STEIM, a reconstruction

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Now, with the more than a hundred musicians, artists, and scientists who visit STEIM every year, with the projects and residencies, the concerts and festivals, the development of hardware and software, and the function of STEIM as an international meeting place, it’s difficult to imagine that this cultural beehive was once, a bit more than 30 years ago, the modest initiative of a handful of Dutch composers. Out of a kind of political and cultural rebellion, a workgroup was established in the autumn of 1967 by a few of the Netherlands’ most prominent and progressive composers: Peter Schat, Konrad Boehmer, Jan van Vlijmen, Misha Mengelberg, Louis Andriessen, Reinbert de Leeuw, and Dick Raaymakers. STEIM was created out of a dissatisfaction amongst composers and orchestral musicians with the fact that the products of the ‘isolated’ electronic music studio could only be heard in the concert hall via the static combination of magnetic tape and loudspeakers. What the group had in mind was an electro-instrumental musical practice based on real-time processes. STEIM was created as a research laboratory and development workplace for live electronic music.

The opera ‘Reconstructie’ (‘Reconstruction’) by Andriessen, Mengelberg, De Leeuw, Schat, and Van Vlijmen, together with the librettists Harry Mulisch and Hugo Claus, provided a minor revolution. This became the impetus for STEIM’s foundation. Though STEIM initially played a supporting role as a bastion where the political relevance and significance of electro-instrumental music were discussed, the group managed to acquire an independent position via technological innovation. They constructed metal consoles with removable units that could be used both centrally as well as decentrally, together with a large mixing board that allowed for the quick patching of studio equipment. These developments resulted in an extensive modular system, also known as the ‘black box system’, in which the principles of voltage-control were applied as fully as possible.

Despite STEIM’s contribution to many concerts and manifestations, it was only with the arrival of Michel Waisvisz in 1973 that the emphasis came to focus on STEIM as a laboratory/workplace in addition to its functions of research and education. Waisvisz introduced a completely new musical-electronic principle: the Cracklebox. He made use of a property of electronic circuits that was usually considered undesirable: instability. This phenomenon is typically combated against, but Waisvisz instead wanted to advance it by connecting the appropriate points in an electronic circuit with touchable surfaces. This principle formed the basis of many of the instruments and objects he designed and built in collaboration with STEIM technicians until 1980, and which he’s used in countless concerts and music theater productions. This technique was also used for a number of art exhibitions. The ‘crackle’ instruments were different than the usual set of instruments because of the directness and sensitivity with which they could be played (for example, the use of many different presets meant that there was no time delay). They were also able to create complex sounds with relatively few actions.

With Waisvisz’ Cracklebox, the essence of STEIM became clear: advancing an instrumental approach to the practice of electronic music. Here, instrumental implies that in STEIM’s view, electronic music would only assume its definitive form on the stage, and that it’s ultimately the performing musician who creates the sounds via direct and physical actions in front of an audience. This is actually quite a traditional view, yet it’s one that was only rarely evinced in electronic music at the time. At last, ecstasy and sweat on the electronic music stage! What STEIM added here was that the composer would also take on the performing role himself: a set of instruments was developed that allowed the composer to compose on stage, and to let the work be heard at the same time.

In the second half of the 1970s, digital technology made its way into STEIM. Although STEIM had always been critical of traditionally ‘sterile’ computer music, they recognized in the arrival of the personal computer enormous new potential for the musician who wanted to use electronics on stage. A vast wealth of sounds and new opportunities for audio processing appeared. From this moment onwards, digital technology has played an integral role at STEIM. With the development of dedicated hardware and software, as well as the development of new interfaces and physical controllers, STEIM grew during the subsequent decades into one of the foremost international organizations, one that is well ahead of its time in many respects.

With Waisvisz’ appointment as director in 1981, it was not only the STEIM philosophy that took on a clear form: the process of internationalization was also set in motion. Pioneers of live electronic music such as George Lewis, Martin Bartlett, and Clarence Barlow came to STEIM to work on projects; in their wake were more musicians and scientists from all over the world. This helped STEIM become a prominent international
In 1981, Michel Waisvisz produced the music theater piece 'De Slungels' ('The Louts') in which, controlled by a computer, 'real-life' theater robots appeared for the first time. This ushered in an important new area of research at STEIM: the man-machine relationship (e.g. interactive composition systems), and the attendant research into improving the operating technology of electronic systems that make use of sensors, keys, and the like. The appearance of MIDI (Musical Instrument Digital Interface), with which computers, synthesizers, and effects could 'speak' to one another and with which all of the system's parameters were theoretically controllable, gave STEIM momentum. At STEIM's workplace, Michel Waisvisz 'The Hands' was developed. It allowed devices that were set up away from the stage to be addressed via keys and sensors that were affixed to the performer's hands. The computer was no longer elevated to the status of a venerable composing device, but now served instead as a translator of the composer's creative actions. A single motion, for example, could change the tonality or timber of a musical phrase with the turn of a hand. 'The Hands' is an instrument with which the physical power, virtuosity, and sensitivity of the player's body are optimally translated into electronic musical sounds.

'The Hands' is one of the first physical controllers that STEIM developed. STEIM hereby wrested itself from the power of the mass media, which had only been delivering instruments that continued in the tradition of the church organ. STEIM, on the other hand, devoted itself to making personal instruments where the sense of touch was the most important aspect. This delivered a colorful assortment of instruments with names like the Web, the Office organ, the MIDI-Conductor, the Bebop Table, the Electronic Baby Mirror, and more.

The key here was the physical element, the sense of touch. To make this possible, STEIM also began experimenting more and more with sensors. Experiments in the laboratory were conducted with pressure sensors, distance sensors, and accelerometers. These experiments ultimately led to many robust and fully developed musical objects.

Characteristic of STEIM is that they always publicly demonstrated the prototypes of the instruments that they'd developed. Allowing people a glimpse behind the curtains, and giving the audience (including children) the chance to play with the instruments STEIM had developed, proved very instructive. How do the instruments work, and how do people work with them? STEIM exhibited its Crackleboxes early on in its existence. After many intermediary forms, this ultimately led to the much-requested Touch exhibition, in which many of the instruments that STEIM developed in the 1990s were displayed. This exhibition can be seen as an extension of STEIM's practice-based experimentation, in which the experimentation becomes public, and the results of the audience's integration are used as measurements. The Touch exhibition proved more than once to be a successful event, where enthusiastic children would even bring along their parents!

In order to increase the speed of developing instruments based on musicians' personal wishes, in the 1990s STEIM decided to focus on writing widely useable software that could function as modular software building systems for these personal projects. The most well-known projects are LiSa (Live Sampling, developed by Michel Waisvisz and Frank Baldé), and Image/ine (developed by Steina Vasulka, Tom Demeyer, and Michel Waisvisz). LiSa enables real-time sampling and processing of sounds on stage, while Image/ine is a real-time image sampling and processing program. Both are revolutionary packages that greatly enhanced the possibilities for the practice of performing live electronic music. In fact, they are the first explicit examples of performance software. A new generation of electronic musicians, as well as the DJ and VJ culture, is currently discovering the power of this approach; previously they had to be content with the limits of most of the commercially available studio software packages. The development of Image/ine seems an unusual element in a studio for electro-instrumental music, but in fact Image/ine is a logical extension of STEIM's continued interest in multimedia. As far back as the 1970s, people such as Victor Wentinck, Misha Mengelberg, Tony van Campen, and Gilius van Bergeijk were experimenting with multimedia presentations, which were normally accomplished using analog instruments. With the appointment of video-art pioneer Steina Vasulka as artistic co-director in the mid 1990s, STEIM once again sought a new approach to the
visual arts and multimedia, only this time in a digital world. The development of Image/ine has led to an increase in visual and audiovisual projects at STEIM.

In the 1990s, virtuality took flight in the art world. STEIM developed the 'touch philosophy', in which the physical - the instrumental - was key. In so doing, they added some critical notes to the concept of virtuality. STEIM is closely involved with the development of the new, mostly virtual media, yet at the same time they propagate a balance between the physical and the virtual. Just as virtuality is closely tied to the physical world, ensuring that the virtual also has a body results in an artistically exploitable field of tension. It is possible to have a virtual orchestra resound from a laptop, yet this only truly becomes a performance when it's physically transformed into sound by the musician's movements on stage.

STEIM has since become a dynamic organization that's found a place in the heart of the new electronic media's development. Innovative instruments and toolboxes provide an impulse for the practice of musicians who work with electronic media. And the 'touch philosophy' remains integral today: the instrumental, the tangible, the physical, all linked to the spiritual and the virtual. A new generation of musicians from around the world now visit STEIM to develop new projects, often based on dedicated technology that STEIM develops. Despite their current successful status, STEIM has presented itself polemically throughout its history. Between 1970 - 1980, for example, they offered a counterweight against mass culture, against the tools being developed by the industry that were based on the ancient church organ and the piano. In contrast, STEIM introduced personal instruments, instruments that used new controllers and physical interfaces. In the 1990s, STEIM voiced critical notes regarding the swift ascension that the concept of virtuality was assuming in the art world. On the basis of the Touch philosophy, STEIM is now propagating a renaissance of the inseparability of body and soul, a concept that is gaining more and more acceptance internationally.

And what will the future bring us? STEIM is still dedicating everything possible to the task of remaining a fundamental research center with a strong practical connection to the avant-garde and its audience. Even though the laptop computer is quickly assuming its place on international concert stages, as STEIM predicted long ago, the enormous possibilities that the computers offer to the stage are far from being exhausted. STEIM has many solutions at the ready: the new generation of music makers is only just beginning to discover the significance of these ideas. STEIM will continue to work on optimizing the potential of live electronic music: striving for human, sometimes wild, and above all musical forms of information technology, a field which until now has mainly been used for 'cold' purposes.

Towards this end, the STEIM laboratory is currently investigating the development of a new relationship between the new media and the plant world under the leadership of Netochka Nezvanova. A new vision of electronic music culture is also taking shape, less in the socio-political sense than in the socio-spiritual: by developing searing social electronic networks as a new form of ritual gatherings in the fortified underground culture, exciting ideas that will undoubtedly lead to unexpected projects. In its 30 years of activity, STEIM has always tried to be open to the most varied of scenes, from street culture to the culture of academic composers. STEIM avoids becoming a kind of hotchpotch by gladly allowing its laboratory to be taken over for a few years by a distinct 'scene', and then ensuring the transition to the following group of pioneers.

The well-received concert series that STEIM organizes to offer a look at current developments in electronic music culture and the STEIM workplace, together with the festivals at which STEIM appears, all speak to this dynamic development. And perhaps STEIM's polemic and open attitude towards various styles and groups indeed forms the basis of their blossoming practice. A sample from the list of people who have made use of STEIM or been affiliated with it - including Dick Raaymakers, Karlheinz Stockhausen, Eboman, Frances-Marie Uitti, Laurie Anderson, Microstoria, DJ Spooky, Laetitia Sonami, Konrad Boehmer, Yannis Kyriakides, Ton Bruynel, Nicolas Collins, Harry de Wit, Alvin Lucier, Moniek Toebosch, David Tudor, Willem de Ridder, Jim O'Rourke, Kaffe Matthews, Lee Ranaldo, Bob Ostertag, Brian Eno, William Forsyth, Shusaku Takeuchi, Daniel Schorno and Netochka Nezvanova - indicates that STEIM is an organization that wants to remain independent, innovative, and open to cutting-edge artists.