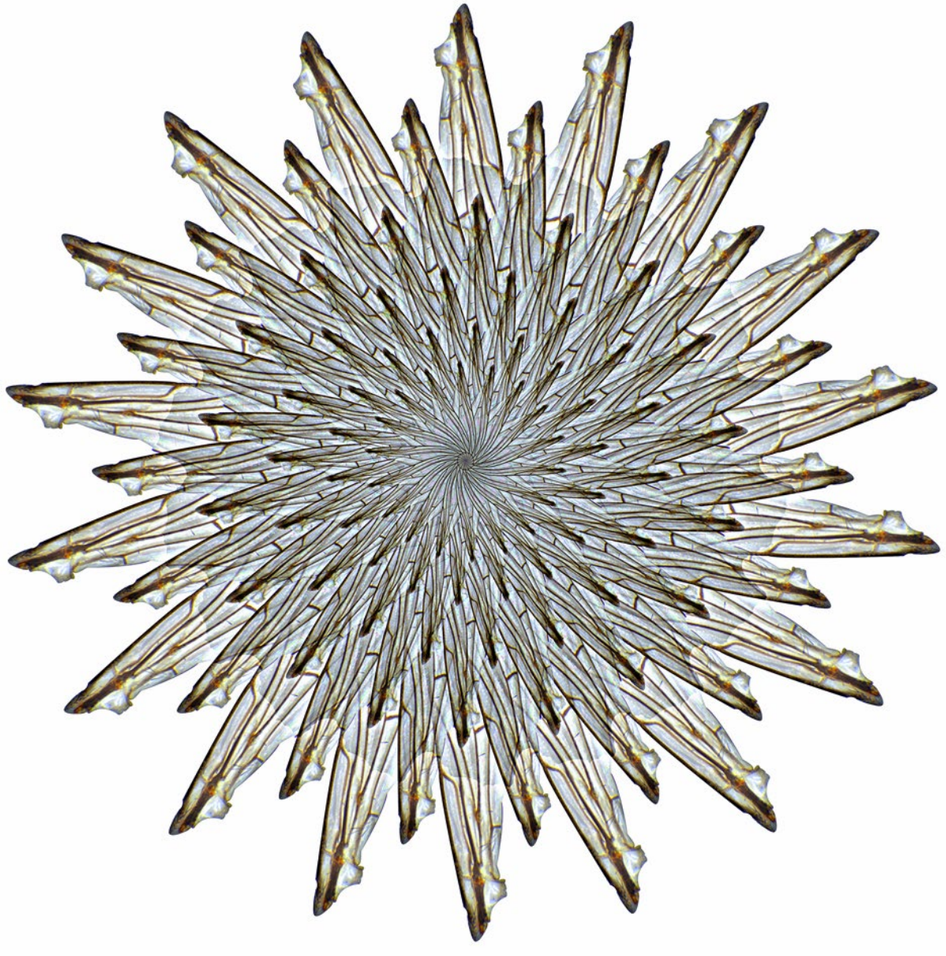


Aster tabani

Trifolium vermiculus

Zantedeschia priscus

Carlina voluceria



Chrysanthemum ichneumon

Convallaria alarium

Calendula alatia

Brunsvigia tabanus

Canna alata

Hydrangea calcitratus

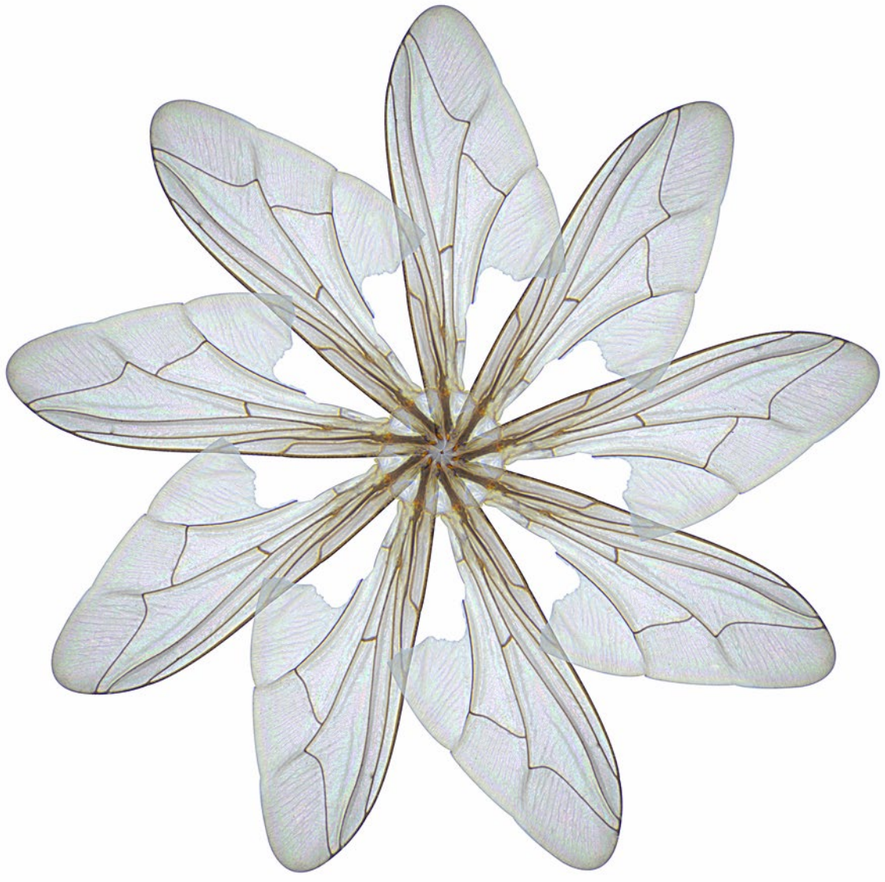
Gazania volo

Gardenia cladis

Arum dipterius

Fritillaria aliformia

Sempervivum animalis

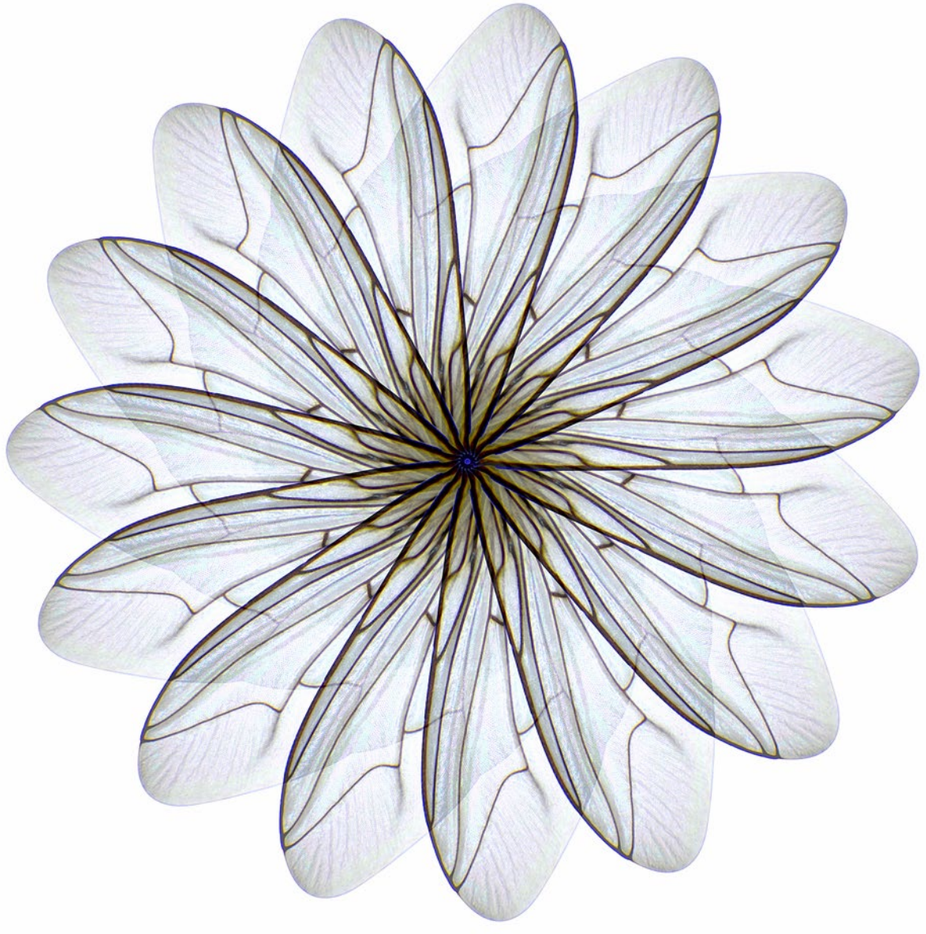


Coreopsis coenomyia

Strelitzia pestis

Wisteria alaria

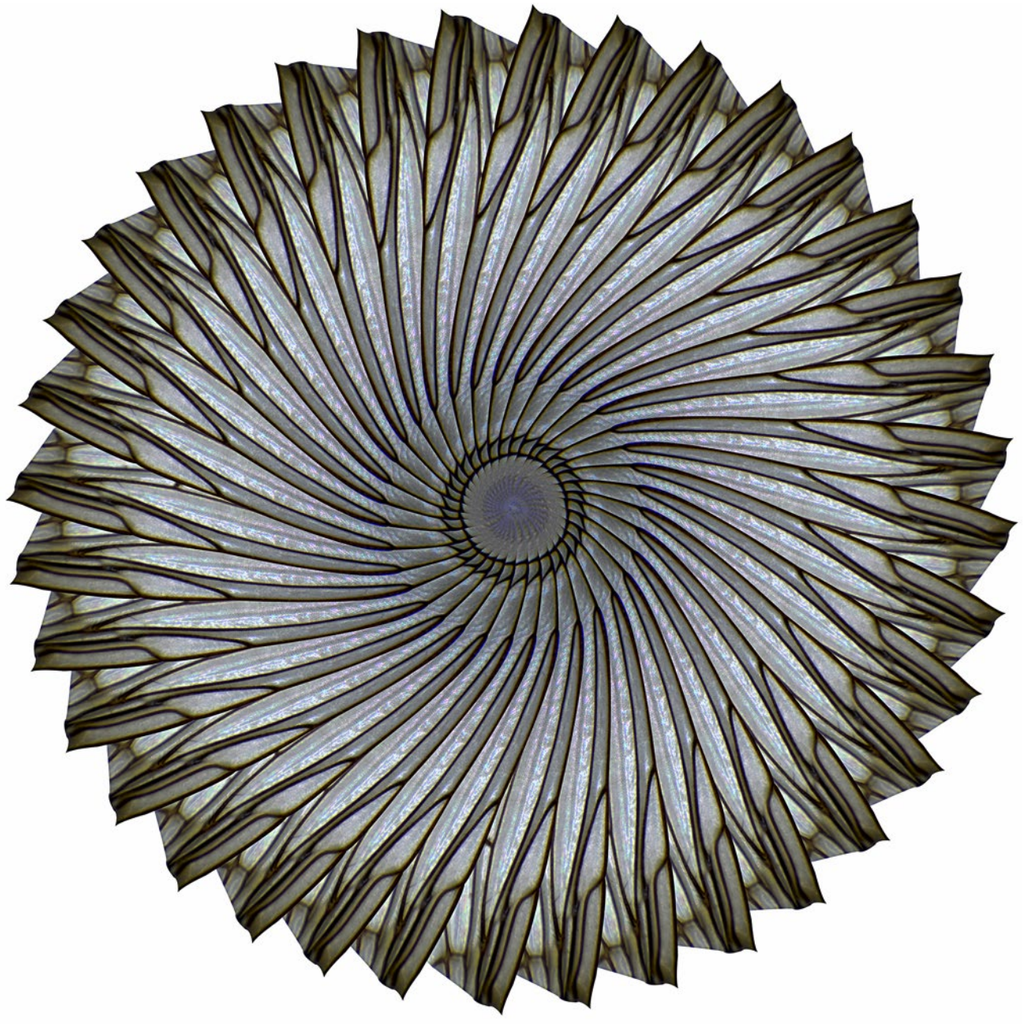
Tragopogon inrito



Echinacea pervolavi

Dahlia calcitravi

Gaillardia animalia



Eryngium muscaditis

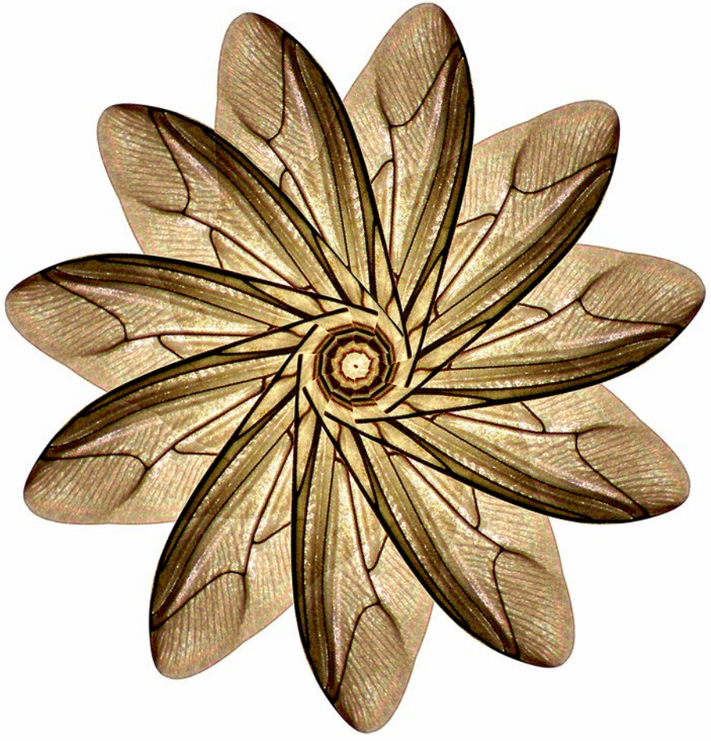
Camelia micantis

Narcissus transitorius

Muscari musca

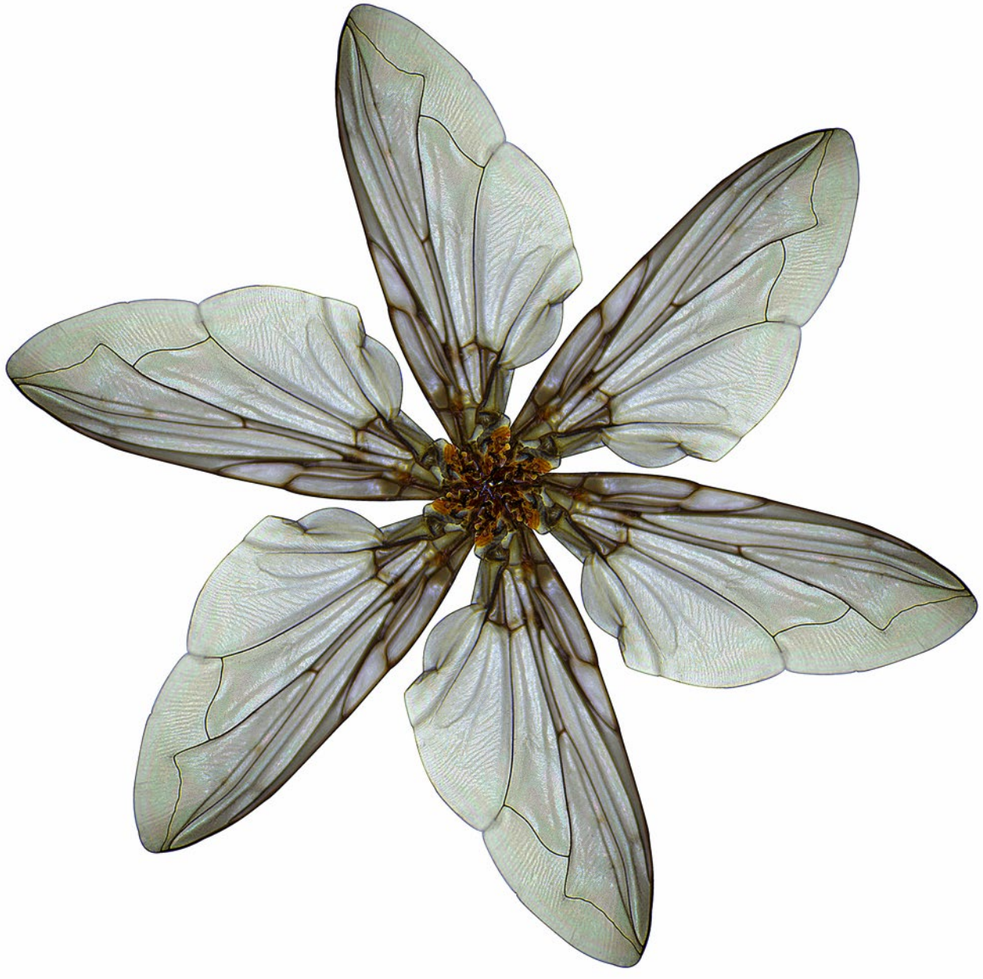
Passiflora canus

Silene laevis



Wyethia hybomitra

Potentilla termes



Lilium volavi

Nuphar volatilis

Tulipa volito

Gazania volo

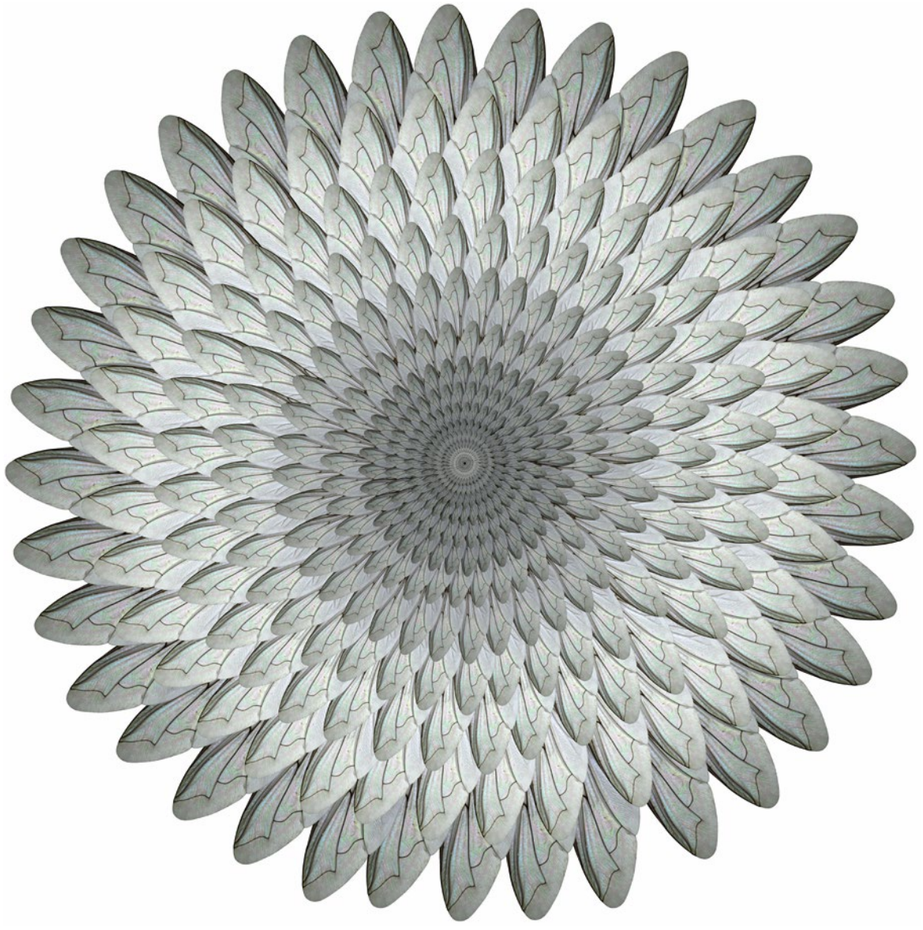
Wisteria alaria

Papaver stomoxys

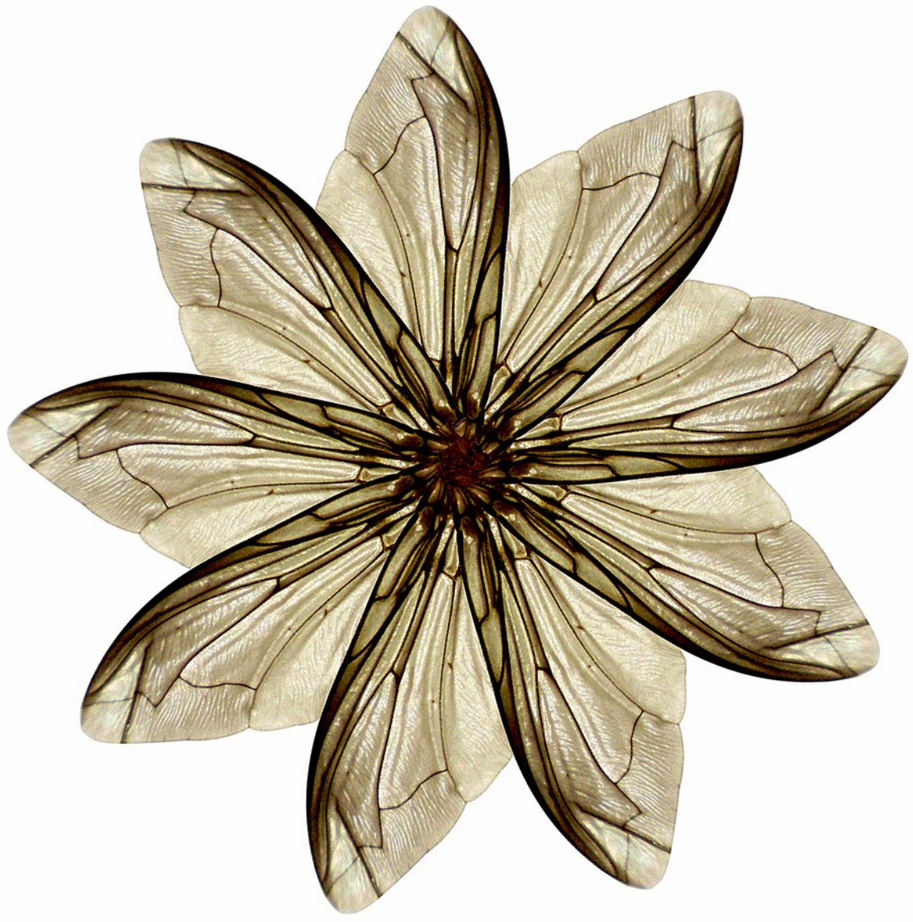
Passiflora pervolo

Iris antiquus

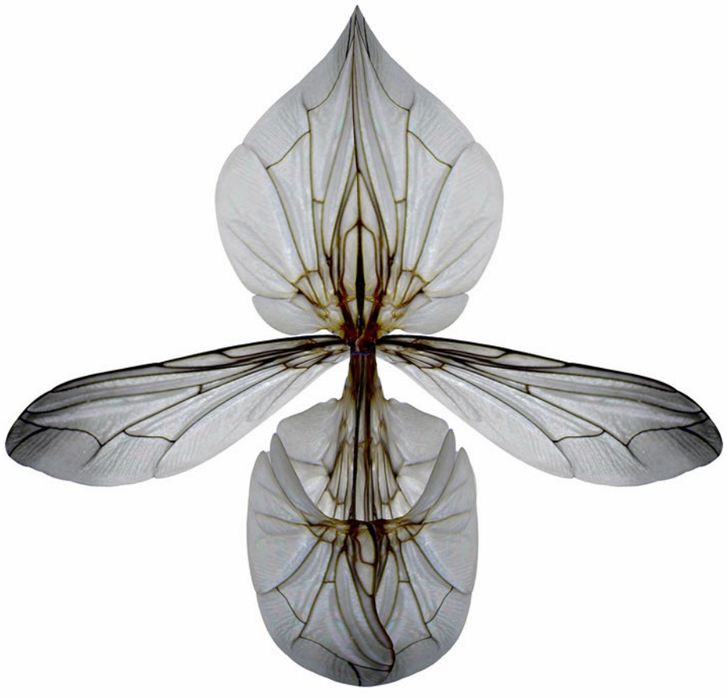
Molucella vomo



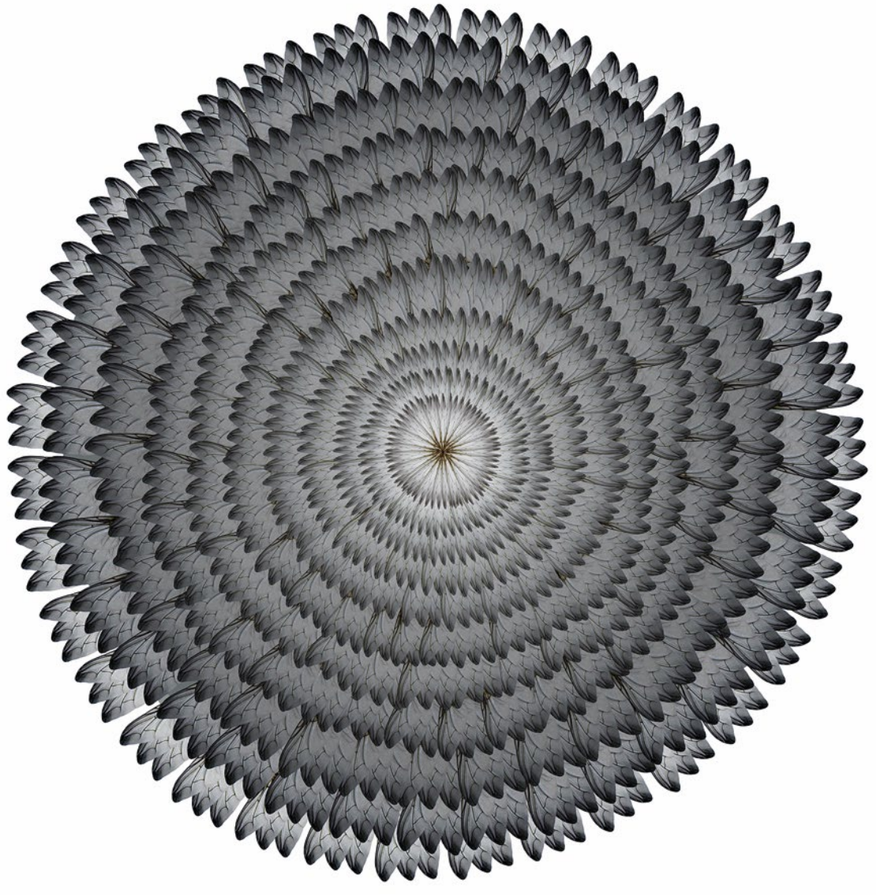
Zinnia pestilenti



Rudbeckia pennipotens



Cypripedium incesto

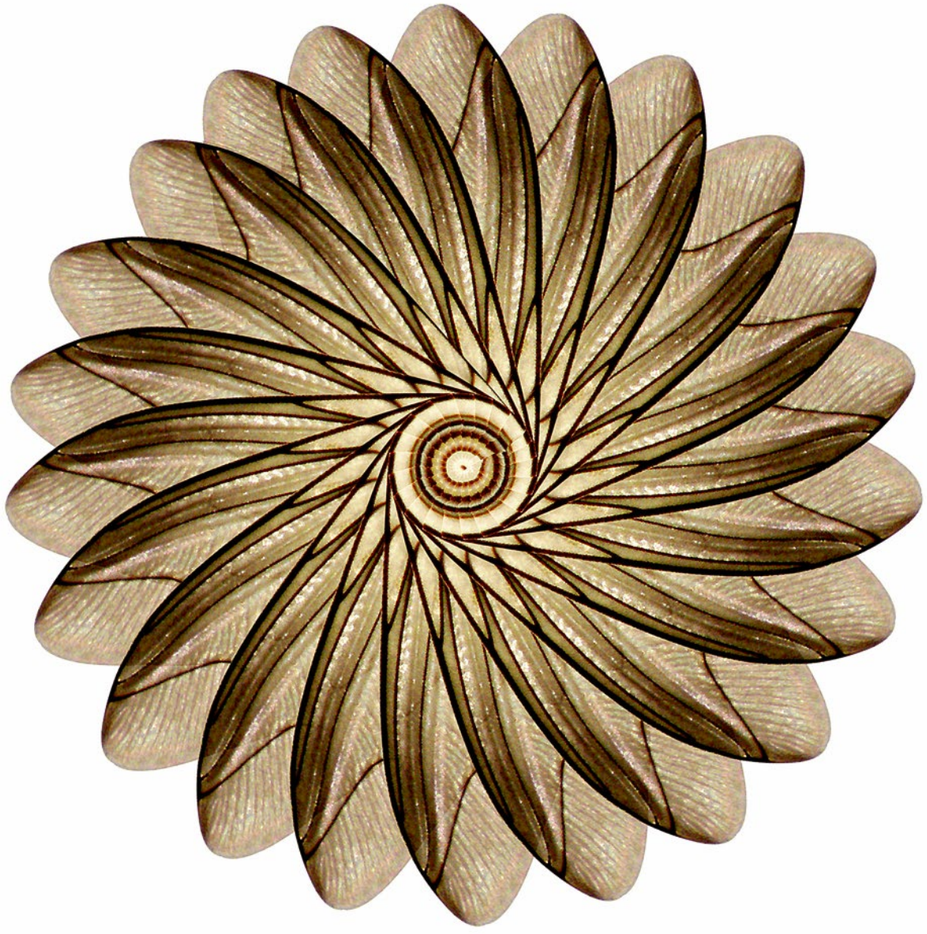


Papaver multus

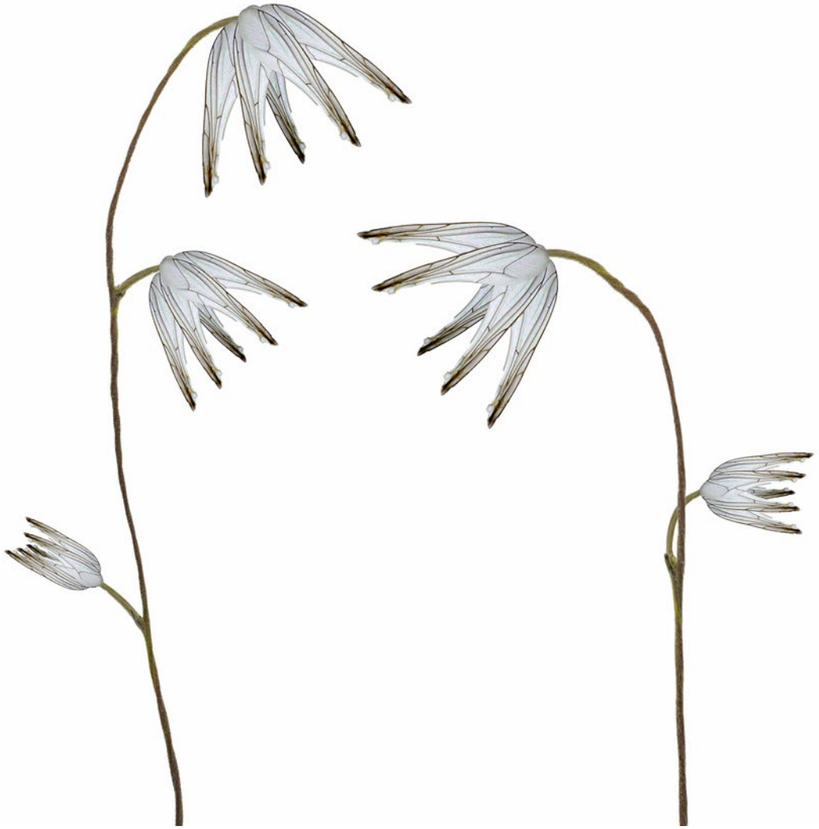
Helianthus volucerus

Tanacetum tabanidia

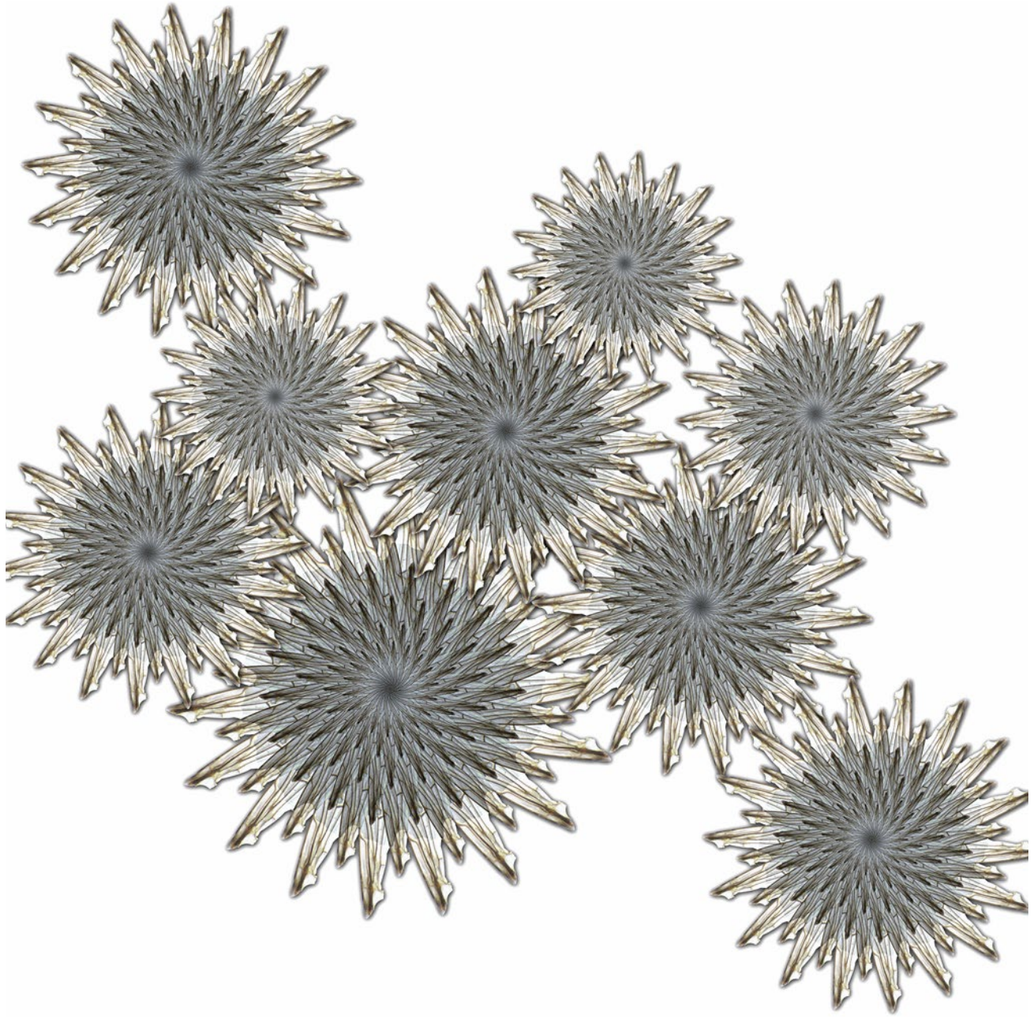
Crocus temporalis



Gerbera cynomia



Campanula caducus

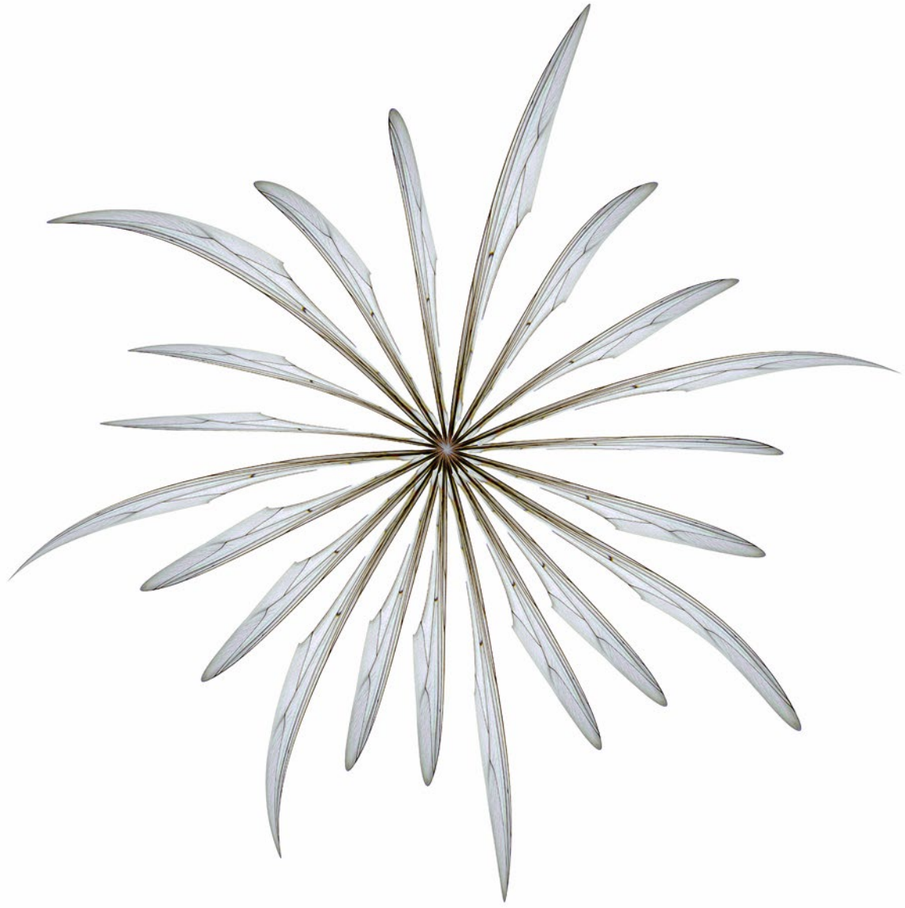


Centauria insecta

Clematis dipteria

Zephyranthes vexo

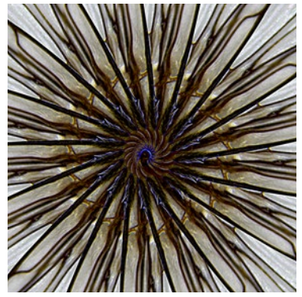
Cynara pervolatus



Helenium brevis

Datura dipteri

Lawrence Weschler in conversation with Gail Wight in her Berkeley studio



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LAWRENCE WESCHLER: Maybe we could begin by describing where all this happened. There is a sort of clapboard outpost, a compound of little bungalows, on the dusty edge of Stanford University, which has now been given over to the graduate art department, right? What was that area before that?

GAIL WIGHT: It was part of the biology department. In fact, my particular studio used to house the shark collection, which I've always been pleased about: it's kind of perfect. Eventually – I think in the 1950s – the area was given over to the art department, and after the 1989 Loma Prieta earthquake they salvaged some big beautiful cabinets which used to house some of the biology department's collections, and those came over to our studios, which was also quite marvelous for me.

LW: How so?

GW: Well, I've long found the subject of biology quite inspirational. I feel like it is the subject matter of our time. The way scientific study is taught, you know, its pedagogy - all of it is quite fascinating to me - but also the way the field is filled with all the fantastic human foibles that make life so interesting. And of course, the beauty of what scientists are looking at – life itself. It's just stunningly gorgeous.

LW: Only you were engaged with things like that in your art.

GW: Yes, though I should note that there are currently a lot of collaborations between art and science, and a lot of science using art in order to get its message out. And that's not really what I'm interested in. I mean, I'm glad that's happening, I have nothing against it, but my personal goal is science in the service of art. I really want to make art. I'm making art in the contemporary terrain, so it's really not science, I'm not trying to do science.

LW: With that general background, perhaps you can describe the origins of The Hexapodarium.

GW: Well, as you know, those studio spaces are out in a pretty rural environment at Stanford. In fact, they're right near the horse fields that Muybridge used for all his studies, and horses are still there, right across the road. So, at any rate, there's a lot of wildlife out there: ground nesting owls, foxes, a lot of skunks… and about three years back there happened to be a huge wood rat infestation, and pest control set traps everywhere, including in my studio. And I asked them to take the traps out of the studio, then I left for summer vacation. But apparently something had gone wrong because, returning at the end of the summer and unlocking and opening the door, right away, this wall of stench just hit me like some hideous wave, it came wafting out, and blech. I immediately felt kind of nauseous. I gasped, "What happened…" (laughs) For it was clear, something had died in my studio.

LW: One of the traps had clearly not been removed.

GW: Yes. So, covering my mouth, I went looking around on the floor and eventually I found the trap they'd forgotten to remove and it was kind of a liquidy pool of black goo with bits of fur and bone. It was very well decomposed, well on its way to being dirt but…

LW: But not quite yet.

GW: Aromatically, at any rate, right: not there yet. And then I started looking up, and realized that the whole space was filled with these draping spiderwebs – the remains of spiderwebs – and that every surface, all the sheets, were covered with flies. It was really disgusting!

LW: So let me just set the order. In other words, the thing had died, so flies just proliferated because they were having a great meal, and then spiders proliferated because they'd been consuming the flies, and all that had happened while you were away.

GW: Yes, it was an entire ecosystem, this whole kind of ebb and flow of life.

LW: Anybody I know at that point would have said "Great. Fascinating. But let's get the cleaners in here, let's call the hazmats in, with all their power equipment and fans and disinfectants, let them clean this place out and I'll come back in a week." But you didn't do that.

GW: Um, no. Well, the weak side of me did call the groundspeople and ask if they could come remove the rat. It had crossed my mind to hold onto it. Actually, when I first moved into that studio, I had a similar experience. I opened the door and there was a petrified rat right where the floorboards met the threshold. And I was so excited. I was like, "Oh, a little gift! A petrified rat" And indeed that ended up being in a piece.

LW: But gooey rat, not so much.

GW: Yes, gooey rat was a bit beyond my stamina. So I called and asked if they could take that away. But as for the flies, I thought, I'm not going to ask them to clean my whole studio. That's ridiculous. So I got gloves on, and a rag, and a broom, and started sweeping everything into this big industrial sized dustpan. It was hard, actually, because the spider webs were way up there, and the flies are sticking to them and the stickiness is impressive. It sticks to everything. You just can't get it off. It was starting to form into balls of webs and flies. Quite nasty. But at a certain point, you know, the dustpan was full. I walked over to the trash can… and I still remember, physically, the sensation of tipping the dustbin and then flicking my wrist back in a momentary hesitation…

LW: In an almost precognitive way…

GW: Yes. I didn't know why, and I stood there for a minute, thinking "whyyyy whaaat…"

LW: "Why would I ever want to keep this?"

GW: Yes. Why would I keep this? At first I felt this sort of, well, they're dead, but they weren't dead. They had been living. It was so much life. It just felt weird to throw out that much life. Already before this I'd been working on other pieces that were looking at the tiny underfoot things that we don't pay attention to, and flies are definitely on that list. I hadn't really thought about flies previously. But in that moment I realized, Oh my god, this is exactly what I'm trying to do, to pay attention to the little stuff. Think about the things that I just sweep away – all the life that I just go "swooosh" and it's gone. So I stopped. And I looked around on my shelves for some Mason jars and started to put the flies into jars. Which was also hard to do, because they just wanted to stick at the surface and not go in, so I ended up kind of shoving them in. But presently I had two Mason jars full, at which point I figured, "That's enough!"

LW: Right: Let's not get crazy here.

GW: Yes! How many flies does a girl need?

LW: So anyway, you have these flies. Did you have any idea what you were going to do with them at that point?

GW: No idea. None. But I have these two spaces—that one at Stanford and this little one out back of my Berkeley home—and I knew that I wanted to bring the jars home, because this space is a smaller, and it's a great thinking space. I do a lot of thinking here. It's a little quieter, no students coming by – I mean, I love students coming by at Stanford but it's a very different kind of activity that happens there. So I brought them home, and they sat right there for a long time. But as you can see, right there is also my microscope. So it was really just an accident of proximity. Because one day I just thought, "Okay, I'll just see what they look like under the microscope." I took some tweezers to get them out, and their bodies just crumbled. They were really dry: super desiccated. But the wings didn't fall apart. I've thought about that, since. I'm assuming that the bodies are filled with lots of organic matter, but those little wings have to be super tough to survive. So I started photographing the wings under the microscope and ended up with these huge photographs.

LW: So let's start from that. These are obviously very high resolution photographs. You have a camera in the microscope? Or how does that work?

GW: No, I mount my camera on that phototube there. I've got a nice camera and I mounted it on top and was photographing them and they were beautiful, so I moved to the bigger microscope and started photographing with that. I ended up being able to make giant prints, with the wings about four feet long.

LW: Like propeller blades.

GW: Yes! That's what I thought. I thought "Oh, these are like propeller blades. I could make a big kind of spinning propeller", which was the first thing that got me beyond just two wings.

LW: So your initial fantasy was going to be a matched extended pair of four foot wings.

GW: Yeah, which would be an eight foot wing spread if you had a propeller, right? So, I'm thinking very big. And I started printing them on diaphanous but sturdy materials so that I could stiffen them up but they'd be translucent, and I could make these big propellers. And then a friend showed me these rotary turbines, specific engines that were on old airplanes, and when you looked down into them you saw these nested propellor blades that look very complex and stunningly beautiful. I thought "That's what I want to do, I'll make these nested wings that are like these propeller blades and have them spin." So I started putting a little Arduino program together and I thought instead of having them spin, I'll have them twitch like flies. So they'll maybe spin, and then stop, and then twitch…

LW: So initially, were you imagining this as a video or as something in the world?

GW: No, as a sculpture. I started playing around with that idea, but while sitting in front of my computer one day, working on these propeller blades, I had a little image of a protractor that I opened up to try to get the blades into specific places and then when I had them all laid out it just suddenly looked botanical. At first that didn't make any sense to me, why there were all these additional features that looked botanical. I think I showed you the one wing that had a little chip in it? And it suddenly made the center of the flower look like a – there, I'm already calling it a flower – but the center of these propeller blades looked like a type of petal coming out of the middle of this flower, with then this third element there in the middle – in the very center – that looked like where the pollen would be, and the stamen and pistils.

LW: It's so fascinating that you say that because what you're suggesting is a world in which, say, a tree initially, or eventually vegetation of some other sort, and it wants to solicit the help of creatures to move its pollen around or whatever, which it does by setting up a thing that morphologically rhymes with them, whereby its petals are like their wings. I wonder to what extent there's some primordial attraction of wing-like structures calling forth to winged beasts…

GW: Yeah, I've wondered about this because there are lots of instances where plants mimic insects. Right? There are all kinds of instances where orchids in particular and other flowers have developed bits and pieces that attract flies sexually, with their little hairs and the like. But there are very few instances where insects start to look like plants.

LW: There are stick insects and leaf cutters.

GW: True. But there aren't really any insects that look like flowers. On the other hand, if you take that isolated wing, it really does look like a petal. So though I'd started thinking more in terms of propellers and engines, the images began looking more botanical. Of course, in a new project, I think one of the first questions any artist asks themselves is "Am I making this because I just saw this somewhere?" And I started thinking about that and I realized, Sure, I have seen lots of people make very beautiful things out of bugs, but in general they are employing very beautiful bugs.

LW: We were talking about that woman who has that room at the Wonder show at the Renwick in Washington, D.C., Jennifer Angus, how she renders elaborate murals and wall pieces out of huge iridescent beetles and so forth.

GW: Right. Yes, and how their uncanny iridescence really adds a lot to her project. If she had started with a kind of mundane housefly, it really wouldn't have the same kind of impact and beauty and wonder that it does,

certainly. This is in no way to belittle the work. That's the beauty of those pieces. But I was reassured because, actually, previously I had made works out of slime mold and other things that make people go "yich," that's one of my ongoing …um…interests …

LW: One of your signature projects is transcending yich.

GW: (laughs) Transcending yich. Thank you. Yes. Which is to say really hoping to get people to stop and appreciate things that – and actually I shouldn't say "people" – to get myself to stop and appreciate things that previously I'd just sort of brushed past or aside. And this project was a continuation of that. So I forged ahead.

LW: How so?

GW: Well, I completed that first one, and it looked so botanical to me…

LW: So what exactly did you do there? For starters, was it analog, in real life, as it were, or was it on a screen?

GW: It was on a screen, I took the image of a single wing and moved past the simple propeller, radially, till there were, let's see, I think there are one, two, three, four five six – there are a dozen of them. I laid out a dozen

LW: And they're all the same wing.

GW: They're all the same wing. And suddenly, all of these other forms jumped out of the center of the image and it started to have dimensionality that I couldn't really explain.

LW: So in other words, twelve of them splayed at a 30 degree angle, each to each, and indeed, weird dimensionality begins to happen. Which, by the way, this is how kaleidoscopes work, too: You put weird stuff in, shake the thing, and you get gorgeous dimensionality.

GW: You get gorgeous stuff out, right. That's actually quite interesting. I hadn't thought about that. Because I made a huge kaleidoscope when I was a young undergraduate– I haven't thought about that in years – and I filled it with awful things: political images of war alongside small objects, little toy soldiers and things like that.

LW: So this was a continuation of all sorts of themes in your work. Returning to that first fly wing combine though—what was it called by the way?

GW: This one is called Gardenia cladis.

LW: So talk about that a little. You've done it and suddenly you have a flower there.

GW: Well, initially I printed it at the scale that I'd been thinking of for the propellers, and it was just too big, it was kind of horrific. It just wasn't interesting so big. I realized one of the beauties of flowers—and by now I'd realized this was a flower and not a propeller—is their smallness, their frailty. So I scaled it back down, and I was still totally perplexed. Because, for example, I can't explain why the coloration changes, the little nick in there seems to make a huge difference in how it looks, and I wondered whether all single wings would evince that mysterious coloration effect if I splayed them out radially like that. So I spun a second one, and when I looked at the second one, it looked dramatically different. For one thing I now began using a higher powered microscope.

LW: What's that one called?

GW: This is called Echinacea pervolavi. And it looked – I mean, you can see, between these two, it was radically different. Because this one had that electric blue in the middle of it, which really surprised me, since when I look at the solitary wings under the microscope, I don't see that intense color. Some of the other ones started presenting beautiful blues and reds and purples and deep magentas and none of the green that I'd expect from the wing of a common mundane housefly. And, just to be clear, I'm not adding that color. I'm not changing anything. Another difference between these first two is that the first was taken under incandescent light and the second, higher powered microscope, used an LED light, which gave them, respectively either a brownish or a bluish tinge.

LW: Had you thought about doing analog versions? Had you thought about getting twelve wings under a microscope, and aligning them just so…

GW: Twelve different wings?

LW: Yeah, and that would be the artwork? Was there any point where you thought about doing that? When you go to the Museum of Jurassic Technology, for instance, they have a display of work by that nineteenth century obsessive, Henry Dalton, who fashioned incredibly ornate micromosaics, out of flakes of crystal, that you can only see those under the microscope.

GW: Right. I did try to glue twelve wings together.

LW: And how did that go?

GW: Let's just say that is not my skill.

LW: That's not part of your skill set.

GW: (laughs) It's a well kept secret, that skill.

LW: Was it dexterity? Or patience? Or what was it that's not part of your skill set?

GW: I suppose, if I'd stuck with it, I might have solved some of the issues. For instance, the three glues I tried were not the right glues. And my tools were wrong, I needed tinier tools. I could have solved some of those problems if I'd stuck with it, I suppose. But working with the real wings necessitated that each wing would be different, so none of the patterns emerged, since the wings are surprisingly different from each other. Furthermore I asked myself as I was messing around with the different glues and tools whether I wasn't escaping back into making sculpture, which is where I'd begun as an artist. There's a real world materiality to such work that's very satisfying. But I was not sure that I needed or wanted to do that, because the thing that was really fascinating me was already all there in that computer image, and I hadn't really pushed that. To delve into the other, digital, terrain meant having to think deeply about why flowers are as they are, why do they look the way they look. And I wanted to stay focused on that...

LW: Let's talk about some of that thinking. What were some of the kinds of things you were thinking about?

GW: Well, for starters I went and found a reproduction of Leonhart Fuchs' sixteenth century Herbal Book (1543), which was the first one to deploy high quality illustrations, though there's some controversy whether he was stealing some of his commentary and insights from other sources. And I'd already been looking a lot at Maria Sibylla Merian's botanical drawings.

LW: Who were they?

GW: Well, Maria Sibylla Merian was an amazing woman. German – though she lived in Amsterdam during the height of her professional career in the last half of the 1600s and traveled twice to a Dutch colony in Surinam. By herself! Though actually the second time, she went with her daughter. She was part of this strange religious sect that allowed her to divorce a husband that she'd sort of lost connection with. Her father had taught her botanical illustration and she really wanted to pursue this and did as a career, but she ended up being this woman traveling on her own at a time when that was very rare and going to some of the most remote parts of the world. A lot of that early plant exploration was about bringing riches back to the empire. Explorers had this other agenda. Within that agenda, lots of early botanists were asking what a rubber tree could offer the empire, looking for spices, building materials, that kind of thing. But her illustrations have these whole ecosystems inside of them. The bug that eats the leaf that then curls into a leaf-like cocoon from which emerges the butterfly that then lays its eggs amidst the leaves—whole entire ecosystems in her drawings.

LW: So in both cases, this was the time of natural philosophy, of wonder cabinets, of the free associative delirium, wherein this plant was said to look like this animal and get organized as such. Things weren't rigorously taxonomical yet.

GW; Well, there are ideas of taxonomies, but there was no agreed upon taxonomic system.

LW: And things were put together by patterns. Almost a universal crystallography.

GW: Right, this looks like a parrot, so it's a "parrot flower." So it was a fascinating time, and once I started opening those books, I thought: Okay. Flowers are really hard, actually. Spinning these is easy, but how could I make, say, a fritillaria, because it's always been one of my favorite flowers. Or a canna lily, or an arum, or hydrangea, or wisteria, or pussy willows.

LW: And you were using the 16th century images of the wisteria and so forth as your baseline?

GW: Well, by now I have a whole collection of herbariums!

LW: And you're basically saying how can I make these things, while limiting myself to fly wings—what can I do?

GW: Yeah…

LW: Which is mad, of course.

GW: Yes!

LW: So what were you discovering as you were doing this?

GW: Well, it doesn't always work. I ran into some things that were just impossible to make out of fly wings.

LW: Isn't that a shock.

GW: Yes! Which was actually a fortuitous limitation, because otherwise, this could have swallowed the rest of my life

LW: Right, right.

GW: But that's why I'd built up that big collection of herbariums, because I was going through them looking for what lent itself to fly wings. Where is there this synchronicity? Where is there this kind of similarity in form that I can tease out? And that became a fun kind of hunting process. Interestingly, it's a lot of familiar flowers that end up in that range. It's the very strange and unusual things that aren't in our normal flower lexicon that prove the most difficult to do. Odd canna lilies and things like that are hard to do.

LW: What else were you thinking about during this phase, what meaning were you finding in the activity?

GW: One thing I was reading at the start of this project – I went and read Darwin's Voyage of the Beagle, because I'd never read it. He did a ton of collecting. He was building his own herbarium at the time, even though there was a naturalist on board the Beagle. He was there as the ship captain's comrade. He was there to be entertaining. They had a naturalist, but Darwin didn't really respect the naturalist—he didn't really trust the onboard naturalist intellectually, and they didn't get along very well, actually—and he ended up doing all of his own collecting on that trip. He did a lot of walking and there are fantastic descriptions of plants, but also plants in situ. And meanwhile, he's looking at slavery happening in South America while he's traveling, and realizing how horrific the treatment of the indigenous Indians is, and making friends with them and finding out things about them, which is great to read about. He was a third generation abolitionist, and notwithstanding the passages some people like to pull out in order to allege, "Oh he was a racist," he was a deep thinker and really cared about life in all its forms. So it was interesting to think about this guy who was really the first to go find these things and bring them back, but bring them back with a completely different agenda. Maybe a little like Maria Sibylla Merian – she was half way there in terms of a different agenda, but he was really all the way there in terms of having a different agenda than what the State needed, or what the Empire needed… So I had a show coming up….

LW: A great way of imposing closure on a project, incidentally.

GW: What I really wanted was to tie these pieces into that whole history of taxonomy and collection, commenting upon this huge project we are all engaged in of, "what is life about?". Why are we naming and constantly looking for new things, organizing and reorganizing? I wanted to kind of touch on that project. At one point I went backward. I started looking at the radial flowers that I'd already made and started wondering - Do they look like specific flowers? I mean, there I was trying to make Lily of the Valley and Canna lilies, but then wondering, do the things I've already made look specifically like things that are out there, and I realized they do. This one actually looked like a daisy, and this other one actually looked like a cornflower. So once I started doing that, I realized that I needed a naming structure that relied on Latin binomials but also talked about this hybrid space. So I started looking up all the Latin words for…

LW: But one of the things that's interesting to think about in this context is what exactly is going on here, in this process where fly wings are being processed through the human brain as flowers. Because clearly all sorts of different morphologies are going on here. You have the morphology of fly wings and how they are similar to petals, which is interesting and allows you to wonder whether something's going on in nature which makes that happen. Or whether the thing that's going on in nature that makes that happen is in fact the eons-long creation of the sort of brain in human beings that might notice a thing like that, or be charmed by things like that. Another way of putting this, I suppose, is, what was the reading of Darwin doing to you as you were doing this?

GW: Well obviously, he was going to go back and eventually publish this incredible book on evolution.

LW: The Beagle being where he was beginning to figure it out.

GW: Yes, so I was obviously thinking about how things have evolved. And then, everything else that was swimming around in one's head at the time, all kinds of things about synthetic evolution that were in the air, and I'd been thinking about form and where form come from, and thinking about how there is this kind of constraint on forms as they evolve, a physiological constraint. So you have this envelope of shape that tends to emerge over and over again from one limb on the tree of evolution to another. Which might be why fly wings and flower petals do look similar, because there is this sort of physiological constraint on how things come about. And then, I'd been thinking about deep time, a lot, as well. I'd just finished this series of works about deep time. For me they were about deep time, I don't know if that's…

LW: What do you mean by "deep time" and what was the series of works?

GW: …anything over 100,000 years. You know, thinking about millions of years, 560 million years, when the Cambrian period starts and ends, what happened during the Precambrian period, the Devonian era. In that length of time, Darwin happened a second ago…

LW: Whereas synthetic biology stretches out the other way, into the future?

GW: Yes. So is it possible that evolution itself, moving far into the future, will create flies that look like flowers? Is that a potential course that evolution might take 560 million years in the other direction?

LW: I often think of evolution as the In-Itself, which is to say, all that is, simply daydreaming.

GW: Oh, that's beautiful!

LW: I mean, that the mind of the world, such as it is, which is to say Spinoza's god, the god of nature, the whole

thing, in its daydreaming eventually created an entity, us, who also daydreams, and kind of thinks that way. And in a way, it seems to me that that's kind of what we're looking at here.

GW: Oh, that's interesting! Yes, so there's a variation on that that crosses my mind. I've mentioned that there are these physiological forces that cause things to form, say, in a curve, or form in an envelope, or form five sided or six sided figures under tension or compression. Are there, I wondered, weaker physiological forces in the world where things are always just sort of starting to emerge, but then don't quite. Because they fall apart in the face of other forces. Which reminds me of an old piece of mine. There are, as you may know—or anyway this is how things were understood back in 1992 when I made this piece—four families, basically, of dopamines in the brain. And one of them, D-4, causes you to hallucinate but you have very little of it, it has a very precise function, and even so, the body is always suppressing it.

LW: But if you added to that artificially…

GW: I proposed that, if you have more of it, then you hallucinate more. And at one point, I gave a performance where I handed out crackers that were dosed with D-4 so you could boost your D-4 if you chose to. Would you want to have those hallucinations, could you guess what they would be? But it is this sort of dreamlike function that is constantly being suppressed in us. And there are likewise things out there in the world that are constantly being suppressed. Do you know of the Burgess Shale?

LW: That Canadian fossil bed documenting that huge delirious outpouring of life about 500 million years ago in the middle of the Cambrian period?

GW: Yes.

LW: Where it was as if Life itself took LSD for awhile.

GW: Yes. Exactly! And there were different forces possibly, at work. Maybe the water was more saline, or… who knows? But things formed differently. Are there things now that are almost evolving, but just can't?

LW: Which is the kind of thing you were thinking about as you evolved these images… so, I'm looking at a sheet here, which contains a whole little taxonomy of your fly wing creations, or should we call them creatures?

GW: Well, splayed out like that, they're very tidy. And indeed, having used all those herbariums to come up with these, I thought well, why don't I make my own? But this has to be a hexapodarium because it's built out of hexapods. Flies are hexapods.

LW: Hexapods are…

GW: Insects, yes. Six legs. So flies are hexapods.

LW: So it's a hexapodarium. Gotcha. But initially, anyway, one of the things you would do with these is to make them big. How did you determine in what scale you would render the individual pieces?

GW: So it started out with my crazy four-foot wings, and those were just kind of awful. I mean I think there was a reason to go that big. Earlier I had made a huge piece of butterflies pinned to the wall, just like a butterfly collection, but the pins became 18 inches long, and so it was horrific. I mean, with that one, I intended it to be horrific. But with these, I was really trying to make the horrific—housefly wings, after all—approachable, and therefore the big scale was working against me. So I brought them back down, and I played with a bunch of different sizes. And this seemed big enough to get into the beauty of the detail, but small enough to still feel not physically confrontational. When you hold up any work of art in front of you, there's this immediate physicality that happens, right? Is it bigger than you or smaller than you? And this is really a kind of one-to-one.

LW: Well, it's basically face to face.

GW: Yes, but your whole body is there, and it's just one thing, so you've still got a bit of a physical advantage over it.

LW: And it is striking, by the way, how well they hold up in terms of the resolution of the image. It still has quite a high degree of resolution.

GW: Indeed, although these first ones still had a lower microscopic resolution, and yet they still held up at that smaller scale. So these, actually, the incandescent lamp ones, actually have a limitation to how big they could get. They really didn't do so well at a bigger scale. So that ended up being the Goldilocks scale.

LW: These two or three here are all twelve-sided, twelve winged. Were they all?

GW: No, no. They're all over the map. Some of them have only five wings, I mean this is where they started to look like different flowers. This one has six. There are almost endless variations…

LW: And you print them on any kind of special paper or by way of any kind of special process?

GW: I tried every kind of paper I could find. That's my printer, over there, a beautiful Canon. And eventually I stumbled upon this iridescent paper, which was fairly new at the time. One of my sadnesses prior to finding it

was that on everything I printed them on, they lost a little bit of that magical iridescence that's still there even in your ordinary housefly. It turns out that there are three sorts of ordinary houseflies. They're all very different. So I had to figure out which was which.

LW: They were all in your initial spider strewn haul?

GW: Yep, they all showed up. But this iridescent paper, made by Moab, really seemed to do the trick. And then I decided: one of the contemporary critiques of science is that we study things in isolation, that in removing things from their environment, we really take away a major part of our understanding of why those things are the way they are. So I decided to put them back into an environment. And again, I was thinking: flies are actually sixty-five million years old (and they have been around for that long), so in my mind, I was projecting at that actual scale, sixty-five million years, into the future, imagining into being an environment that would be made out of fly flowers, so I started making these wide horizontal strips. [Land of the Flies: Winter, Spring, Summer and Fall]

LW: You have slotted a deliciously various collection of your flowers into backdrops made up of fields and trees and so forth, images which I suppose that you just went out and took yourself. Are they collaged photos or are they just one photograph?

GW: They are collaged because these are ten-foot-long prints. So they're all collaged together. This particular one, as you can see, has two suns in it. I think I got the idea for that from Olafur Eliasson's Double Sunset piece [1999], which really made me long for an extra sun. I went out looking for seasonally specific vistas, because I was making the four seasons and looking for various environments where those seasons were happening. This one here, if you blow it up big, you can see how there are these beautiful little red things happening in here, but it's actually moss that's killing these live oaks. It looks very beautiful but it's deadly. Yeah, I just, I kind of felt like I needed to put everything back in their environment and have fun with them. I'd been very careful and true to the world of flowers in trying to create these things and then I just kind of had to let loose. This one here, Winter, has dew on it. I included a spiderweb, but made the web itself disappear into the gray backdrop so all that's left is the dew. And then Fall was the last one, and I was fortunately finishing this up in the fall. So I was able to go out and photograph a willow tree, which has always been a favorite, because it's the source of aspirin and there's this whole thing that happens with bugs eating the salicylic acid in this tree, and it's just amazing.

LW: What happens?

GW: The bugs become inedible to other insects because of the salicylic acid they're eating. And they move around to different parts of the tree, protecting the tree from other bugs that otherwise would decimate it. And then, too, as you can see, I ended up bringing actual bugs back into the vistas. Actually I don't know if you can see them at all in these little reproductions. But I don't like using other people's images--that just seems lazy. So I have a collection of bug photos that I've taken over the years. Truly, there are some great pictures of flies out there that I was tempted to use (laughs) but they weren't mine. But there are some crickets and other weird things in there, see? There and there.

LW: That's interesting, because in the entire tradition in Dutch floral painting, the convention was indeed to include the bugs amidst the bouquets. Indeed, the literary critic and theorist Harry Berger, Jr., has a book called Caterpillage, in which he suggests that the most exciting, violent, wild part of any museum is the Dutch floral prints. Because things are going on there that are just completely wacko.

GW: Yes. I want to read that book!

LW: Which is to say that there's a long tradition of including all that stuff. Another thing that's interesting about floral paintings is that the depicted bouquet was never there as such—it would all have wilted and rotted away long before the painter could have prized his image—that, rather, the painter painted his bouquet one flower at a time. Which is to say that such painted bouquets are entirely a work of the imagination, no less so than yours are.

GW: Which is fantastic! Because those are so complex, and they look so stunningly arranged. The fact that you could build that up one piece at a time just blows me away. It's super exciting. Because unlike maybe most people, I don't skip that section of the museum. I love it, and I have this nascent familiarity with a lot of it, even if I'm not a deep scholar on the subject, but now I'll have this fresh set of eyes next time I go back.

LW: But the point is you're doing the same thing. Though in your case it's all being rendered on Photoshop, right?

GW: Yes.

LW: Have you developed any little curlicues of programming yourself to make these or are you just using standard Photoshop?

GW: No, I don't program anything into Photoshop, but I am a veteran user. I've been using it since before there was Photoshop.

LW: Before they even thought of it.

GW: Yes, the very early paint programs, and then I used the first version of Photoshop when it came out. It's an incredibly sophisticated program that, as I tell my students, doesn't do anything for you. You have to learn how to use it, and gain skills with it. It can make certain tasks easier than they would be in traditional photography, but it's not going to make your image. You have to make your image. You have to know what you're doing, and practice, and care about it, and finesse it. So, for instance, each of these large seasonal variations is made up of five to six hundred layers. I would open up the image, which is many gigabytes, and then go back into the house to start dinner and then come out and it would be open. (laughs) I'd do a little work, and wait for that to process, then go in and have dinner and then come back and work again. It was a very, very slow process, because they were so huge. They're ten feet long with five to six hundred layers, so that's a lot. And that's after all of those flowers are already compressed. Or flattened, not compressed, but flattened. So not even counting all of the layers that are in those guys.

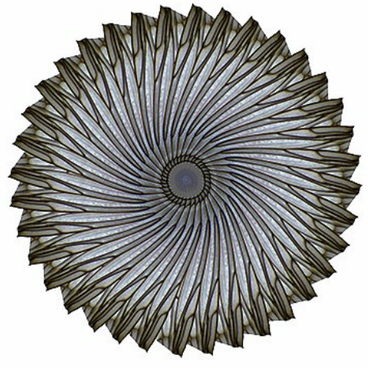
LW: So each individual flower thing has dozens of layers, and each of, all of which turn into only one thing, and then…

GW: There are probably two hundred objects in each of these vistas, but each of them is made up of many layers, including filters and aspects that bring out luminance and things like that.

LW: Hmmm. They're remarkable.

GW: (laughs) Thank you.

The Hexapodarium Latin Terminology



ala (s), ***alae*** (pl)
any winglike projection or structure.
the lateral petal of papilionaceous flowers.

alar
wing-like; axillary; applies to ligaments, cartilages, etc.

alary
wing-like.

alate
having a wing-like expansion, as of petiole (foot-stock of a leaf) or ste
broad-lipped, as with shells; winged.

aliform
wing-shaped; applied to muscles, as in insects; an alternate term is "alary".

anemone
daughter of the wind

animal, ***animalis***
animal, living thing/offspring
creature, beast, brute

anthemon
flower

aster
star

bellis
beautiful, handsome

calcitro, ***calcitrare***, ***calcitravi***, ***calcitratus***
be refractory
kick convulsively (dying)

camella, ***camellae***
cup, bowl, goblet

canna
panpipe, flute
small reed, cane
small vessel
windpipe

chrysos
gold

clades, ***cladis***
disaster, ruin, calamity
pest, bane, scourge (cause of disaster)
plague

coenomyia, ***coenomyiae***
common fly

cor, ***cordis***
heart
intellect, judgement
mind, soul, spirit
souls, persons

cynomia, ***cynomiae***
able to fly, winged

dipteros, ***dipteri***
having double row of columns all around
with two wings

echinus, *echini*
copper dish
edible sea urchin

fritillus, ***fritilli***
dice-box

gardinum, ***gardini***
garden

gaza
treasure

helica, ***helicae***
winding

Hybomitra micans
horse fly

hydra
water serpent, snake

ichneumon, ***ichneumonis***
parasitic fly

micans, ***micantis***
flashing, gleaming, sparkling, twinkling, glittering

Musca autumnalis
common fly around horses

Musca domestica
common housefly

muscarium, ***muscarii***
fly trap

passim
everywhere
here and there

pennipotens, ***pennipotentis***
able to fly, winged

pervolo, ***pervolare***, ***pervolavi***, ***pervolatus***
fly
fly through

rudis, ***rude***
coarse
undeveloped, rough, wild

salix
willow

semper
always

Stomoxys calcitrans
flies that feed on horses

Tabanidae (family) ***Hybomitra***, ***Tabanus*** (two species)
type of horse fly with spots on wings

tabanus, ***tabani***
horse-fly

vivus, ***viva***, ***vivum***
alive, fresh
living

volucer, ***voluceris***, ***volucere***
able to fly
flying
in rapid motion, fleet/swift
transient, fleeting
winged

volo, ***volare***, ***volavi***, ***volatus***
fly

volito, ***volitare***, ***volitavi***, ***volitatus***
fly about, hover over

volatilis, ***volatile***
equipped to fly, flying fleeing, fleeting transient