

Musical Acoustics Conference (SMAC-03), <http://www.speech.kth.se/smac03/>, Stockholm, Royal Swedish Academy of Music, Aug. 2003. Available online with sound examples at <http://ccrma.stanford.edu/~jos/smac03maxjos>.

[7] Risset, J.C. "A Computer Study of Trumpet Tones." *Journal of the Acoustical Society of America* 38 (1965), p. 912. First presented at the 70th meeting of the Acoustical Society of America, Saint Louis, November, 1965. The study was also included in "Analysis of Musical-Instrument Tones," *Physics Today*, Vol. 22, No 2, Feb. 1969. With M. V. Mathews as co-author.

[8] Tenney, James C. "Sound-Generation by Means of a Digital Computer." *Journal of Music Theory*, Vol.7, No.1, Spring, 1963. (Available <http://links.jstor.org/>).

A Selection of Responses to Gregory Taylor's Letter about Gender and Computer Music from the Winter 2006 Issue

The Listening Room (http://dao.cim3.net/cgi-bin/wiki.pl?Womens_Listening_Room), organized and curated by Pamela Madsen, demonstrates the wide range of women creating electroacoustic music today (2007). This yearly presentation at California State University-Fullerton is inspiring and could change perceptions about women and the composing of electronic music. The Listening Room is designed for non-stop all-day playback in fine concert halls. The production could be presented anywhere in the world with high quality sound systems and is a great step forward in encouraging women to shape a new musical paradigm. The Listening Room certainly inspired me all over again.

--*Pauline Oliveros*

At FTM-8 (Feminist Theory & Music 8, June 23-26, 2005 in NYC), a letter from Mara Helmuth was distributed to the audience. I find two quotes from that

letter to be still very much relevant and important today:

"More often, devaluation of a woman's work is done subtly, by a casual comment implying the insignificance of non-legitimacy, a joke, or a concert ignored."

and

"We all grow up in a biased culture, and all absorb it in different ways. It is up to us to honestly assess how to change it personally within our lives."

--*Paula Matthusen*

Computer Music exists at the intersection of engineering, mathematics, and music, all of which have been historically male dominated fields with strongly patriarchal models of pedagogy and achievement. Alarming, Anita Borg [1] cites a downward trend in the percentage of CS and CE degrees earned by women. Elizabeth Hinkle-Turner [2], while identifying significant achievements of women in music technology, also notes a decrease in women's participation in the field. It is our job as artists and educators to examine the pedagogical tools and curricula rigorously to ensure that talented voices are not being excluded, and that those who enter the field are encouraged to stay [3].

[1] Borg, Anita. "What Draws Woman to and Keeps Woman in Computing?" *Women in Science and Engineering: Choices for Success*, The Annals of the New York Academy of Sciences, 869 (1999): 102-109.

[2] Hinkle-Turner, Elizabeth. "Women and music technology: pioneers, precedents and issues in the United States." *Organised Sound* 8:1 (2003): 31-47.

[3] Cuny, Janice and William Aspray. "Recruitment and Retention of Women Graduate Students in Computer Science and Engineering: Results of a Workshop Organized by the Computing Research Association, San Francisco, June 21-22, 2000." *Organized by the Computing Research Association. SIGCSE Bulletin*, 34:2 (2002):168-174.

--Michael Zbyszynski

Gender and Computer Music: Tracing Change

Mara Helmuth's Array discussions on the state of Women in Computer Music continue to be invaluable. I'm very appreciative to have been asked to contribute to two historical assessments (1998 and 2005). I agree with Greg

Taylor's solicited comments that new cultural practices, in particular practices involving intermedia, are being positively impacted by a young generation with fewer gender assumptions than those of the older generations. However, I don't see the change as truly structural. Relatively few women are choosing to apply to academic music composition programs, and few women are focusing on the programming of computer music software. Thus, women as a group are still using techniques, tools and machines developed overwhelmingly by men. Women are still writing art music in male-controlled environments that continue to marginalize women's access to funding and presentation opportunities.

The FTM-8 (Feminist Theory & Music 8, June 23-26, 2005 in NYC) panel was in agreement that we all (including men) lose out from such a situation, but the panel didn't identify exactly in what ways the field itself suffers from its ongoing male-dominated state of affairs. I will speculate here briefly that women tend to have values and thinking styles that may not be identical to those of men. (I am postulating tendencies here, not individual traits; and I'm making no assumptions about whether these are socio-cultural or partly innate.) Diversity is an inestimable plus, whether in biological species preservation or in richness of creative and logical solutions and viewpoints. Who we are, how we see ourselves, and what we want—aspects all

reflected in our art and technology—are not things best represented by a mere segment of the population. While racial diversity, too, is lacking in the Computer Music community, gender—as it cuts across all races and ethnicities and represents a very large segment subject to discrimination—remains a uniquely meaningful category on which to cast a periodic retrospective glance.

The following are particular actions that seem to me important to endorse.

1. Reflecting back on Mara's statement in the 'Gender and Computer Music' forum of 1993 that resistance to change is natural, my recent reaction is this: Backlash is expected, but it is essential that we not be apologists for it. The dictates of politically correct behavior form our societal superego at the moment and shouldn't be allowed to slip. I've experienced numerous expressions of chafing at political correctness guidelines over the past six years. Such irritation has seemed to me particularly dismaying to observe in academia. Individuals who in 2005 lack the perspicacity to recognize why political correctness is needed simply affirm how imperative it is that externally imposed guidelines remain in place. Ongoing cultural support for behavior codes may take the form of redressing linguistic biases, or of redressing hiring practices formerly guided by irrelevant visual assessments. Use of screens for

orchestral auditions is an example of a remedy for the latter type of occurrence. Politically correct practices may not change the feelings of biased individuals, but they will protect women from numerous forms of oppression, including psychological oppression.

2. My second set of reflections is prompted by comments in earlier Array forums arguing against the ghettoizing of women's music, and contending that increased representation (i.e. jobs) is far more important or appropriate than political awareness-raising activity or affirmative action (e.g. women's concerts) as a means of measuring and/or effecting progress.

My feeling at present is that all such activities, direct and indirect, are intricately and cumulatively interrelated. Further, I see no real reason why producing a women's concert should be interpreted as a patronizing (or matronizing) act. High quality women's concerts will continue to send much-needed messages of validation, access, and inspiration for all women. If and when younger generations move beyond a fundamentally M/F power-relations-framed binary world, then perhaps the need for specifically women's concerts will abate; but the need seems to me certainly defensible at the moment. As Brad Garton noted at the FTM-8 panel discussion, we can only hope for a status quo that is eventually gender transcendent.

Women's concerts need not be seen as a strategy toward counter-hegemony or a reversal of the status quo, but rather as a means to an end, which is the elimination of all gender inequity.

3. A useful ongoing goal: In addition to more women programmers and applicants to graduate composition programs, it would be beneficial to have a greater number of women Tonmeisters, women technical team supervisors, women console supervisors at concerts, and women researchers/technical paper conference presenters. There isn't space here to hypothesize about strategies for achieving such goals. Mary Simoni has written and has been involved in much important work on related issues.

4. My last set of reflections concerns women teaching women. The profound and nuanced importance of women teachers for women seems apparent to me in 2005 in a way that it did not in the past. (One could assert that women teachers for men are also important, too, but for different reasons.) The issue at stake here is not simply to promote the use of role models per se, which harbors its own debate. My point here is only that women teachers are able to comment from a subject position on a host of women's issues—political, pragmatic, or gender-related; sociological or artistic; direct or indirect. A subject position simply translates into unique first-

hand empirical evidence and experience.

While in 1998 I would have concurred with what seems to be the prevailing consensus even now—that equally effective role models for women come in any gender—I find myself believing that there are unique forms of support and ways of relating that only women teachers can offer women students. My appreciation for Diane Thome's artistic, academic and personal guidance for me as a graduate student in the 1990s at the University of Washington has only increased over time. Again, if and when younger generations move beyond a fundamentally M/F power-relations-framed binary world, then perhaps the potential value of women teachers for women will be less significant. Keep in mind that this has been an issue commented upon in *Array* only because so few women graduate students in computer music composition have had female teachers in the field.

Thanks to the ICMA (particular individuals, male and female, and to the organization as an evolving body) for its ongoing commitment to Tracing Change and promoting gender equity.

--*Elizabeth Hoffman*

The same day that Meg Schedel asked me to write a few comments for this discussion,

I received my class list for the composition class I was teaching that fall at Portland State University. As I scanned the list of students' names, I noticed a conspicuous absence of women—not unusual, of course, but a symptom of what we are up against. For me, it is an affirmation that I must be proactive as a teacher to ensure that more women are given opportunities in the creative arts.

Two years ago, I was able to make a small change in the enrollment patterns at Colgate University. In the fall, I taught a full class of men the basics of digital audio and Max/MSP. Bothered by the lack of women in the class, I let word get around that I was interested in women signing up for the next semester's class. By spring, there were suddenly five women in the class! These women constituted about a third of the students that semester. The experience taught me that small efforts to alter the local landscape can go a long way towards change for the better.

Of course, real change in the inequities of our discipline cannot be accomplished through women's work alone. For this reason, I welcome the inclusion of men's voices into the dialogue. Gregory Taylor's comments are both provocative and optimistic. By suggesting new trends in the field which may help us fight or bypass systems and genres which do not treat men and women as equals, he moves the

discussion away from analyzing problems and toward envisioning solutions.

If you dig far enough into these suggestions, you will find that it is the systems themselves—the patriarchal scaffolding that was largely in place before most of us began to participate in the field—that can largely be blamed for continued inequities. By targeting various “systems,” he displaces the unconstructive question of whom to blame. Instead of accepting blame, we can accept responsibility and help to dismantle the scaffolding of oppression. Instead of merely changing ourselves, we can change the way we participate in oppressive systems.

For example, I am a participant as an instructor in the “system” of academia. Like most of my colleagues, I am able to identify the various gender issues within the system. Unlike many of my colleagues, I have decided not to stand by passively, believing that because I am not responsible for the issues, there is nothing I can do to effect change. It only takes a bit of imagination to find a few meaningful actions that might very well make a difference (recruiting women to take a class in digital audio is just one small example).

As both Greg and Meg mentioned, the role of mentoring is crucial. Women are raised as social creatures, and it may very well be more important for a young woman in the

field to have the support of her teachers and colleagues. In addition, as we have seen with racial inequities in academia, a bit of creative affirmative action can help. Why not offer a special scholarship each year to a woman in the field? Or ensure that a search committee for a new position interviews at least one woman? Or include pioneers such as Pauline Oliveros, Bebe Barron, and Laurie Spiegel in our discussions of the history of electronic music?

These suggestions, of course, come from within my own "system." If you find yourself working in a different system, you may have a different list of actions to pursue. Gregory Taylor's list suggests a few. My hope is that each one of us will commit to doing something. Then, bit by bit, byte by byte, we may reap the fruits of our efforts.

--Bonnie Miksch

An Interview with Tzvi Avni by Bob Gluck

Tzvi Avni is one of the preeminent composers in the history of Israel. He was born in Germany in 1927 and immigrated to Israel in 1935. He studied composition with the major Israeli composers of the previous generation and subsequently visited the United States in 1963-1964. While in the United States, Avni studied at the Tanglewood Music Center with Aaron Copland and Lukas Foss, and at the Columbia-Princeton Electronic Music Center in New York City. Upon his return to Israel, Avni taught at the Jerusalem Academy For Music and Dance, where he opened an electronic music studio in 1971. It became the second such studio in Israel. Tzvi Avni has won many of the major artist awards in Israel, including the coveted Prime Minister's Prize (1998) and the Israel Prize (2001). This interview draws from a September 14, 2006 telephone conversation, which builds upon previous email correspondence on August 8, 2005. Tzvi Avni was at his home in Jerusalem and Bob Gluck was in Albany, New York.

BG: What brought you to the United States?

TA: I came to the United States at the end of 1962 with my wife Pnina. I didn't really know what I was going to do there. I only knew that New York was an important center of new ideas and that it offered a wide variety of activities that might be of interest to me. I did know that I wanted to find a way to learn about what was going on in the world. After World War II, the Israeli War of Independence and the difficult economic situation in the years that followed, we in Israel were cut off from the rest of the world. In the early 1960s, Israelis of my generation were eager to seek ways to find out about the world.

BG: How did you learn about the Columbia-Princeton Electronic Music Center?

TA: Once I arrived in New York, somebody arranged a meeting with Edgard Varèse for me. He asked me, "What can I do for you?" He listened to a few tapes of my work and said, "It's very good. You are a composer. Do you want to learn my tricks? Go find your own tricks! Go to Columbia University." Varèse then spoke with Luening, who met with me, listened to a few of my compositions, and spoke with Ussachevsky. Ussachevsky enrolled me in the course of study at the Columbia-Princeton Electronic Music Center.

BG: With whom did you study at Columbia-Princeton?