

## What makes us

### On Tomas Schmit's aesthetics

In every serious philosophical question uncertainty extends to the very roots of the problem.  
Ludwig Wittgenstein, *Remarks on Colour*

Fine art has felt so ashamed about her mousy grey sister science, she even scorned and ridiculed her. Although when art was feeling revolutionary, she lauded the rigour and coldness of science, although that must have left science cold, and rigorous, for that is the way she is. And on occasion art took science to one side and asked her for a bit of advice. But the two unlike sisters never went out and drank a beer together.

That is easily explained. Neither of them speaks the same language. More than that, the languages they speak are not something one can pick up just like that. And to translate from the one to the other is nigh on impossible. And that is what makes the work of Tomas Schmit - in which art drinks to the health of science, and science to the health of art - so utterly unique. Behind his bounds and capers a radical project emerges. Put briefly, it aims at an artistic explication of scientific questions: How did our senses come into being? How do we see, how do we hear, how do we think?

If one follows the threads that Schmit brings together in his book *erster entwurf (einer zentralen ästhetik)* [= first draft (for a central aesthetics)], one is amazed at how far they extend. Not only from 1989, the year when this most important of the artist's books appeared, up until his death in 2006, but also back to his beginnings. In his "Questionnaire" from 1965 in *The Four Suits*, he raises a question that could just have equally have appeared in his *erster entwurf*:

8 – HOW DO YOU THINK A TREE-FROG WOULD REGARD YOU?:

- ( ) as a green leaf to sit on
- ( ) as a fly to catch
- ( ) as a sunbeam to hop into
- ( ) as a rainstorm to enjoy bathing in
- ( ) as a lightning bolt to be astonished by
- ( ) as a thunderclap to be scared about
- ( ) as a heap of dry leaves to spend the night in
- ( ) as the air to keep him alive

What does a sated chameleon see when it stares up at a fly, or perhaps even two?  
That is how he phrased the question in *erster entwurf* and later illustrated it in "be it

beast or..." (# 396). Thirty years on from his Questionnaire he pictured to himself how viruses imagine salmonellas (# 454).

Already Schmit's first action was reminiscent of an experiment. The "Zyklus for water-pails (or beer bottles or wine bottles etc)" (# 1) by the not yet twenty-year-old artist dates back to 1962. He instructs the performer to keep pouring water from one container to the next until all of it has been spilt or evaporated. Although, as Schmit remarks, one could make a "physics lecture" out of Piece No. 1, one should avoid doing so. The point is to "simply do it", with the emphasis on "simply". That applied to Fluxus as a whole: although this ethos of simplicity fits well to scientific method, it simultaneously forbids the use of any models, let alone symbols for representation. This categorically excluded any demonstration of a scientific problem. When someone decants water on stage it is not to mean anything other than that someone on a stage is decanting water.

And yet Fluxus nevertheless served as a preparation for Schmit's subsequent researches. It is remarkable that of the 44 artists who were brought together in the catalogue for the 1982 Fluxus retrospective in Wiesbaden, all of twelve had studied maths or one of the natural sciences – *not* including autodidacts like Schmit. In men like George Brecht, Robert Filliou, Ludwig Gosewitz or Arthur K pcke, Schmit found people he could talk with and who shared his interests in science and problems of logic. But Fluxus was also a school of scepticism and minimalism.

the f[luxus] path avoided as far as possible all symbolistical, reviewerish, expressive airs and all the other kerfuffle designed to impress, and to do as far as possible simple concrete, form-free things.

It was this spirit of reductionism born of an aversion to kerfuffle that drew the young Tomas Schmit to Fluxus. And it was also the factor that soon led him to bid farewell to the movement's protagonists. For while Joseph Beuys or Nam June Paik systematically elevated the small, the concrete, and the simple in their early works and actions to the large, the complex and the sublime, Schmit went in exactly the opposite direction. He kept on paring down. In place of performances before an audience came performances without an audience, in place of a sketch came a note, and in its place a thought.

what i learned, along with much else, from f[luxus]: what can be done with a sculpture does not have to be constructed as a building; what can be conveyed by a picture doesn't have to be done as a sculpture; what can be dealt with by a drawing doesn't need to be a painting; what can be explained on a chit doesn't have to be made into a drawing; and what one can work out in one's head doesn't even need a piece of paper!

This is the rule of thumb for his parsimonious approach to art and ideas. And thus he remained indebted to Fluxus even once he had drifted away from it. The step away from the stage took him first off to his books and multiples. As in the works of Brecht, Køpcke, Emmett Williams and others, puns, corny jokes, and riddles occupy a large space in these works. This not only fitted the unceremonious nature of Fluxus art, but also allowed Schmit to occupy himself with linguistic problems more or less unnoticed by a grinning audience. To take one sentence at random from the wealth of examples in *das gute duenken* [= the fine imagination] (1970):

back in this sentence is at the front.

Not everyone who reads this book will know how important the problem of self-referentiality is for logic and for the theoretical underpinnings of mathematics, nor the effort required to formalise sentences that talk about themselves. Among the most notable contributors to this problem have been logicians such as Bertrand Russell and Alfred Tarski, as well as two authors Schmit was particularly fond of, Georg Christoph Lichtenberg and Lewis Carroll – one of whom was a physicist by calling, the other a mathematician.

What was at the back of Schmit's mind in such pranks can be seen in the article at the end of his *gute duenken* on "der sprache vermutliche entsteh and wicklung" [approx: the probable product and liferation of language]. Which brings us back to science. While "zyklus" was reminiscent of an experiment, if not intended as such, Schmit's exercises in paradox and wordplay are clearly part of his broader project to research the evolution of the senses and the mind. Just that Schmit has put the cart before the horse, as it were, because the development of language is one of the points he never was to reach in his *aesthetics* - which followed the development of cognition from the photoreceptors of protistans up to the fundamental mental process in human thought. Yet things emerge in his art that would clearly have belonged in a "second" or "third draft" (such as in the series "können menschen denken?" [= can humans think?]; # 530).

On the poster announcing his *ersten entwurf* the author explains that the book is based on a “romantic plan” from the sixties:

a systematic chart to identify, classify and evaluate what has been and is and to consciously elicit new sensory processes, as well as to identify, classify and evaluate existing and to consciously produce new art works and procedures. Attempt at a new a[esthetics].

He specified his plan more precisely in 1987. He wished to give

a no less materialistic than speculative and open synopsis, free of ideologies and thus of all compulsion to prove, of all that makes the world for us and thus us.

Schmit was not the first to envisage a sober and judicious examination of all “that makes the world for us and thus us”. Alexander Gottlieb Baumgarten graded our knowledge of the world from the “lower cognitive faculties” via the senses and sensory illusions, memory and imagination, to the power of judgement and the ability to signify. In 1742 Baumgarten introduced the concept “aesthetics” (from the Greek “aísthesis”, perception or sensation) to philosophy. Reason and logic, as he taught, are not the end of the matter. We are all familiar with our abstractions, but know nothing about our sensations. Everyone can come up with an image – but how is it done? Baumgarten founded the idea of an “aesthetics in the literal sense” that Schmit aspired to. It was to be a “science of sensory cognition” (*scientia cognitionis sensitivae*) that also employed the “weapons of the senses” or their “tools”,

which permit us to take in with clarity what otherwise would remain in the dark. These justly include not only magnifying and spy glasses, artificial ears and speaking trumpets, but also the whole arsenal of barometers, thermometers, hygrometers, manometers, pyrometers etcetera that are employed by experimental physics.

The senses were to be researched and light shed on them by all available means. Baumgarten got no further than to sketch out his “empirical aesthetics”, and although more recent philosophers adopted his term “aesthetics”, they ignored the concept behind it. Some of the fragments of Johann Wilhelm Ritter or Novalis pointed in the direction taken by Baumgarten, but aesthetics returned in the 19th century to being what it had already once been under a different name in Antiquity: the categorisation and assessment of art. And that is how flimsy it has remained. As long as no others are dug up from the dust of the libraries, Tomas Schmit must be regarded as

Baumgarten's sole true student. And there can be no doubt that he was the most original.

i picture a monochrome painting to myself

i put myself in front of this picture.

it is one hundred percent bright monochrome blue and hanging before me on a one hundred percent white wall.

what does the retina –

in keeping with the law that when evenly illuminated, the receptors will adapt within a few

seconds and thus stop zinging, which is compensated for by a steady tremor of the eyeballs,

and under the proviso that i keep my eyes fixed solely on the centre of the painting – what

does the retina see or 'see', what does it signal in such circumstances?!

it 'sees' just the edge of the painting.

above, below, left and right –

as long as the tremor is not merely in one direction but – rotating slightly, or at random – in all directions!

in each case it 'sees' just a narrow strip, of a width dictated by the amplitude of the tremor ...

and all that it 'sees' outside of this blue strip of a rectangle are correspondingly narrow strips of the white wall. all the rest, both the 'interior' of the painting as well as the rest of the white wall,

falls out of my perception within a couple of seconds – because even with the tremor

everything here is subject to the even illumination of the receptors – is black, a black hole.

i don't have to say that *i* see something different to my retina...

how does this difference come about?

"Zing! went the strings of my brain", one wants to shout in the spirit of that catchy old melody. Schmit felt that the customary expression in the literature of receptors or cells *firing* was too militaristic. Once the cells reach their action potential at 50 plus millivolts he hears a "zing!", the cells "zing". But they don't always zing, as when for instance Yves Klein's blue shines evenly onto the receptors. Equal stimuli are "desensitised" or "adapted away", as Schmit calls it. The receptors become deadened. The fact that Klein's monochromes nevertheless continue to say or sing something to us is due to the extra- and interpolations of the brain, which fill in the rest of the picture. So it is not enough to simply look at the retina when explaining how people and other mammals see.

It is precisely this difference between the physical, biological occurrence and the phenomenological impression, between the signals from the receptors and what is perceived that makes seeing what it is. People, mammals and a number of bird species do not perceive visual sensations, but rather processed and interpreted

sensory impressions. The eye is not just a camera. While a hand-held camera will show a wobbly image if one pans it round the room, the room seems completely steady to us when we abruptly turn our head. If our faculties of perceptions were not adapted in this way,

an almighty spectacle would start up. because that would produce the same impression on the retina as when this heavy set of quagga shelves over there was suddenly to shift five metres to the (opposite) side!

The mind, which is accustomed to motion, anticipates or “simulates”, as the latest literature prefers to say, the changes caused by turning one’s head and accommodates them. The proprioceptive stimuli from the movements are stored away as “efference copies”. By comparing these with the afferent (incoming) signals, one is able to simulate the outcome; for this reason Schmit calls the efference copies “vor-bilder” or “pre-images”. It is these that ensure the stability of our spatial world, of our “egocentric room” (Peter Gärdenfors). But something odd happens when very unexpected movements or above all direct manipulations of the eye make this simulation impossible:

when instead of moving my eyeball with my eye muscles i gently press it to one side using my thumb, the shelves really start to dance and lurch!

This experiment was thought up by Hermann von Helmholtz, a sensory physiologist who, like Schmit, was an intrepid man who first tried a number things out on himself. (And a number of other things on those inveterate “martyrs of science”, the frogs). Helmholtz was a Kantian. He stressed the constructive aspect of thought in sensory perception. Brain research has long since subscribed to his view that seeing is “more than meets the eye”.

Schmit likewise forwards various pieces of evidence that perception is constructed, not only in his *aesthetics*. On some of his “platten” (= plates, # 635-642 from 2005) he returned to the idea of the “eye-vexers“ he discussed in his *erster entwurf* and took it further. For this he used a famous **optical illusion** first described in 1889 by Franz Müller-Lyer, in which two lines of equal length appear to differ in extension when one adds angular brackets, facing either inwards or outwards, at each end. In this way one produces either an arrow with two heads, or one with two sets of flights or “tails”. The latter appears longer than the former.

Hundreds of scientists have aired their opinions on why this illusion is so, but as yet no one has found a solution that satisfies all. So it is interesting to see what Schmit concludes. He does not even mention the oldest explanation, one which has long been refuted and states that the estimation of the length of the arrow shaft is connected with the motion of the eyeball. Moreover he regards the explanation that the viewer projects the arrows onto three-dimensional space and sees them as the corners of a room or building to be superficial.

His speculations are based rather on the dynamic model of perception that has already been touched on here. The prior calculation or simulation of the image distinguishes what we know from the unknown, the unmarked from the marked, the probable from the improbable, the familiar dimensions from the unfamiliar. Thus the vertical depiction of the Müller-Lyer illusion results in “complementary systems”:

[the] implementation of one system leads to the deadening of that system and simultaneously to the complementary system becoming keener, so that things that are neutral to both systems are drawn into the vortex of the latter system!

= here the two verticals are dominant. not only because they are longer than the other lines. the vertical is, along with its complementary, the horizontal, a decisive factor in all spatial analyses... which results in the vertical system being desensitised here, blunted, and the complementary horizontal system being sensitised, alerted.

in this way the slanting ‘arrow’ nipples, which are neutral for the twin vertical///horizontal system, are turned slightly towards the horizontal! and how does one turn things?: best of all around their middle or centre of gravity!:

and when in the drawing all of the diagonals are turned slightly around their middles towards the horizontal, it is clear then that the left-hand shaft [with the tails; S.R.] gets stretched slightly and the right-hand shaft [with the heads] is slightly compressed!!

that's all.

Schmit further corroborates his thesis with his “purzel-puzzle” (= topple puzzle, # 642), which tips the entire experimental construction into the diagonal. Recent research (by Howe and Purves) confirms his view that the Müller-Lyer effect revolves essentially around the *probable* appearance of geometrical systems, which is to say around our comparison between the accustomed and the new.

Schmit's theory of perception should on no account be equated with a Kantian approach involving "a priori perceptions". Clearly: what we see is constructed. But this construction depends essentially on our own experience. Learning to see depends on prior motion. By moving we come to learn. And the way we move ourselves about the world dictates how we perceive it.

If for instance we look down from a 70-metre-tall tower onto the people and cars below, they look like ants and playthings, but not when we look at them from 70 metres away on the road. The finding from the arrow research is confirmed: our perceptual faculties only guarantee size constancy as long as we are in a familiar setting,

and 'look down vertically and with this look a great deal further than to the ground on which we are standing' – that is a subject that is never, or never adequately a matter of concern for your average flatlander! but those whose work involves an intimate knowledge of precipitous verticality – such as steeple-jacks, chimneystack repairers and lookouts in crows nests – and also conceivably anyone who has grown up on an alpine pasture or the white cliffs of dover – is completely unfamiliar with this funny ants and toys feeling, because they have developed size constancy mechanism for the vertical as well!

That the subject is so dependent on his or her environment is a serious blow for constructivism, which seems to believe the environment only exists because we can see it. But it might equally be so that we only can see because it is there.

So why in that case don't we have eyes in the back of our heads? Wouldn't that have been vital in humanity's primaeval habitat, when all those sabre-tooth tigers were prowling about? And why can't pigs fly? Wouldn't that save them a lot of trouble when foraging for food?

Mark Rowlands, one of the very few non-Kantians among the perception theorists, responds dryly:

In evolution, there really is no such thing as a free lunch.

Animals acquire all their senses, all of their abilities, as he tells us, at considerable evolutionary cost. If they manage to cope with a hostile environment with the means already at their disposal, they do not develop any new, additional ones. Pigs have managed well enough without wings, and humans got by without any third eye.



Novelty is produced solely by compulsion, as Schmit demonstrates not without gentle mockery in his drawings dedicated to evolution and consciousness.

“aus der geschichte des bewußtseins” (= from the history of consciousness, # 333 and # 596-598) and “from the history of perception” (# 405, 406) illustrate the way failures have made animals if not cleverer, then at least sharp-sighted and quick-witted. Because a population that is unable to surmount its dangers will perish. That this truly grizzly story also has a very chance element about it is intimated by “zu rückbleiben” (= approx. keep back / on backwardness, # 364), in which evolution becomes a board game and simultaneously a metro map.

Yet in the face of all this, the question also arises how humans have developed colour vision without any noticeable evolutionary pressure. “gummihopsen symbolisch, sind farben nischenbesetzer?” (= rubber twist symbolism, are colours niche-dwellers?, # 298) focuses on this question. It goes without saying why Homo sapiens needs a sense of posture, touch, taste, smell, hearing and vision, but

colour vision???: in order to distinguish more readily between tomatoes and lemons? the curious occurrences of this sense speak against that: many of the so called primitive animals, such as insects or cephalopods, have colour vision, while the majority of vertebrates lack it!: and all manage quite splendidly without!, and never feel tempted to squirt lemon ketchup, say, over their French fries or to order tea with a slice of tomato.

Natural beauty, which plays such an important part in traditional aesthetics, returns in the Schmitian version as a great mystery. What is the point of flowers being yellow, why do leaves have to be green? One would have to ask a butterfly or a chameleon. The chameleon is the most mysterious as well as the most enchanting animal in the artist's fauna. Both in his drawings (such as # 265, 305-10) as well as his texts, he tackled the question of whether it must have a representation of green in order to assume that colour.

The notion that the chameleon snuggles up to nature in order to conceal itself from its foes appears to be one explanation, if not an excuse for the fact that this animal is allowed to be so rich, so profound, so beautiful. But our aesthete is highly loath to speak of beauty, and if so then preferably about the beauty of Johann Sebastian Bach rather than the beauty of Dieter Roth. Too many people have played fast and loose with that category, made a real kerfuffle about it.

A person who is colour blind gets on fine in the woods and meadows. And it is not necessary to come up with sentences like “back in this sentence is at the front” in order to communicate. Colour, nonsense, chance – this curious surplus in evolution, the beauty and liberty that goes beyond all necessity, cannot be adequately explained by any aesthetics, not even Tomas Schmit’s. But even a fleeting glance at his drawings reveals that beauty and liberty are what he cherished above all – even if they were not foreseen in the blueprint for evolution and thus come to us as something rather surprising and ill-deserved.

Stefan Ripplinger

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