

# INTERACTION ARISING FROM INSTALLATIONS

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**T**he 'i=' Series - Interaction as Improvisation not Imposition The 'i=' series of installations and performances were intended to explore the notion of 'interactivity' and what constitutes 'art' in the current technological age. Central to the work is a focus on human/human and human/computer communication by a subversion of surveillance and control.

At the outset of residency at the Camerawork Gallery - January 24th to February 22nd 1995 the work for (i = 0001; i <= 1001; i++); contained no images or sounds. It was constructed and conceived as a framework for interaction, an orchestration for collaboration, an exploration of representation within a computer mediated environment. The audio and visual forms that were developed and displayed over the period of the residency resulted from a series of 'interactions' with the participants, the public, the passers-by and the performers, all of whom were necessary for the realisation of the work. The title of the residency refers to the structure and process by which the work was created, declaring it's status as an algorithmic form, beginning with the creation of the work 0001 by the first group of participants and continuing until the ninth work, 1001 was complete. The series was extended further by performances of i=1010; at Sadler's Wells in June. Before this recent work is described in detail, it is necessary to outline several issues arising out of previous computer installations. In 1990 we began to research into the possibility of creating interactive environments which respond to movement. The ability to control the computer by gesturing with hands, arms and legs, dispensing with the need to touch a mouse or keyboard, was initially of paramount importance. We developed a program to utilise the signal from a video camera, so that, when people walked into view, their image would activate the projection of images and sounds. The first installation Social Hair (1990) was intended to be an interactive narrative, influenced by Mallarme's theories of guided chance. By moving in the installation space the viewers' silhouettes would activate brief, 1 second, animations. Therefore, by shifting their position, people could choose to re-sequence, omit or emphasise individual elements, thus creating multiple readings of the narrative.

Tract, created in 1991 continued this theme, however as its name suggests, the concept was one of navigation in an area of indefinite extent. A video journal, recorded on location in North Wales - at the site of a Lost Land legend - was condensed, and digitised into sixteen animations. The editing process purposefully departed from mimicry and simulation, focusing on the essence of movement through surroundings. The piece was initially



installed at the Sheffield Media Show, where people were invited to navigate the virtual landscape, constructing their own legend.

On reflection it became evident that both these installations 'reacted to' rather than 'interacted with' the people who moved in the space. The computer in these works was used merely as a storing device, an 'insertion box'. By performing certain movements in the view of the video camera people could select and control the output of their choice. Were these and other 'reactive' works merely indicative of art created for the consumer age, "I chose, therefore I am"?

What would happen in an interactive space where choice was denied? How could a space be constructed by utilising the algorithmic power of the computer so that the rules of production would change in response to movements?

It became necessary to explore in depth the notion of interactivity within computer mediated environments, to create an installation in which people and computer code would 'interact', that is, have a reciprocal effect on each other. It took a year to devise the programs and plans for the installation *Emergence* which was premiered in Australia at the Third International Symposium of Electronic Arts'92, and in England at Digital Dreams'93.

In *Emergence* the viewers' interaction with the installation is mediated through a set of transformational rules, which not only act on the audio and graphical output but also continually change the installation's response to movement. The program was structured so that the drawings and sounds would cease to develop if movement in the space halted. People therefore, needed to collaborate to perpetuate the evolving forms and this they did with warmth and gusto. The installation encouraged sociability rather than individual isolation. The work denied choice and insisted on a dialogue, an 'interaction' between human and human, between human and machine (code). This line of enquiry was extended by *Hetrophony* a site specific commission for a Mediaeval Great Hall in Suffolk, England. The installation provided an immersion in a continually evolving planar space in which ripples track movement, radiating and gently perturbing the surface video image. The work echoed the duality of the politics and architecture of the age whilst challenging the English heritage visitor.

The residency at Camerawork provided the opportunity to enquire further into interaction and collaboration within a computer mediated environment by combining 'reactive' and 'interactive' elements of our previous work. In for ( $i = 0001; i \leq 1001; i++$ ); we utilised computer technology to enable diverse groups of participants, ranging from school children to architects, to input images, sounds and interactive structures into the installation. These sessions de-mystified the technology of production and questioned the distinction between art, education and audience. The animated works produced ranged from samples of 'skipping games and playground chants' to 'bodies making letter forms and their related phonetic sounds'. During the period of the residency, as these works

were produced, they could be activated in the day by movement in the gallery space. In the evening, they were projected onto the glass frontage of the gallery, making it a 'reactive' focal plane for passers-by, whose movement was monitored by a street surveillance camera.

Towards the end of the residency the works created by the participants were placed into the 'interactive' structure of the installation. To generate this space we encoded the compositional technique of the composer Andrew Deakin and developed a 'perspectival inversion' to translate the video detection of movement across a two dimensional plane into navigation within an immersive three dimensional sound space. This dynamic 'interactive' structure surrounding the static 'reactive' animations can be likened to a pool of water with stepping stones. A movement from one stepping stone (animation) carries with it trace elements of that particular form, which are mixed, altered, amplified and modulated by the water (code) that surrounds it. The dynamic nature of this complex structure, which conceptually permeated the gallery, ensured uncertainty and improvisation, as the installation was made to resound with visual and acoustic traces of physical presence. This was exemplified by Rebecca Skelton's performance in the space on February 19th, when the dichotomous dialogue of human and machine was explored by poignant movements of contorted control and surrender. The collaboration between Skelton, Deakin, Jones-Morris and myself was continued when we were commissioned for two performances of the 'i='series at the Lillian Baylis Theatre, Saddler's Wells.

We selected several of the animations created during the residency, refined the sounds to create a spectral aural space and developed a simple neural network to enable the system to identify certain movement patterns so that it would respond with a degree of learnt behaviour. Personally, I was apprehensive about developing this work for a theatre setting, with the traditional trappings of audience and performer. I was concerned about the relevance of an interactive installation on stage and with the engagement and immersion of an audience that could only observe. As it happens the audience become 'active observers rather than remote participants' - a phrase I gleaned from Michael Hill's talk ISEA'95. Sat in their chairs, comfortable, freed from the imposition of being a performer, of making the 'thing' work or not, they could focus, focus on a person who was skilled, who after years of training, and months of rehearsals could move with a degree of control not available to anyone else. The tension created by the improvisation between the performer and the system, the human and the machine was gripingly intense, and beyond all expectations. For us, as artists, computer interactive installation, will continue to be an art not concerned with a framework which allows choice, but rather the choice/construction of a framework which allows interaction.

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Created in collaboration with Jonathan Jones-Morris, 1990 to 1995