08 2007

Tech Women Crashing Computers and Preconceptions

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"We encourage women to crash computers and to put it all back together again.
Preferably with an improved installation."[1]

Free Space, Free Access, Free Software

Sometime around the mid-1990s electronic communication was discovered as a useful tool for activism and organizing among leftist, progressive, alternative groups. The first hurdle was to gain access to this useful tool, but at the same time there was also a strong awareness of a need to maintain control, as concerns were voiced in various discussions about the danger of electronic communication being monitored. For people with academic affiliations, it was possible to get an email address through a university, but that usually meant only being able to read email at the university. With the growing popularity of email, this increasingly meant reading email with the next person in line

breathing down one's neck and reading over one's shoulder. Free services like Hotmail initially provided a welcome alternative and independence from university facilities, and Internet cafes started springing up in cities all over the world. However, this still limited access to those who already had some familiarity with email and could afford the fees charged by Internet cafes.

ASCII (Amsterdam Subversive Code for Information Interchange) was founded at the end of the nineties in a squatted building in Amsterdam explicitly to meet a growing need for free access and control over the tools: “ASCII is a non-profit internetworkspace running on open source software. We try to show that there's more than just M$ Windows and we try to convince our fellow activists that using software made by the biggest multi-national corporation in the world must be bad. ASCII started in 1999 in a squatted building on the Herengracht. Our main goal in that time was to get all the squatters an email address. Nowadays, using email and the web is so common that we could choose new goals: We provide internet in action camps, host websites for organisations that were not welcome elsewhere and try to facilitate the use of internet by activists. [...] We feel the Internet should be accessible to anyone and that censorship sucks. Infringement on free speech, surfers’ privacy and over-commercialization of the net are major problems already. At this rate the net will soon be one huge billboard where multinational companies provide the world with good, clean family fun. Not if we can help it! We hope the subversive elements of the world will continue to infiltrate the net.”[2] The squatter scene in Amsterdam at that time was clearly in need of its own Internet cafe, and ASCII quickly became a popular place to check email, meet like-minded people and generally hang out, and – most importantly – for learning, developing and practicing useful technical skills.

From the start, ASCII based the provision of free access on the use of Free Software and recycled hardware, stressing freedom from multinational corporations and consumerism as a political choice. They used the Linux operating system, because "information cannot be free, if the software you need to see it isn't!"[3] GNU/Linux is a free and open source operating system based on the Linux kernel. Free Software does not necessarily mean cost free, but as Richard Stallmann, founder of the Free Software Foundation[4], famously explains, it means "free as in speech, not as in beer", a matter of liberty not price. At that time, Linux was generally regarded as an arcane field appealing almost exclusively to "geeks". Nevertheless, the idea of shared knowledge and skills at the heart of the Free Software/Open Source movement was ideally suited to the aims of ASCII, which soon became a gathering place for experienced hackers and Linux "newbies".

Who are the people that made ASCII the important center that it became? By self-definition: "ASCII are an international bunch of iconoclasts, geeks, tech terrorists, squatters, eco-warriors, anarchists, techno beduins, rasta, electro niabinghi etc. who have joined forces. Due to the highly refined chaos of its (dis)organization, the collective has an open structure that relies on the input of its volunteers." And in the late nineties, some of them were women.

HOWTO – or not

What the women who became involved with ASCII had in common was, first of all, that most of them were from somewhere else other than the Netherlands. They were also all passionately and idealistically dedicated to different individual issues and movements to make the world a better place. Although not all of

them came from a tech background, the usefulness of email and the Internet for maintaining contacts around the world and for activist networking were immediately obvious to all of them. In addition, Linux and the approach of Free Software development based on a collaborative group effort corresponded with their experiences in women's networks and feminist contexts and meshed well with the other work they were already doing.

Free Software has been linked with feminist strategies at meetings, on mailing lists and in exchanges among women[5], but whereas the percentage of women in computing is generally lower than the percentage of men, in Free Software women are even more poorly represented, with percentages of female developers as low as 0.5 to 1.5%.[6] Why this is the case has frequently been the subject of heated and sometimes vitriolic online debates[7] and more thoughtfully and seriously considered in conference panel discussions[8]. In her frequently cited "HOWTO Encourage Women in Linux"[9], Val Henson describes a broad spectrum of attitudes and situations that discourage women in computing in general and Linux in particular, ranging from blatant misogynist sexism to the abrasiveness of rough competition for status and recognition for coding prowess, all the way to lonely desperation: "[...] often, the people most anxious for more women in Linux are also the people most likely to accidentally drive them away. Frequently, men who want more women in Linux solely so they have a better chance of finding a girlfriend end up acting in ways that end up driving women away instead!"[10] The "Do's and Don't's" section of the HOWTO reflects the experiences of women literally all over the world with Linux User Groups (LUGs) and other gatherings of programmers and developers, and the experiences of the women who became involved in ASCII were similar to the experiences of other women in comparable contexts

from the late nineties up to the present day. What makes experiences like this all the more difficult to deal with is that in a context like ASCII with shared goals and ideals and a DIY culture it is not a case of "men" (abstract, generalized) vs. "women" (equally abstract and generalized). Instead, the people involved may be friends, comrades, lovers, competitors, peers in a complex network of relationships and shifting constellations.

Because they shared the goals and ideals of ASCII and because these goals and ideals were important to them, the women who were becoming frustrated by a lack of the kind of encouragement propagated in Henson's HOWTO did not give up and leave, but decided in the spirit of Free Software to modify the organization to suit their own needs. They began meeting purposely as women in a subgroup to share the skills they had acquired with one another and to help and encourage one another to further develop their knowledge and technical skills. A special focus from the start was on hardware: "Hardware is tangible, real and visible. It's easy to work with, accessible. Everyone can do it, you don't need any schooling or experience to take it apart and put it back together again. Working with hardware is fun and sparks the 'eureka' feeling in nearly everyone that has followed one of our Hardware Courses! Knowing computer hardware, being able to picture the devices and put life into the jargon is essential to continued growth in ICT."[11] The idea caught on and soon started attracting more women, the small group of ASCII women developed a kind of group identity, and in November 1999 they gave themselves a name: the Gender Changer Academy.

Genderchangers

What is a genderchanger? “We did not make up this term, we are re-using it. The tech industry created it. Technically and literally a gender changer is a computer part [...]. It is an adapter that changes the ‘sex’ of a port. Ports with pins are said to be male, ports with holes are said to be female. In the situation where two pieces of hardware both have the same port, an adapter saves the day and makes a connection possible. We are reclaiming the term to mean a person interested in the gendered aspects of technology.”[12]

The founding principles of the Gender Changer Academy (GCA) were the same as those of ASCII as a whole, an emphasis on recycled hardware, Free Software and access for all. However, these basic principles were augmented by the focus on women and technology: “By using and teaching others to use Free/Libre and Open Source Software we have more freedom and control over our work and projects in whatever we do, be it activism, art or technology or a combination thereof. [...] We believe that to be independent of the experts and so called authority figures you need to be autodidactic and DIY. Fixing your bicycle, car, computer. In fact women are already very technical. They use sewing machines, weave, spin and knit (it was weaving that lead to the first computer programs). There will be communication barriers, a good metaphor for ICT. We will become Information and Communication Tweakers in order to break these barriers.”[13]

The original website of the Gender Changer Academy was modeled on the Unix file system with the intention of providing an introduction to the file system in a more easily accessible way than reading stacks of dry computer manuals. “We built our website's link structure in a way a typical linux directory tree is organized. On every page you can read technical information (in typewriter letters) about what the directory with the same name is used for in

the linux directory tree. The content of each page is about and/or links to websites of real life groups, happenings and so on. [...] In case you want to learn more about the directory structure: read the information in typewriter font. In case you want to learn more about fine groups you can search in /bin and /usr/bin."[14] Making connections between technical knowledge and familiar everyday experiences – especially women's experiences – in a creative way has always been a hallmark of the way the GCA operates.

As the GCA hardware courses and skill-sharing sessions became a regular feature, the "Internet boom" around the turn of the millennium led to a rapid growth and strengthening of women's networks at the same time, and the GCA soon connected with other groups and organizations, such as the "Haecksen"[15], the female members of the Chaos Computer Club, the cyberfeminist "Old Boys' Network"[16], and others. The principles and the working methods of the GCA appealed to a number of women with similar experiences in other contexts and in other places, so some of these women attempted to start local branches of the GCA in different cities such as London, Toronto, Philadelphia and the Bay Area, or to initiate similar groups.

For the women involved in those endeavors, the reasons why these other groups were less sustainable is still – in retrospect and several years later – largely an open and somewhat frustrating question. It seems that the specific conditions from which the GCA emerged in Amsterdam cannot be purposely reproduced. Even in other major European cities, it can be difficult to find more than about three or four women who share an interest in both technology and women-only spaces. Especially the "women-only" principle has often proved to be controversial and sometimes painfully divisive. In addition, even if a small group with strong shared convictions can be established, they still need a space to meet and work together.

The kind of conditions at ASCII, in which a relatively cohesive group was able to form on the basis of shared experiences and a desire to change the conditions to meet their own needs, but which also initially provided this group with a space to develop, appear in retrospect to have been crucial.

All Across Europe

One of the women who became involved in the early GCA courses was a system administrator from Zagreb, who became interested in the idea of organizing similar courses in Croatia. Rather than founding a GCA Zagreb chapter, through her connections and in cooperation with the Genderchangers in Amsterdam, a new form was developed: the Eclectic Tech Carnival[17]. The name was taken from the "/etc" section of the Gender Changers website (which is why the Eclectic Tech Carnival is abbreviated as "/etc"), described as containing "all kinds of socialisation and computer configuration stuff"[18]. In the Unix file system the directory /etc contains "all the important configuration files for your own computer and networking (hostname, hosts,networks), users (group), mail (mail.rc) and the rc.config and the directory init.d with the initialization-scripts"[19]. This idea of the configuration of both computers and socialization for networking was to be the basic principle for a three-day intensive meeting to hold workshops, discussions and hacking sessions by and for women, and the first Eclectic Tech Carnival took place in Pula, Croatia, in 2002.

With the change of location and the shift from offering courses to actively seeking to engage more women, however, certain unconscious presuppositions started to become evident. In a prosperous Western European city like Amsterdam, choosing to

live in the squatter scene and use recycled hardware and free software is usually (although not always) exactly that: a choice. This choice still exists within the framework of a well functioning urban infrastructure and hardware is so frequently discarded not because it is defective or no longer functional, but simply to make room for newer, more powerful models, that sufficient material is available for all kinds of projects. This was not necessarily the case in a region still recovering from a brutal war, and enthusiasm for an approach developed specifically within the framework of the Amsterdam squatter scene could easily be mistaken for a kind of missionizing in a different context under different conditions. The diversity of backgrounds and languages spoken with varying degrees of proficiency among the Gender Changers from the beginning and then among all the different /etc women has always been a source of potential conflicts and misunderstandings, but also one of the group's greatest strengths. The intensive three days spent together in Pula were, in any case, inspiring enough to motivate two participants from Greece to suggest holding the next /etc in Athens in 2003. In this way a pattern was set, which has continued up to the present: after Athens in 2003, the /etc 2004 was held in Belgrade, Serbia, /etc 2005 in Graz, Austria, /etc 2006 in Timisoara, Romania, and /etc 2007 in Linz, Austria, as women taking part somewhere else have felt motivated to bring the /etc to where they live and work. Contact, discussions and mutual support and encouragement are maintained in between carnivals through several mailing lists, web sites and IRC.[20]

Although the basic pattern for the meanwhile five-day carnival remains largely the same with hardware crash courses, software workshops and demonstrations of Free and Open Source software, the same mixture of serious tech work and light-hearted fun, each location has presented a respectively different set of challenges to

deal with at the same time. For instance, the complete absence of existing infrastructure in Timisoara – at one point it was questionable whether even electricity would be available – led to a huge effort on the part of the international group of organizers in cooperation with the small group of local organizers in Romania to ensure that the Eclectic Tech Carnival could take place at all. With the /etc in Linz the following year, the excellent existing infrastructure and the limited funding available raised a completely different set of questions. A frequently voiced concern is that the Eclectic Tech Carnival has to be very careful now to avoid "festivalization", a hierarchical situation of invited and paid presenters and paying "consumers", so that the original intention of skill sharing and learning together is not lost.

Knowledge Can Cross Borders, Women and Equipment Can't

To prepare the Eclectic Tech Carnival in Linz, an "alliance" was formed among women from servus.at[21], the Linz independent art server, from the Stadtwerkstatt[22], an independent art and cultural center, and from MAIZ[23], an autonomous organization of and for migrant women in the region of Upper Austria. Especially the involvement of MAIZ sent out an important signal : the aim of the Eclectic Tech Carnival, rooted in the original ideals of the Gender Changer Academy, is still the guiding principle, specifically the aim of creating a situation in which women can acquire the skills and tools they want and need to better realize their goals for social, political and economic change, regardless of where they come from or which languages they speak,.

Expanding the ideals of a small group of women from a squatted center in Amsterdam to an international context, however, means finding solutions not only to misunderstandings and conflicting

expectations, but also to bureaucratic and political obstacles. One of the most frustrating of these obstacles are travel restrictions that prevent online collaborators from meeting face to face, as when one of the main organizers of the Belgrade /etc was not permitted to travel to Madrid for a preparation meeting. Travel restrictions that apply to some regions but not others create unequal conditions for women specifically seeking to level the playing field, so to speak. When announcements were sent out that registration for /etc 2007 in Linz was open, over twenty registrations were received from Africa, mostly from Ethiopia and Ghana. After it was made clear that, as an all-volunteer effort, /etc had no funding whatsoever for travel costs, only two women were left who succeeded in obtaining sponsorship for their travel costs, but they still had to apply for a visa to enter Austria in the heart of Fortress Europe. When the organizers read the "declaration of responsibility" that they were required to sign for the visa application and understood the implications of it, they found themselves uncomfortably forced into a position of having to question the motivations and trustworthiness of a potential participant due to the serious legal and financial risk involved – a position diametrically opposed to the spirit and intention of the Eclectic Tech Carnival and contrary to the personal convictions of the organizers themselves. Overcoming these bureaucratic hurdles required extensive, intense and cooperative communication among the local and international organizers and the potential participants, an effort that was "rewarded" in that exactly one woman was able to obtain a visa to take part in the Eclectic Tech Carnival. Another woman who wanted to hold a workshop together with a colleague was ultimately unable to do so, because in the course of ongoing online collaborations all across various borders, it simply did not occur to anyone that a woman in Sarajevo working together with another woman in Zagreb would need a visa to travel physically from

Sarajevo via Zagreb to Linz, and by the time this became clear, it was too late.

Discussions took place in Linz in the course of the workshops about hardware discarded in some places that would be urgently needed in other places. At this point it does not appear that it is any easier for needed equipment to cross geopolitical borders than for the women who need the equipment. The unbroken flow of communication across all language barriers simply highlights the frustrating absurdity of these obstacles.

For the women who were able to take part, however, the aims and ideals of the Gender Changer Academy carried on through the Eclectic Tech Carnival were most clearly expressed in the end by a woman from MAIZ, who took part in a workshop to learn to resize a UTP cable. She had needed a longer cable several weeks earlier, but the man she had asked for help told her it was "complicated" and he didn't have time immediately, so she was still waiting for the cable. After the workshop she came out holding up in her fist the cable she had crimped and announced triumphantly, "I can do it myself: now I am powerful!"

With respect and thanks to the Gender Changers: Donna, Tali, Sara, Kristina, Sisi.

Author's note: Although I take full responsibility for all inferences and interpretations of the history and development of the GCA and /etc, of course this article could not have been written without the women who have been willing to share their stories and reflections. Special thanks for discussions, comments and corrections of an earlier version to Amaia Castro, Reni Hofmüller,

Donna Metzlar, Ivana Pavic, Ushi Reiter, Taliesin Love Smith, Jo Walsh.

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[1] http://old.genderchangers.org/boot/index.html

[2] http://scii.nl/about/what/

[3] http://scii.nl/projects/linux/

[4] http://www.fsf.org/

[5] Cf. Aileen Derieg, "Kommunikationstechnologien: Nutzen – benutzen – ausgenutzt?", in: *Der Apfel. Rundbrief des Österreichischen Frauenforums Feministische Theologie*, Nr. 47, February 1999, 4-5 (http://eliot.at/Texts/ICT_for_femtheologians.html); see also developing further discussions in conjunction with the European Feminist Forum: http://europeanfeministforum.org/spip.php?article96&lang=en

[6] Fernanda Weiden, "Women in Free Software", *Groklaw*, September 11, 2005: http://www.groklaw.net/article.php?story=20050911153013536

[7] For some examples see the comment section here: http://linux.slashdot.org/article.pl?sid=06/07/29/1444223 or here: http://www.devchix.com/2007/06/09/let%E2%80%99s-all-evolve-past-this-the-barriers-women-face-in-tech-communities/. In the latter example, abusive, obscene and threatening comments have been removed by the author.

[8] For example, the Wizards of OS conference, 14 – 16 September 2006, Berlin: "Will the future of free software be non-Western,

user-driven and female?": http://www.wizards-of-os.org/programm/panels/rules_amp_tools_of_freedom/the_future_of_free_software.html

[9] http://www.tldp.org/HOWTO/Encourage-Women-Linux-HOWTO/

[10] Ibid.: 1.1. Audience: http://www.tldp.org/HOWTO/Encourage-Women-Linux-HOWTO/x28.html#AEN36

[11] "Why a hardware course?": http://genderchangers.org/faq.html

[12] http://genderchangers.org/faq.html

[13] http://www.eclectictechcarnival.org/manifesto.html

[14] http://old.genderchangers.org/

[15] http://www.haecksen.org/

[16] http://www.obn.org/

[17] Cf. Reni Hofmüller, "Do It Together", in: *Anschläge* Juli/August 2007; http://drupal.eclectictechcarnival.org/node/671

[18] http://old.genderchangers.org/

[19] http://old.genderchangers.org/etc/index.html

[20] Cf. http://www.eclectictechcarnival.org and http://www.genderchangers.org

[21] http://www.servus.at

[22] http://www.stwst.at

[23] http://www.maiz.at