Swedish artist Charlotte Johannesson and her husband Sture were central figures in the Swedish counterculture of the 1960s, '70s and '80s. In the early 1960s, Charlotte founded her weaving workshop and company named "Cannabis," which in the mid-1960s turned into the couple's communal workshop and exhibition space, soon becoming an informal information hub for the Malmö underground—a kind of psychedelic salon. Later, they started the Digital Theatre (active 1981—85), a pioneering computer graphics studio.

The interview in this bulletin was originally conducted in Swedish by Rhea Dall.

Front cover: Charlotte Johannesson on the floor of the Digital Theatre, circa 1984

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Malmö, September 2, 2012

R: So, how did you become interested in weaving and how did you learn to do it?

C: I learned to weave in the beginning of the 1960s. It was my formal education. It took around three years back then to go through every kind of weaving technique, but I knew all along that I wanted to make images via this medium. There was no one else around here who really did this then. One important artist I looked at was Hannah Ryggen, the iconic Norwegian weaver. Apparently she had been sitting in her attic in the small family farm, weaving. A teacher I had at the time told us her story. The other women at the course didn't really take an interest in Ryggen. Most were a bit religious and were there to learn to do napkins and so on, but I had something else going on. I wanted to create images, and also to use text or something else loaded with content — something kind of slogan-like. I was interested in the real world — in politics. This was the reality that struck me.

R: Did you also experiment with industrial processes when you were a student, or did the technological aspect come only later?

C: I was very interested even then in all sorts of techniques you could work with to make images. There was a bit of Jacquard weaving involved, which was very complex. Of course, it wasn't proper Jacquard weaving, rather a simplified version, but based on the same principle of controlling the loom and the design with a punchcard. As you probably know, the Jacquard loom was an early conceptual model for the computer. In the 1970s, I started to do some lacing, too. This I really enjoyed, but it takes so long you wouldn't believe it.

R: After school, you started a studio in Malmö?

C: Yes, it was like this: I had my own weaving studio, and I incorporated it as a company, which I named Cannabis because I was weaving with fibers from hemp plants. These you could obviously use to make threads, just as you might use wool or other things. Later, after my daughter Malinda was born, I left the studio, and the place became a gallery instead. I didn't have

Charlotte Johannesson with loom; Sture Johannesson and Sten Kallin with IBM Mainframe / Calcomp printer

time to work there then, as there were so many other things I needed to do, and also I wanted Malinda with me. That early exposure turned out to be important for her, too. When she was a little girl, Malinda once pointed at Sten Kallin from IBM and said, "I wanna be like him," and she has actually worked for IBM for 22 years.

R: Your husband, Sture, worked with IBM from the end of the '60s through the early '70s. Were you already working with computers by then, too?

C: I began working with computers in the late '70s, when Sture and I began collaborating on the Digital Theatre. Really, we started the research that eventually led to the Digital Theatre in 1978, even though the official years of the Digital Theatre began in 1981, with the Apple II Plus. 1978 was the year I traded my loom for the first "personal" computer we got. It was a big loom, inscribed with the words "I am no Angel." A young man we met in Sweden had managed in some weird way to buy a computer from America, but had decided it was too simple for him. He felt he had already exhausted its possibilities, you see, and he wanted to work with the bigger computers—mainframes—instead.

R: And he agreed to trade his computer for your loom?

C: Yes, he was interested in exactly this loom. Maybe he saw the likeness between the loom and the computer, as I did. As for me, there was a great synchronicity between the two machines, which I thought I could use—on the computer there were 239 pixels on the horizontal side and 191 pixels on the vertical side, and that was exactly what I had in the loom when I was weaving. I was using the same dimensions. Of course, due to the landscape orientation of the screen, any portrait-type image generated on the computer had to be made sideways, so that the head was actually lying on the side. So, while I was working on the images for the *Faces of the 1980s* series, I had to sit and turn my head the whole time to assure the depictions came out right. (Laughs.) That was what one could do back then.

Later, in 1981, after reading about the new Apple devices in *Creative Computing* magazine, we went to California to try to get our hands on

them. We got in touch with the owner of a computer shop, and he happened to be a Hungarian emigre. He was so happy to see fellow Europeans that he hosted us at his house while he tried to find the various equipment we needed for the Digital Theatre. His hosting us included giving us a bag of weed and a map and lending us his car for a week. It was a great week, of course, but in the end he simply could not get hold of the items we wanted—they were still in production.

R: How did the idea of collaborating on something with a name like the Digital Theatre come about—were you intending to stage anything?

C: First and foremost, Sture and I wanted to work on something to do with the future. And we were playing on the notion of the "free" theater groups in Sweden. We said we would start a free theatre group. It would be free of actors. The Swedish Arts Council did not support this idea, so we got support from the State of Sweden's Council for Technical Development instead, as well as a private bank. For us, it was a moment when we shared an artistic project, and it was thrilling, like entering unexplored land. Before and after this period, both Sture and I worked very singularly, but when we worked together, we worked together completely. We would start at eight in morning and work non-stop until two at night. It was up to me to form the images, and Sture did the technical part. Of course, Sture was essential to making it all happen, but I was really the one who made the imagery.

In terms of actual staging, though, we did make a small animation for the re-opening of the Swedish parliament building (*Riksdagshuset*) after their long renovation. They wanted a TV commercial for the inauguration, so we made the first animated film for Swedish television. It was a small film in which the parliament house falls apart. I did the images, then Sture did the animation.

R: And how did the Digital Theatre actually function? Did people come to the studio to observe it in action?

C: Yes, since the newspapers announced our work, many people called us up to come and visit the studio. In the end it was rather tiring, and we just wanted a bit of peace and quiet to work. The Digital Theatre was

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not meant to be a gallery or a theater in that way—it was more of an experimental workshop.

R: So, what was it like day-to-day?

C: If you wanted to use a computer to make images back then, you more or less had to figure everything out for yourself. There was no software program you could go out and buy, or anything like that. Or, there was one calculating program and a few graphic design programs—I remember one called Utopia and another called Coloring Board—but they were rudimentary. You could do one thing in one program, then you had to swap to do other stuff in the other program. The process was much more hands-on than now. It all took a very long time—not unlike weaving. There were no manuals. In fact, the only thing that came with a manual was the computer itself, and of course there wasn't a word in Swedish. But in comparison to what you see today, the handbook for Apple was fairly easy to read. It was written in a kind of slang.

Once you were done with the programming, the plots took a long long time to print, too. And you could only insert one plot at a time. Thus, only one color could be printed at a time. In the computer, one could specify only four colors and black or else nothing—white. But of course in the actual plotter, I could use any color or any tusche. One plot would combine with one tusche and thus give one color of printed pixels. For every pixel, the tusche needed to touch down twelve times. So, to fill out a whole drawing would be a long process. And if there were any disturbances, like a spike in the electrical circuitry, let's say, the drawing would be damaged and the entire process had to be started all over again. But it was exciting to watch. There was always a great sense of anticipation in the studio when we were waiting for a new plot to come out.

R: *Faces of the 1980s* includes portraits of Boy George, Bob Dylan, Björn Borg, Ahmad Shah Massoud, and David Bowie. How did you decide on the motifs in the series?

C: A magazine contacted us to ask that we do an image of Boy George. We accepted the commission, and it turned out so well that I then felt like doing more faces. Unfortunately, the series ended up being only male

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Charlotte & Sture Johannesson, *Faces of the 1980s*: Ahmad Shah Massoud, Bob Dylan, Björn Borg, Boy George

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faces. I tried Annie Lennox, but her portrait wasn't very successful. Anyhow, a business developer was pushing us to produce something at that time—something commercially viable, not just experimental. So these portraits were conceived with that idea in the background—the thought that we might sell something. And then the images were publicized in many magazines. Boy George was especially popular.

In the case of David Bowie, he had just done the *Red Shoes* album, where he had this haircut that was short on the lower half of his head, with the long bangs on top covering one eye, and I thought that was really hot. Most people think of *Ziggy Stardust* when they think of Bowie, I guess, but I only became a fan with *Station to Station*. That was from just before his time in Berlin. We were also going to Berlin quite often around then. And that album was more political—it was reality-based. That piqued my interest even before the haircut.

R: Bowie's signature is on one of the prints. What's the story?

C: Oh, it's a funny thing that happened—we stopped at a gas station on our way from CERN, where Sture and Sten from IBM had been invited to do a lecture. Do you know about CERN? It's the big particle physics laboratory in Geneva—quite an interesting place. So, we stopped at this gas station right outside Geneva, and I noticed this man with the Bowie haircut I liked so much, and then I looked closer and I realized it was David Bowie, himself, right there at the same gas station. Sture is much more blunt than I am. He just walked right up to him and introduced himself. Bowie was a very nice person—there was nothing affected in his manner. He thought our project was really interesting. Sture went to get the posters to show him, and while we waited, Bowie and I had a quick chat. We were both driving Volvos, and we connected over this, agreeing this was a good car—boxy, but safe. Anyhow, Sture picked up a poster for him. We asked him to sign a copy and keep one for himself. Bowie also took one of the prints of Boy George, which he promised to bring to him, so he should have a print, too, somewhere. Bumping into Bowie was pure luck, a little like finding a tiny particle at CERN.

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R: When you were working with computer-generated images, were you in contact with any other artists who were interested in the same things?

C: No, we didn't have any peers, really. No one seemed to be working with computers in such a way at that point, and the art critics didn't think it had anything to do with art. Some even said this was just about pushing a button. I wasn't really interested in other people's ideas about art then, either. I used to read the American magazine *Scientific American*, which was more in line with my interests—in various scientific research fields and in the future, generally. I still don't read much of anything having to do with art or writing about art. I think it's rather boring to read about art. I don't get any inspiration from that sort of thing. As a source for new thoughts, I'm much more interested in reading about developments in science.

R: Do you link the scientific with the psychedelic?

C: Yes, indeed. Especially when I think of the first Apple products and how they came along. It was mostly the tripped-out types who worked

with computers then. Even XEROX had their experimental workshop in San Francisco, and I often heard it referred to as "the zoo" since most everyone working there were these long-haired, hippie, psychedelic kinds of people.

R: Did you also experiment with drugs as an influence in your work?

C: I don't know. We smoked a lot of marijuana, since it was really useful to tighten concentration. But we didn't take anything just to trip around. To eat something like that (points to her mescaline cactus) and think you could work is a total illusion. I remember I once sat with paper and drew, but when I looked at it the day after there was literally nothing there. Nothing. What you saw when you created from that state was never the same as what you saw the next day.

R: How did you support your work back in the '70s and '80s?

C: I got the artists' stipend in Sweden in 1976. Later, in the '80s, I got a three-year work stipend. At that point, the income was granted because of the digital or computer-generated images. I also won the prize at the Design International in California. It was a very early women-only competition. I don't know if it even exists anymore, but back then it was definitely something no one knew about in Scandinavia. I probably found out about it from some American magazine. Since it was a competition having to do with design, most of the work was pretty commercial, but there was a lot of good stuff, too.

R: And what did you win the prize for?

C: Digital images. One of the images I submitted was of Victoria Benedictsson, a female author from the 19th century. She was Swedish, but she died in Copenhagen. She committed suicide because she was in love with a Danish man. She worked under a pseudonym: Ernst Ahlgren. They had to back then. Obviously.

R: It seems that when you were coming up was also a special time, a challenging time, for female artists.

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C: It was extreme, but it was also extreme to be working with computers, which meant that even fewer people wanted to talk to us. The computer was really considered the devil's tool among people in the arts. I thought the feminist movement was narrow-minded about computers, as well. In the '70s, there was a feminist group in Sweden called the "Gruppe 8." They were central to the movement, and if you said "computer" to them, they would be completely scared.

R: Did you associate yourself with the punk movement?

C: On one old woven piece I wrote "Tidiness at any cost." I guess that was ironic. You could call it punk. We met the Sex Pistols once. We had heard *God Save the Queen* when the record was still difficult to get. We went to Växsjö where they were playing. Sture did a big interview with them.

R: In Sweden now, you're considered a pioneer of digital art, aren't you?

C: Yes, but one shouldn't marry Sture if she wants to be known on her own. (Laughs.) Hmmm—moreover, though I guess my images would surely appear in public, I didn't want to be too exposed, myself.

R: Did you continue to make digital images after the Digital Theatre?

C: No, it was only during those years for me. After that, I got bored with the technique. Somehow, I just didn't take an interest in it anymore. The fun in the beginning was that no one had worked with computers like that before—that was the challenge. After 1985, the Mac computers took hold, and they weren't as interesting for us. The work wasn't creative and compelling in the same way. Sture continued with the grand computers—he moved onto another project named EPICS—but in that work, the drawings were generated by the computer, not by human hand. I worked some with papier-mache for a while, then I started working at a design centre in Malmö in a more typical job.

R: I'm looking at one of your archival photographs on the wall here, of you next to a big woven face of a fisherman. The design is an all-time Scandinavian classic of the sort that decorates average homes, but your

heroic prototype resembles the *Faces* series, both in size and in the semi-frontal facial posture. The image even seems pixelated.



C: Actually, this is done from a data-print of Sture's, though I guess the image was made in 1974 or 1975, long before we even thought about beginning the Digital Theatre. Sture did a big print, but only with signs for the various colors, then it was just left for me to decide which color to use where. I made it in brown and beige because I had collected Faroe wool for the purpose, and it came only in natural colors—that is, undyed. I phoned to the Faroe Islands to order the wool, and it arrived in this huge bag with a wooden block attached, with the address written on that.

R: Do your old woven works still exist?

C: No, I don't think so.

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