

An e-mail discussion held in spring 1999 between **Andreas Jürgensen**, curator of the exhibition "Digital Solskin" in Kunsthallen Brand's Klaedefabrik, Odense, Denmark and the artists. First published in the catalogue for this show.

Dear **Gero Gries, Yoichiro Kawaguchi, Gerhard Mantz and Yves Netzhammer**.

I am very happy that you all want to participate in this email discussion in connection with the exhibition Digital Sunshine. Here comes my first question. The computer has developed into a common tool for artists and now no justification is needed for using computers as a medium of artistic expression. Nevertheless, why did you choose this medium? It is often claimed that the "original" disappears with the digitalisation of art; and that with the original, what is essential to art also disappears: the "human dimension", the "aura", the "deep meaning". What do you think about this? I'm looking forward to your answers.

**Andreas.**

Dear Andreas

I discovered the pleasure of playing with the infinite possibilities of building and altering visual information instantly. The "human dimension", the "aura", the "deep meaning" in a work of art are essentially contained in the information the work gives to the viewer. The tools the artist would use do not affect this. No one could say the work of a writer is not art because it was written on a PC. Nevertheless, the magic thing that turns a work into a work of art, a masterpiece, still needs the human artist. I have never experienced the output of a program function as strong enough to show this magic. It takes the intelligence of an artist to build up a construct, and it takes his fine-tuning of the final product to give it life, to make it breathe. Regards to Andreas and all the artists. I'm glad we can do this together,

**Gerhard Mantz**

Dear Andreas

I came across a computer for the first time in 1975. I was very impressed by the pale, coloured patterns that moved on the screen in accordance with the program. And I decided to create a kind of new version of the flow of time. On the basis of my own artistic work I imagined the world as it moves in many different dimensions rather than standing still. To get further with this idea I wanted to turn the actual life of art into images. I read the fundamentals of biology and the physics of space so I could transfer them to an artistic model. And I became deeply involved in developing the algorithms of creation. It is hard for me to talk about my works outside a computer. In my work all patterns, movements, colours and qualities are transformed into art on the basis of their mathematical logic and the algorithms I create; the computer is always at the centre. Around 1976 I began to think about self-replicating algorithms in my "Growth Model". I think the most dangerous thing for digitalisation is the standardisation. At any time, in any place, we have free access to the Internet and to all the information we want. This means that we can get our inspiration from types of information that are very different in quality but still look alike. That is why there are so many works that come from ideas and information from a lower level. In addition, digital-copying technology will make it possible to transform an original into a higher quality simply by copying it. What can the artist do? I think that the artists without the power of creativity will have difficulty surviving in these Internet times, precisely

because of this danger of digital copies. Although I have devoted my efforts to the most sophisticated computer technology, I am interested in expressing the original meaning of human existence in the space of the computer. Nature gives me a clear sense of calm and a profound fear of the dark night through the experience of the desert, the jungle. It is important to feel things directly from nature. As you said in your question in relation to the digitalisation of art, there is a risk of losing depth and original creativity. But that is yet another reason why artists should intensify their work with digitalisation, with a strong concept and their own creativity. I think that is the problem with creating an important, fundamental artistic work.

Best regards ***Kawaguchi***

Dear Andreas

One of the reasons why I work with the computer is - as is already inherent in the question - the links among various spheres of action and society. I mean that thanks to this equality of the media, the existing standards of value can be disturbed and questioned (e.g. the traditional idea of "subjectivity", which in our society is often mixed up with craftsman like skills, will have to find a corresponding, perhaps very fruitful form of production which is provided by this new medium! Another point that is very important to me is the "consistency" of signs. Through the competence of the computer as a medium, it is immediately possible for me to show imaginative processes. That means the computer makes it possible for me to act imaginatively, and as a result of its variety of structures it suggests decisions, the results of which point back to myself. The above-mentioned ideas are of course linguistic categories. For me an imaginative product "means" something if it is withdrawn from the linguistic field, but at the same time is nourished by it. A non-illustrative synaesthesia of the above ideas, which turns into the other and provokes personal feelings in me. Or to put it differently, a situation where I want to and have to encounter my surroundings and myself. Abstractly, I would describe this condition as a "non-formal realised resistance" which can combine various aesthetics and times qualitatively. To me it is exciting to think of the common denominator in a successful vase painting from the Bronze Age and a computer work which "attracts" me. Have a nice day  
Yves  
Dear Andreas I started my career as an artist as realistic painter, a field left for various reasons. Two main reasons were the long production times and the difficulties of representing the shifts in the imagination during that production time in the final product. Production times of two to three months were appropriate to the 19th century but not to my pace of living in the 70s. When I realised that computer-generated imaging might become an alternative to hand-made Photorealism around 1985, I followed the development of the technology, which was still in its infancy in those days. The results were unsatisfying and the hardware expensive. During a stay as artist-in-residence at the Art Center in Pasadena Ca., I had the opportunity of working on Macintosh and SGJ machines, and found the results acceptable. Since then I have done my artwork almost exclusively on a Macintosh with increasing satisfaction. The more I work, the more possibilities I see, a development that is enhanced by the hardware/software improvements. All the qualities of a computer-generated image are in the file, which is the original, even if it is reproducible ad lib. It is an original, but not unique, and this is behind one of the controversies about digital and analogue reference systems. The emphasis is on the file, not on the image. All visible representations of an image file are approaches to a file but never a full representation of it- anybody who ever worked with these kinds of files can confirm this. The best analogue representations I have found for my image files

so far are Lambdachrom prints, which are multiples, similar to a common procedure in classic photography. In other words, my negative is digital and invisible. See you soon,  
**Gero**

Dear Gero You wrote that your visible images are approaches to invisible files. But the files are, I suppose, themselves approaches to invisible ideas. The enormous loneliness, emptiness in your images ~ why do you focus so strongly on these particular aspects?  
Regards, **Andreas**

Dear Andreas

Now we are very quickly getting down to the very sources of human creativity. Why do focus on anything? Because I think it is important, fascinating or exciting to me ~ or more simply because I like it Why do I like to model these images? First, they do not represent the same things for me as for you, although I understand what you mean. For me they stand for intensity, concentration on the essential and a chilly way of feeling at home. The general appeal of the images is very similar to that of the realistic paintings I used to do while I was at the academy. So these images have accompanied me for a long time, probably since the age of 8 or 9. Maybe they are a souvenir of those odd 50's, the era when I grew up in post-war Germany,  
**Gero**

Dear Gero

you wrote about "a chilly way of feeling at home". We know that the home, as a symbol of peace and security, as a warm space, built up by structures of familiarity, belongs to the past. So compared with the past we live in an age when we are all homeless together in one great global village. From our point of view today this chilly atmosphere satisfies a specific, contemporary need to feel at home. But please let me know what this chilly way of feeling at home means to you. And also have you totally stopped painting? Regards,  
**Andreas**

Dear Andreas Yes I have stopped painting, although I am still drawing my sketches for the computer works and I sometimes do some watercolours when I'm on vacation, You ask what "a chilly way of feeling at home" means to me. I have been thinking about an appropriate answer, and could not find one. I am sorry, but the only answer I can give you is in my images.

Nice Easter Holidays, **Gero**

Dear Gero, Yoichiro, Gerhard and Yves,

the works of all of you have some relationship with nature: Kawaguchi claims "to combine the Grand Canyon and a sea urchin"; Yves confronts organic and inorganic forms / processes; Gerhard imitates ideal landscapes; and in Gero's works nature is consistently absent. What does nature mean to you as group? Is nature real?

Regards, **Andreas**

Dear Andreas

Nature is something that goes beyond our mental capacity. If we see a landscape, for example, our eyes are filled with a chaotic mess of forms and colours and structures. Only our organising perception gives what we see an order, enables us to recognise, to see

understandable forms, relationships and beauty. Thus we start seeing by projecting, and learn by assembling the memories of our various perception experiences. The impression of a landscape is a combination of the objective landscape and our internal memories. The older we get, the stronger is the memory part of our perception, Imagine! We could live for a thousand years, constantly ageing, and we would end up only perceiving the accumulation of our memories, our dreams. Reality would only be an irritating disturbance. Still, we consider these dreams reality. With my images I give you a mess of forms and colours and structures, I pre-order it for you a little and you fill in your dreams, your memories. This is your reality - your nature.

Best regards, **Gerhard**

Dear Gerhard

Yes, the elder we get, the more our visual surroundings change into visual memories. And what applies to individuals probably also applies to the entire history of mankind. However, when I fill in your images with my memories and dreams - which is easy, because they seem to look familiar - my memories suddenly disappear, they fade away like the morning dew. And I get this wonderful feeling of remembering without any particular memory. Your images liberate me from the accumulation of memories you talk about - a sublime feeling.

Regards, **Andreas**

Dear Andreas

The image is just a mass of coloured pixels. I believe it is still our memories that build up your sublime feeling, but you cannot associate the image with memories of specific situations, it is the part of your memory that is beyond words, beyond recognition. It is the sediment of many faint memories that are almost forgotten. Reaching this area takes you very close to your inmost self, which is a happy feeling.

Happy Easter, **Gerhard**

Dear Gerhard

True, I cannot associate the images with memories of specific situations, and many of the images do indeed appeal to those very memories that are beyond words, way down in the dark and confused depths of my soul. But I can associate the images with my faculty of memory itself. And this faculty is independent of any specific situation. It's a structure without any special content, no matter how dark or how clear. I have no memory of your landscapes, I assure you I have never seen them before, But they give me a dear and distinct feeling that I can remember, that memories can arise that's a happy feeling, too.

Best wishes, **Andreas**

Dear Andreas

What kind of nature do I create in the space of the computer? I have tried to create unknown life that perhaps exists somewhere out in space. Around 1976 I began to associate the relationships in the food chains of ecosystems with the artistic representation of space. I tried to create formulations of our surroundings by showing strong and weak creatures and their struggle to survive within their group. In addition I presented the mathematics of forms. I observed the form of a snail, a spiral, which looks quite complicated but is only repetitions of basic figures. I tried to extract a mathematical principle from the content of things, not from their form. This idea comes from my

childhood on Tanegashima, which is an island in southern Japan where I was born and grew up. At that time I saw many snails on the beach, and I became very fascinated by their beautiful shapes. Building on this impression, I decided to create self-replicating works in my "growth model". I could create various objects on my computer, all the way from one that has the recursive structure of the spiral like a fossilised sea urchin to something that has never before been seen, and which looks like coral and/or a mollusc. So I decided not to make perfect copies of anything but to dedicate myself to creating new life based on mathematical principles. It may be that my self-replicating works from the "growth model" will also exist in the future; perhaps they have already existed in the remote past, but my aim is to create a kind of imaginary life. That is why I can also imagine the existence of a coral reef that is 100-1000 metres high on a planet somewhere out in space, I am interested in creating living beings in a hard computer devoid of emotions. And I have thought about creating an actual art-Life that would be much more living than real creatures in nature. I am trying to create something that is experienced as a real form, not just as a visual image, I have not defined this form, so I have also thought about a plan for the future where the actual computer grows and develops just like real beings. I dream of playing in a creative computer world in the near future. Nature has many meanings for me, and gives me a certain sense of excitement to realise my dream; my work must be able to organise itself. The space of the computer has its own time, which grows and develops in a different way from real time. And such an imaginary, artificial Space will contain much more of the charm of life than real nature. For me, creating space and time in the computer in an artistic, interesting way means creating a different nature. I hope it will be living and lively and sometimes dangerously attractive. Regards, **Kawaguchi**

Dear Andreas  
let me ask you what the notion "nature" involves for you?  
**Gero**

Dear Gero,  
When I think about nature, I think about a relationship between nature and mankind. And the crux of the matter is that this relationship is familiarity and opposition at the same time. Of course we are part of nature, but the point is that nature is distancing itself from us, we are not distancing ourselves from nature. This distance that is claimed to exist between mankind and nature arises because of the autonomous power of nature to create that distance. Nature folds in on itself, withdraws itself - for whatever reason. Nature is not being destroyed or weakened to any extent. What remains when nature leaves us? The feeling of having been abandoned. Loneliness, melancholy, homelessness. But also liberation from rules, gravity, obligations, stagnation, universal unity. So, in the end, nature is for me an emotional regulator, the very highest concept that structures my feelings, thoughts, actions - and everything that depends on intellectual or physical power. As such a regulating idea, nature has no physical reality - it's just a word. But let me come back to what Yves said in his first e-mail: thinking about the common denominator found both in a successful vase painting from the Bronze Age and an "attractive" computer work. Do you believe in an absolute idea of art that is unchangeable in time and space? What is this common denominator? Is it a power of attraction, or a feeling, or a "fine-tuning of the work to make it breathe", as Gerhard said earlier in this discussion?  
Regards, **Andreas**

Dear Andreas

I prefer to answer this question with images rather than words. However, in this connection it is very important for me to point out that my position should not be understood as a kind of "meta-physics". The opposite is truer. A "sub-physics" or "in-physics" corresponds more to what I mean. Perhaps I can explain this with a model I presume that one thinks with the body and its ability to move (economy, grammar). In this model our standards of value are reproductions of the relations the body produces for itself and its environment. This assumption denies any absolute idea of art but favours the idea of "information" (aesthetics, knowledge, and activity). If I have a similar response to looking at objects made in different eras, it should rather be explained by the fact that as a subject I am not omniscient, so can be "informed" by an "old" work just as well as by a new one. Thematic similarities, timeless and formal, may be evident in this model, since one should preferably seek the meaning of artefacts in people and their requirements, which basically do not change too much. Another comment on the mail from Gerhard Mantz as regards defining nature, and whether nature is real: I try to stay aware of when and why a description of nature (as opposed to culture) is used at all. Historically, this phenomenon may be described as an identity-founding separation from man's state of being "thrown into" the world. "Naturally", I too draw these distinctions. However, I try in my work to imagine which part of a body is nature, and in so imagining I experience a - still very formally oriented - definition of Nature. Generally, I avoid contrasting pairs like nature/culture, real/simulated (even though such contrasts are a wonderful representation of our cognitive faculties). Such categories are rather easy to question. For example, if the producer of the vase mentioned in the first e-mail took a walk and saw a fallen tree whose branches on the ground looked like the contour of a car, the vase-producer would probably not notice the contour of a culturally defined object right there in front of him. Thus the idea of culture/nature is determined by a civilising process constantly changing in form and content.

Nice day, **Yves**

Dear Yves

You wrote that you think with your body and its ability to move. In your animations there are bodies (the deer, the tongue, the small letters) that perform very short anecdotal actions, elementary movements, sort of atomic thoughts. How are these anecdotes combined into an entire video? Is there a certain order? Is it a closed or an open series?  
Regards, **Andreas**

Dear Andreas

the last question is probably the easiest to answer. I work in an open system, comparable to a linguistic vocabulary. The meanings of the "words" are fixed and extended by the theme and context I have been working with the question of the dramaturgy of the sequences for a long time. But I must say that I still have to work to do on that every ordered system has a dimension of content, which is an important part of its reception. When I try to order my images, I abandon super ordinate patterns of explanation (i.e. zoological categories: deer to deer...). I try to develop the rules for the dramaturgy out of the themes, and I take my bearings from "signposts of the body" combined with strategies

of the rhetoric of images  
Have a nice day, **Yves**

Dear Gerhard, Gero, Yoichiro and Yves

Social life does not seem to be a subject for you. At least there are no people, no relations among people in your works. Why? Regards, Andreas Dear Andreas, This question is easier to answer there are people in my images, although only a few, and no social relations. I think that this is explained by the general character of my images. In my work I'm not interested in social relations. I go for viewer-space-object interaction. But beyond such likes and dislikes, it is still difficult to make a photorealistic human image in renderings. The 3D-modelled figure doesn't give satisfying results, mainly because of skin and hair-mapping problems. The projected photographic image produces better results, but is not a real 3D solution and is only good for stills. Take care, Gero Dear Andreas I'm interested in looking for possible ways of expressing artistic emotions in the space of the computer - a basis beyond words. So sometimes there are realistic figures in my works - sort of to tell the story. But the story is like music; it is at a very abstract level. In the computer I try to express happiness, sorrow, fear, surprise, innocence, sensual seduction and their many different transformations in time, their growth and development. In doing this I am inspired by questions of the evolution and extinction of animals in prehistoric times. The space of the computer monitor can have a stronger, more reckless mood than the jungle in the tropics. Regards, **Kawaguchi**

Hi everybody, dear Andreas

I aim at subjects more general than social life - Let's say eternal ones. Of course I could do this using human figures as artists have always done. I know it is very attractive for people to see people in images. Yet my view goes beyond human beings. Whenever I have tried to use figures before, it has all gone a bit sticky, too everyday-Life. I don't want my viewer to get involved in social feelings while looking at art. When I look at the sea, I don't want to have other people sitting in front of me. Regards, Gerhard Dear Andreas Counter-question (can also be used as an image-generator). Is it possible for a human being to make a picture that is not about human beings? I think that pictures where no people appear also explain something about human beings and their characteristics. A small art-history illustration of this statement did the Romantics, for example, not perhaps choose natural phenomena incidentally, in order to express a personal feeling and to show themselves? A small illustration from real life. Even though the lines on a tennis court are naturally an abstract drawing, they explain, like any artificial production, something of man's ideas of scale. If one knows something about the function of the game (the rules of the game) one can learn something about the social environment (winning versus losing, playing time versus conditions). (Naturally, the above-mentioned examples only work when the recipient is a human being who thinks and acts in terms of logical-causal relations and define everything in nature in terms of distinctions). For the time being I choose animals in my work, since they can be a projection surface for social and subjective questions. The advantage of these indirect character descriptions is that I do not have to use stereotypes (in terms of physiognomic prejudices, social code systems) and thus confirm conventions, which would inevitably reduce the scope of interpretation. To me, animals or landscapes are mirrors of my own behaviour. I release my feelings by watching them, and thus they can become bearers of ideas with further applications. **Yves**

Dear Gero You have studied medicine and took a doctorate. Have these studies had any impact on your art? Some of your interiors remind me of a hospital.

**Andreas**

Dear Andreas

Medicine has definitely left its mark on me and my work, but it is difficult for me to describe the impact. I think that my interest in the hospital-like interiors brought me to medicine, not the other way round.

**Gero**

Hello everyone,

Let me go back to the beginning of our discussion: to the fascination of working with the computer as an artistic medium. All of you seem also to be attracted by the possibility of creating an enormous number of images relatively fast. What do variation and repetition mean to you and for the way your works look? Best regards Andreas

Dear Andreas My interest in the computer involves using a scientific way of thinking for artistic creation. To visualise my imagination, I think it is necessary to develop my own creative algorithms and to associate them with a praxis. That is why I use a computer for my mathematical algorithms. Since the mid- 70s I have thought a lot about a simple question: if I created realistic figures, I could not incorporate the essence of natural forms, that is the essence of landscapes, animals and plants, mountains, the sea, clouds, etc. So I tried with my mathematical algorithms to understand the modes of creation and the growth and development mechanisms that are latent in the forms. To get further with this it was necessary to have a mathematical principle, something that was different from just reproducing things. Since there were not so many good introduction books and/or computer specialists in the 70s, it was very hard to understand computer languages. But I was so attracted by mathematical principles that I continued to use computer programs to develop a creative algorithm for forms. So it is wrong to say that I was only fascinated by the extraordinary response speed of the computer. For at that time we could see no more than black-and-white line drawings on the screen. But I was fascinated by the fact that with the creative algorithm I could make forms out of nothing and get them to move. It was a pleasure to pretend I was the Creator. As a kind of by-product of my work I created my "growth model", the idea of which was not to predetermine a whole form. The results only appear after I have run the growth of all the parts of the model together. It is like when we cannot predict whether it will rain tomorrow or not (Perhaps this work is related to the fact that I do not like a world where I can see all the structures of the totality in advance.) My works do not need a specific drawing as their point of departure. Since we run the parts together one by one, we can create something new which there was no way we could have predicted ... that is my idea. I create many realistic objects in my works by means of a creative algorithm. They look like real creatures that make copies of themselves with the aid of their own "heredity". This means that my works create their own offspring out of themselves. For me variation and repetition mean the offspring of real beings. And what can the artists do then? I have thought about making a kind of " digitalisation seed" as an algorithm for my works. Since about 1975 I have thought about creating my works as real forms, not only as visual images, but by using a scientific, mathematical program in a prismatic way. In sum: I am looking for an interesting and diversified self-organising art



that is why I work with the computer.

Regards, **Kawaguchi**

Hi everybody,

the enormous variety of tools and software is breathtaking, electrifying for me. It drives my thinking right off the ordinary rails. It is a brainstorming machine. The speed of new computers brings an intuitive way of working. That is, the instant reaction of the computer suits the jumping style of intuition. If you wait too long for the results of your work, you cool down and you lose your belief in your aim. The power I need to have is a strong, clear vision and a belief in the final result, the work. This needs more elaboration than just a few clicks with the mouse.

**Gerhard**

Dear Andreas

For me the competence of the computer creates a peculiar, imaginative "understanding" of syntactic questions and their connections with the world. Thanks to the capacity to work with another "material", it sometimes becomes clear to me why I favour body-related grammar and its materials at all. I learn to work with the elementary, morphological questions. This paradox of an abstract working process suggests actual values and their themes have followed me since I started to work with this medium. I wish you a nice day Yves Dear Andreas, It is important for me that the speed of the work flow correlates with my personal speed in time. My pace of living is triggered by my environment as a watch is triggered by its quartz. As a result I need a working tool that is adequate to my speed of living in our age. If I lived in the Mexican Mountains, I'd probably still be painting. On the other hand, it might be an interesting experiment to take a notebook to such a place and see the impact of this environment on the work. Variation: I'd like to make a distinction between the usual variation in an artistic body of work and computer-induced variation. The former variation is normal to me - every artists work circles around a certain subject for a certain period. The latter type is interesting inasmuch as there are hierarchies of images in my work, similar to a family tree. There are "mother images" and children - not only in the metaphorical sense (which is common in art), but in a real sense, since I frequently start from the original file to make a new image, a "daughter". On occasion there are also brothers, that is two similar images of equal importance, which I usually show side by side. Another aspect of variation and repetition is in the object/texture layer. Let's take a chair, for instance and multiply it imagine it and its brothers as different from having several chairs in the real world. These identical chairs have a different quality; they seem to relate to one other in a special way, like Dolly, the cloned sheep and her identical twins. There is also a variation/repetition aspect in texture mapping which sometimes achieves serial qualities. When I map a texture on to a given object, like a floor, it is repeated all over it, which gives a strange order to the floor, since it is made of texture modules. This effect is stronger when it is done just beyond normal perception - that is, when the repetition is not perceptible when you simply look at the image, but you'll find out as soon as you start to investigate.

Take care, **Gero**