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### The electronic cry: Voice and gender in electroacoustic music

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## II

### BODIES OF EVIDENCE<sup>1</sup>

Many people play a role in electroacoustic music: composers, performers, technicians, organizers, critics, listeners, musicologists, students, etc. Few statistics are available regarding the gender of these groups, as Simoni (1995) observes. A few facts: in the year 2000, eight per cent of the members of the International Computer Music Association were female (40 out of 499); at the International Computer Music Conference 2000, seventeen per cent of the compositions played at the concerts were composed by women (Conant and Osborne 2001). This is in line with some more general statistics for music composition in academia.<sup>2</sup>

These statistics deal with numbers of people. However, my focus is not so much on people, but on musical works. But finding gender in music is often a risky and difficult business. Do sounds have a gender? Voices do, mostly. Consequently, the voice is a good entry point to discuss gender in electroacoustic music.

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<sup>1</sup> Chapter II is a slightly revised version of the first part of: Hannah Bosma, 'Bodies of evidence, singing cyborgs and other gender issues in electrovocal music', *Organised Sound*, Volume 8 (1), pp 5–17, (2003) © Cambridge University Press, reproduced with permission.

<sup>2</sup> Degenhart & Osborne (1999) estimate that in Europe, the USA and Canada, less than ten per cent of the music composition teachers at tertiary level education (universities, colleges, conservatories, etc.) are female; with even less women in Western Europe than in North America. In 1987, 8.6 per cent of the tenure track positions offered in music composition in the USA went to females (Simoni 1995).

## II.1 Forms of existence

There are many ways to present music to an audience: through publication of a score, by way of a concert or live performance, on an audio or audiovisual recording medium like CD or DVD, by radio or television broadcast or via the Internet. Concerts are transient, limited in time and space; the music cannot be listened to and studied ‘on demand’. At a concert, the music is heard by the audience only, a relatively limited number of people, where contemporary art music concerts in particular have a small audience. Scores and other performance material are primarily meant for professionals. CD releases, on the other hand, are meant for a larger audience and are one of the most accessible and widespread forms of music in contemporary Western culture.<sup>3</sup> CDs can be played frequently and studied carefully. A recording, like a score, is a far more convenient form to analyse than a volatile concert performance. Since listeners can individually listen to a CD recording and form their own opinion about the music, the analysis is open to criticism and intersubjectivity. For these fundamental and practical reasons, my main focus in this chapter is on compositions released on CD.<sup>4</sup> Scores and/or live performances serve as additional sources.

The ontological forms of the electroacoustic compositions released on CD vary. Some compositions are two-track (stereo) ‘tape’ compositions: the composition as recorded on the CD seems to be equal with and identical to the composition ‘itself’. However, when performed in a concert hall using sophisticated audio equipment, these compositions sound essentially different than at home. On CD, the recording may be adjusted to playback in suboptimal circumstances (living room, car), for example by decreasing the dynamic differences. Multitrack tape compositions are, by

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<sup>3</sup> The predecessor of the CD, the LP, is beyond the scope of this chapter. Electroacoustic music has been released on DVD-video or DVD-audio as well, but since this has occurred far less than on CD and then mostly after 2000, these releases are equally beyond the scope of this chapter. In 2012, the CD market is becoming smaller and music recordings are consumed by way of Internet downloads as well. Be this as it may, the CD is still a major medium for the selection and presentation of music recordings and in addition, CDs are often used for transmission via radio or Internet broadcasts as well.

<sup>4</sup> A related argument is made by José A. Bowen, who states: ‘Live performances [...] are heard by a limited audience, and it is recorded performances which carry the greatest authority for most works.’ (Bowen 1999: 433n30)

the very act of transference to the stereo format, essentially altered when published on a CD. Then there are electroacoustic compositions for live performer and tape or live electronics (performing a score or improvising); which when made into a CD release, will result in a recording of a live performance, or a studio recording of a would-be-live performance, or a mixture of these.<sup>5</sup> Inasmuch as the primary form of any composition for live performer and electronics is a concert performance, it might seem inappropriate to analyse such a composition via the ‘secondary’ form of a CD release of a recording of such a performance. I would submit, however, that live performances of this kind are rare and consequently, the recording on CD is usually the most well-known form of the composition. For all those reasons, I would argue that the CD release is the main public form of the music; scores are production tools, and performances are special events.

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<sup>5</sup> For the sake of convenience, I will call the live vocal part that is recorded on a CD release ‘vocal part’.

## II.2 A body of compositions

For the purpose of my research into gender patterns in electroacoustic music, I have first made a selection of a representative body of compositions. The following CD series were chosen, with works by various composers: Computer Music Currents (from the record label Wergo); the Computer Music Series of the Consortium to Distribute Computer Music (from Centaur Records); and the series Cultures Électroniques, with the prize winners of the Concours International de Musique Electroacoustique in Bourges, France.<sup>6</sup> Since virtually each CD of these series contains compositions by several composers, this is an efficient way to get a diverse and well-defined (prima) body of compositions. These three series are highly regarded, have an international outlook and explicitly represent the genre which is the subject matter of my research. The CD series started in the second half of the 1980s; for this research I have included CDs up to and including the year 2000 (for details, see below),<sup>7</sup> be it that some of the works released on these CDs were composed before this period.

The CDs contain different forms of electroacoustic music: compositions of which the final form only exists on a sound recording medium ('tape music'), music for live performer and tape, and live electronics. A few compositions in the computer music series do not include electroacoustic *sounds*: here, the computer was used in the composition process, while the music is performed solely on acoustic instruments.<sup>8</sup> Where appropriate, I have included these compositions in my research; for example, I

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<sup>6</sup> I thank Musicology of the University of Amsterdam (music recording library of musicology, Johan Schukking), Stichting Gaudeamus and Patrick Follon for lending me a large number of these CDs. The CDs that were not in these archives, were bought by me via Internet shops.

In 2012, the CD archive of former Stichting Gaudeamus (then belonging to Music Center the Netherlands), was transferred to the library of the University of Amsterdam (UBA), Bijzondere Collecties.

<sup>7</sup> This research was originally published in 2003. After 2000, the series Cultures Électroniques and CDCM continued. In footnotes, I will add some additional findings related to these later CDs.

<sup>8</sup> The categories 'electroacoustic music' and 'computer music' have a large overlap. Since the 1990s, computers are the main production tool for electroacoustic music; and before that time, digital technology was also often used in the musical production process. However, older electroacoustic works are often made entirely with analogue equipment and consequently are no 'computer music'. On the other hand, 'computer music' also relates to acoustic 'score' music for which computer algorithms were used in the composition process. (See Landy 2007: 16.)

did include Gottfried Michael Koenig's *Three Asko Pieces* (1982) for flute, two clarinets, bassoon, two trombones, saxophone, marimba, piano and string quartet (CMC2) in my count of male versus female composers, but of course I omitted it when studying the topic of live voice with electronics and of recorded voices.

The Computer Music Currents<sup>9</sup> series date from 1989 – 1995 and consist of twelve CDs with three to six compositions from different composers on each CD. A special thirteenth CD entitled HISTORICAL CD OF DIGITAL SOUND SYNTHESIS contains seventeen short pieces and many sound examples<sup>10</sup> and is accompanied by a 260-page booklet. Computer Music Currents is produced by the German composer Johannes Goebel in collaboration with the Center for Computer Research in Music and Acoustics (CCRMA) of Stanford University. Though, purportedly, the scope of the series is a general one, the provenance of the seventy-two compositions is limited to institutes of the USA, Western Europe and Israel.

The Consortium to Distribute Computer Music (CDCM), founded by several university studios from the USA, have issued the Computer Music Series.<sup>11</sup> In 1994, the CDCM became affiliated with the International Computer Music Association. In 2001, as well as in 2013, the production affiliates are studios from academic institutions from the USA, Canada, Europe and Japan. Hence, it is safe to say that the CDCM Computer Music Series are predominantly American with an international perspective. These ongoing series contain 160 compositions on the first thirty CDs, which were released from 1988–2000,<sup>12</sup> and their producer is the American composer Larry Austin.

The Concours International de Musique Électroacoustique in Bourges was an important international competition, collaborating with many music organisations and

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<sup>9</sup> I refer to these CDs as CMC1, CMC2, etc. These CDs were released by Schott Wergo Music Media GmbH, Mainz, Germany, <http://www.wergo.de/>. I derived all information about this CD series from the sleeve notes. See the Appendix for a list of the CDs.

<sup>10</sup> I only took into account the compositions, not the sound examples.

<sup>11</sup> I refer to these CDs as CDCM1, CDCM2, etc. The Computer Music Series of the Consortium to Distribute Computer Music is produced by Centaur Records Inc. For a list with all, see <http://www.music.unt.edu/CDCM/>, <http://www.centaurrecords.com/> (last accessed 10 April 2013) and the Appendix. I derived all information about this series from the sleeve notes.

<sup>12</sup> In 2012, CD no. 39 was released.

broadcasting corporations.<sup>13</sup> The French composers Françoise Barrière and Christian Clozier were the directors of the International Institute of Electroacoustic Music of Bourges IMEB (formerly known as Groupe de Musique Expérimentale de Bourges), that organized the competition and produced the Cultures Électroniques CD series. The Bourges competition started in 1973, the CD series in 1986. According to the information in the sleeve notes, in the competition of the year 2000, 438 composers from forty-six countries (from Europe, North and South America, Asia, Australia, Israel) participated with 608 compositions; thirty-two radio networks, sixteen diffusion organisations and eleven centres for electroacoustic music and multimedia art collaborated, with most of them coming from Europe (East and West), some from Canada, South America and Russia, and notably none from the USA. Among these organisations are the International Confederation for Electroacoustic Music and the Conseil International de Musique of the Unesco. Each year one to three CDs were released with the prize winners of the most recent competition and some previous prize winners. The Cultures Électroniques CD series up to and including volume 14 (with the prize winners of the 27th Bourges competition of the year 2000, released in 2001) contain 159 compositions.<sup>14</sup>

Of course, beside these, there are other CD releases and labels of equal importance for electroacoustic and/or computer music, such as the Canadian label Empreintes Digitales, the CDs of the French institute Groupe de Recherches Musicales (INA-GRM) and the other CDs of Wergo's 'Digital Music Digital'. But these releases usually dedicate an entire CD to one composer, consequently they

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<sup>13</sup> The Concours stopped in 2010, due to the discontinuation of subsidies by the French government.

<sup>14</sup> I refer to these CDs as CE1, CE2, etc. In several years, two CD releases appeared, with the same number, one with the regular prize winners and the other with the compositions of the 'magisterium' prizes for senior composers; I refer to these as CE3p and CE3m, etc. Each CD release contains one or two CDs. Volumes 1–6 are released under the label Le Chant du Monde; volumes 7–14 by Musique Média Mnemosyne. Volume 1 contains prize winners of the International Rostrum for Electroacoustic Music 1984 and from several Bourges competitions. For a list with all CDs and order information, see <http://www.imeb.asso.fr>, <http://www.imeb.net/>, [http://www.imeb.net/IMEB\\_v2/?option=com\\_content&task=view&id=492&Itemid=179](http://www.imeb.net/IMEB_v2/?option=com_content&task=view&id=492&Itemid=179), [http://www.imeb.asso.fr/index.php?option=com\\_content&view=article&id=492&Itemid=179](http://www.imeb.asso.fr/index.php?option=com_content&view=article&id=492&Itemid=179), <http://www.mnemosyne-musique.com> (last accessed 10 April 2013) and the Appendix. I derived all information about this series from the sleeve notes.

IMEB was closed in 2011, due to the discontinuation of subsidy by the French government. The last Cultures Électroniques CD is nr. 20, with the prize winning compositions of the Concours 2007.

contain a less diverse body of compositions which is why I have not included these in my selection.

Yet another criterion for my selection was for the series in point to have a general or international scope. Now despite the fact that the main portion of the compositions of all of these series selected by me come from North America and Western Europe, these series purport to be representative for electroacoustic and computer music in general. By contrast, there are other CDs bearing titles such as ‘Electroacoustic music from Sweden’, ‘Musica Electroacustica Brasileira’, ‘Columbia Princeton 1961-1973’ and likewise, or CDs clearly issued by national organisations like the Canadian Electroacoustic Community, the Sonic Arts Network of the UK, or the Dutch Producenten Elektronische Muziek, which are clearly regional<sup>15</sup> and which therefore fell outside the scope of my selection.

Although electroacoustic and computer music are genres unknown to the general audience, the area is vast and diverse. Of course, it is impossible to take into account all compositions, from all parts of the world and in all different sub-styles. Many compositions mentioned in older textbooks are simply not accessible. Many LPs are not re-released on CD. Some older CDs are no longer for sale. Some sampler releases only contain excerpts of compositions. For all of these reasons, the main part of my research as discussed in Chapter II, is based on the three CD series mentioned above, up to the year 2000. In the subsequent chapters, other music has been taken into account as well.

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<sup>15</sup> Although the CEC and SAN do not always adhere to their nationality.

### II.3 Locating gender

But how to investigate gender patterns in electrovocal music, when studying compositions on CDs, and not people? What can be heard on the CDs and be deduced from the sleeve notes that relates to gender patterns?

The most obvious gender related pointers are the names of the composers. Often, the CD will also contain some biographical notes, sometimes a photograph of the composer. Usually, the gender of the composer can be inferred from this information on a CD, even where the first name of the composer is unknown or exotic to the observer. This information on gender does not only relate to the level of production, which is helpful to map out a gender structure or gender pattern of location, answering the question: ‘who did what?’ (Cockburn & Omrod 1993). In my view, the information on composers, performers and other producers in the sleeve notes also has a symbolic function. All these names and biographies tell a tale of a world of creators and experts of electroacoustic music, which may reasonably be assumed to have a bearing on the behaviour and thoughts of listeners, students and experts. These producing personae are intertwined with the music, and are not only an imprint of an existing gender pattern, but also belong to the level of gender symbolism, of representations and meanings.

Composers are not the only people mentioned in the sleeve notes. Pop music albums are often accompanied by long lists of names of co-creators, co-producers, performers, technicians, colleagues, friends and family (‘thank you to:’). The pop star, not the composer, has a prominent position; but the small print shows that the music is a co-production made by a team of co-workers. In contemporary art music far fewer people are mentioned. Here the composer is the principal figure. Of all the other people that in one way or another must have contributed to the release of the music, only the performers are consistently credited, as well as the authors of poems or other texts used in vocal music; with a technician, recording engineer, CD producer or writer of the sleeve notes being occasionally mentioned. My account of the symbolic, represented gender pattern of production in electroacoustic music with voice is based on such representations in the sleeve notes.

Another level at which gender patterns can be perceived is the voice. Most voices sound as though they are produced by a man or a woman.<sup>16</sup> In some instances, recorded vocal sounds are credited in the sleeve notes and can be gendered accordingly. Thus, in most cases, voice sounds seem to have a gender. The human voice, however, has a wide potential and can produce all kinds of uncommon sounds, which may not necessarily be recognized as either male or female. In addition, it is possible to manipulate or synthesize voice sounds with electronic means in such a way that these synthetic voices may sound somewhere between male and female, or human and non-human. Since the voice is one of the decisive pointers to classify the gender of a person, ambiguity on this point is perceived as a significant aberration. Inasmuch as most voices are recognizable as being either male or female, the question presents itself whether there are gender differences in the roles of these voices in electroacoustic and computer music. Do these voices sing, speak or vocalize in different ways? Do they utter different kinds of texts? Do they have different places and functions in the compositions?

In this search for gender patterns amongst the recorded voices in the compositions of the CD series, I focussed on general qualities of these voices, such as: male, female, child(ren)'s voice(s), speaking, singing, verbal, non-verbal, or other.<sup>17</sup> My observations are based on listening and on my subjective impression. Whether a voice sounds 'male' or 'female' is usually a holistic subjective impression, primarily based on timbre and pitch. When in doubt, I classified the voice as 'ambiguous'. My objective is to come to some general findings based on a substantial number of compositions. By referring to individual compositions, I aim to honour the notion that a composition is not a simple phenomenon or objectifiable fact, but a work of art, a cultural artefact that exists in relation to the observer/interpreter and in an

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<sup>16</sup> The voice is considered a secondary sexual characteristic, but the origins of the differences between male and female voices come from both nature and nurture. Why do women's voices sound different than men's voices? This is caused by a complex of cultural and biological factors. And how do women's voices sound different from men's voices? Among the large amount of phonetic and linguistic literature on this topic, see: for an overview of various aspects, Graddol & Swann (1989); for phonetic differences between male and female speech, Simpson (2009), Tielen (1992).

<sup>17</sup> 'Singing' is the utterance of voice sounds resembling more or less an existing singing style. 'Verbal' or 'non-verbal' refers to the utterance of an existing language or words. 'Speaking' is the utterance of language/words with a speaking voice type.

intricate cultural context. For more subtle, intricate analyses, with different layers of interpretation, I refer to the subsequent chapters where the focus is on individual compositions.

## II.4 Counting composers

On CDs 1–12 of the Computer Music Currents series, fifty-five compositions are published, composed between 1971 and 1990.<sup>18</sup> Of these, two, both composed in 1985, are by female composers, constituting four per cent of the total. Computer Music Currents 13 is a special edition, with seventeen short compositions from 1957–1966, none of which are by a female composer. Thus, in the complete Computer Music Currents series, three per cent of the seventy-two compositions is composed by a woman.

Of the 160 compositions on CDs 1–30 of the Computer Music Series of the Consortium to Distribute Computer Music, women composed eleven per cent.<sup>19</sup> The compositions by male composers date from 1962 onwards; compositions by female composers date from 1986 onwards.

Eight per cent of the 159 compositions on the CD volumes 1–14 of the Cultures Électroniques series (related to the Concours in Bourges) were composed by women.<sup>20</sup> The compositions by male composers are dated from 1968 onwards; compositions by female composers are from 1978 onwards.

The world of electroacoustic and computer music, as it is presented on these CD releases, is a world dominated by male composers. The number of compositions by female composers is less than fifteen percent<sup>21</sup> – the region of ‘tokenism’,<sup>22</sup> in

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<sup>18</sup> When more than one year of composition was mentioned, for example ‘1981–1982’, or when a composition was revised later, for example ‘1978, rev. 1985’, I always took the last year as the year of composition. For compositions with two co-composers, I counted each as  $\frac{1}{2}$ ; with four co-composers, each as  $\frac{1}{4}$ .

<sup>19</sup> On the CDCM CMS CDs 31–39, 17 % of the 58 compositions is composed by women. CD 36 is completely dedicated to the work of female composer Mara Helmuth. Remarkably, this CD is called MARA HELMUTH: SOUND COLLABORATIONS (CRC 2903), and for three of the six pieces, copyright is shared between Mara Helmuth and one of the performers; see Chapter VII and VIII for (co-)authorship and collaboration in relation to gender.

<sup>20</sup> On the Cultures Électroniques CDs 15–20, 9 % of the 54 compositions is composed by women.

<sup>21</sup> On the later CDCM CMS CDs 31–39, 17 % of the compositions are by female composers, thus slightly over 15 %. When these CDs are added to the rest of the CDCM CMS series, the number of compositions by female composers is 13 % of the 218 compositions. One may speculate that the number of women composers in the CDCM CMS series comes at the transitional level (10–40 %), and that this is related to the main orientation of this series on university studies of the USA. For an overview of women composers of electroacoustic music in the United States, see Hinkle-Turner 2006.

which female composers are an exception and their numbers are too small to form a group identity.<sup>23</sup> The prevalence of male composers in the CD series is a reflection of the gender structure of the electroacoustic music world. However, it is not only a symptom of a status quo, but also projects an image of a male-dominated electroacoustic world – this appearance might seem unattractive to women, affirming

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<sup>22</sup> A key publication on tokenism is Rosabeth Kanter's *Men and Women of the Corporation* (1977). See also Allmendinger & Hackman: 1995. Thanks to William Osborne for drawing my attention to this. See: <http://www.osborne-conant.org/tokenism.htm>; <http://www.osborne-conant.org/email2/stuttgart.htm> (last accessed April 2012).

<sup>23</sup> On Canadian CD releases, the number of international female composers comes at the transitional level (ten to forty per cent), enough to form a significant subgroup; the research of Canadian Andra McCartney shows indeed that Canadian women composers of electroacoustic music have a different approach than the mainstream (but since they don't form a homogenous group, 'difference identity' might be a better label than 'group identity'). So somehow the environment for women composers in electroacoustic music seems to be somewhat better in Canada than elsewhere.

Empreintes Digitales is a Canadian label issuing CDs with international electroacoustic music (<http://www.empreintesdigitales.com/>). Except for a sampler CD and two CDs with 'Electroclips', each CD release is devoted to one composer. Between 1990 and 2000, work by female composers was released on twelve per cent of these fifty-one CDs (counting a double CD as two). On the sampler CD EXCITATIONS (2000), twenty per cent of the excerpts are by female composers. 'Electroclips' are short pieces of about three minutes, commissioned by Empreintes Digitales. On the first CD, issued in 1990, eight per cent of these compositions are by women; in 1998, the second CD with Electroclips contains thirty-five per cent of pieces by female composers. Up to and including the year 2000, Empreintes Digitales published compositions of seventy-three composers; twenty-one per cent of these composers are women.

Four double CD albums (DISCONTACT!, DISCONTACT! II, PRESENCE, PRESENCE II) of the Canadian Electroacoustic Community are compilations of (excerpts of) compositions of the international participants (<http://cec.concordia.ca/>). Seventeen per cent of the compositions on these CDs are by female composers. This contrasts with the compositions of the fourteen top scoring 'young and emerging' Canadian composers in CEC's Jeu de temps / Times Play competition on the CD compilation CACHE 2000: one of these is by a woman.

Several explicitly regional CDs do not show a more equal gender distribution. Some examples: On the double CD ELECTRO-ACOUSTIC MUSIC FROM SWEDEN (Phono Suecia PS CD 41, 1 and 2, produced by STIM, the Swedish Performing Rights Society, Stockholm, Sweden, 1988), all sixteen compositions are authored by men, none by women. One composition of eight compositions on the CD MÚSICA ELECTROACÚSTICA DE COMPOSITORES LATINOAMERICANOS (*Leonardo Music Journal* CD Series Volume 4, 1995, MIT Press Journals, Cambridge, MA, USA) is by a female composer. On the CD ELECTRO-ACOUSTIC MUSIC FROM THE NETHERLANDS 2000 (PEM CD 1, released with the former Gaudeamus Foundation in Amsterdam), with twenty-nine short pieces by members of the association of Dutch producers of electronic music PEM, nine per cent of the pieces are authored by women.

An interesting exception to the predominance of male composers is the series Radius, with four albums of 'transmissions from broadcast artists' created between 1986 and 1994 (What Next Recordings; WN0013, WN0014, WN0018, WN0019). The label is based in the USA; the authors come from Canada and the USA. Of the fourteen pieces, six were by women, seven by men, and one by an ungendered 'they': 'Algojo' (Algojo) (which is in fact a pseudonym for Eric Letourneau, but nothing on this CD points to that). This is an almost equal gender distribution. Note that these CD releases are not named 'electroacoustic music' or 'computer music', not even 'music' (although some authors are known as composers of electroacoustic music). One might speculate that this is related to the seemingly higher number of women participating in the visual digital arts.

that music technology is at odds with femininity, which probably does not encourage women to aspire a career as electroacoustic composer, thereby perpetuating itself (see Chapter VIII, Green 1997).

## II.5 Counting vocalists

As we have seen, composers of electroacoustic and computer music are predominantly male. But what about vocalists? One kind of electrovocal music consists of compositions for a vocalist, who is performing live from a score, and tape or other electronics. Several recordings of such performances are found on the CD series under investigation. The composer and the performing vocalist are always credited. What is the gender distribution with regard to vocalists performing this kind of electro-vocal compositions?

In the Computer Music Currents series there are three compositions for soprano and tape,<sup>24</sup> one for (female) contralto, boys' choir, boys' choir soloists, instruments and electronics, one for mixed chamber choir and computer synthesized sounds on tape, and no compositions for male vocalist and tape/electronics. The vocal parts are in a Western twentieth-century extended classical style, with lots of melisma, vocalise and high notes for the soprano soloists.

In the Computer Music Series of the Consortium to Distribute Computer Music 1–30, there are twelve compositions for female vocalist (mostly soprano) and tape or live electronics (sometimes in combination with acoustic instruments).<sup>25</sup> Here also, the vocal parts are predominantly in a Western twentieth-century extended classical style.<sup>26</sup> There is some variation, however: in Neil B. Rolnick's *Vocal Chords* (CDCM7), the singing style is jazz scat vocals. What most of these female vocal parts have in common is a substantial amount of non-verbal singing.<sup>27</sup> Only in two pieces

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<sup>24</sup> One of these compositions, Richard Karpen's *Il Nome*, is released on COMPUTER MUSIC CURRENTS 7 as well as on CULTURES ÉLECTRONIQUES 4, both performed by Judith Bettina.

The other two compositions, *L'autre face* (1983), for soprano and computer-generated tape, by Jean-Claude Risset and *Anima* (1984), for soprano (alt. altoflute) and computer generated tape, by Lars Gunnar Bodin, are discussed in Chapter III en IV, respectively.

<sup>25</sup> One of these, Larry Austin's *La Barbara: The Name, The Sounds, The Music* (1991), for voice and computer music on tape, is discussed in Chapter VII.

<sup>26</sup> Larry Austin's *Variations... beyond Pierrot*, being based on Arnold Schönberg's *Pierrot Lunaire* (CDCM28), contains a lot of *Sprechgesang*. I take this as Western twentieth-century extended classical vocal style.

<sup>27</sup> The soprano part in Jonathan Berger's *Dyptich* (CDCM8) is not melismatic; the words are sung clearly, in a classical singing style.

on volume 30<sup>28</sup> some distorted female and male speaking voices may be perceived, with no singing. In one of the three compositions composed by a woman, Julie Kabat's *Child and the Moon-Tree* for vocalist & electronics (CDCM7), the female composer figures also as the vocalist, whereas in many other compositions the male composer performs the electronics. There are four pieces with a male vocalist and tape or live electronics, but, notably, the male voices are not singing but speaking. In *Help Me Remember* (CDCM14), it is the composer Rodney Waschka II himself who performs all parts: voice, tape and computer music system. The vocal part consists of a large amount of spoken text with a political meaning. Michael Holloway performs the vocal part of Salvatore Martirano's *L's G.A.* (CDCM22), 'for gassed-masked politico, helium bomb and two-channel tape recorder'. Some of the text in this piece is poetry by Michael Holloway. Again, the male voice consists mainly of speaking text (although distorted) and other non-singing vocal sounds, with a political meaning, while the male vocalist features also as author.

In the Cultures Électroniques series 1–14, five compositions for female vocalist and tape have been released. All vocal parts are for (mezzo-)soprano and sung with Western classical vocal technique, high, melismatic, with some coloratura. Some have *Sprechgesang* and a little bit of spoken text – a Western twentieth-century extended classical style. There are no compositions for male vocalist and tape in this series.

These CD series show a strong pattern with regard to compositions for live vocalist and electronics: there are no compositions for *singing* male vocalist and electronics, while the female vocal parts have a substantial amount of non-verbal singing. These findings are consistent with the impression I had based on the many compositions I have heard outside these CD series, whether via CD or in concert. There are many compositions for female singer (mostly soprano) and tape or electronics, in which non-verbal singing constitutes a substantial element of the live

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<sup>28</sup> David Roosenboom – *Music from – On Being Invisible II (Hypatia Speaks to Jefferson in a dream)*; Morton Subotnick – *It Begins...*

female vocal parts. Very few pieces for male vocalist and tape or electronics exist; and where they do, the male vocalist is mostly speaking, not singing.<sup>29</sup>

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<sup>29</sup> Some compositions for male singer(s) and electronics are for example the music theatre works *Powers of Two: The Artist* (1995), for two singers, dancer, video tape and eight digital soundtracks, and *Thou and I* (2003), for tenor, baritone and tape, by Barry Truax, in which the male singers actually really sing with a Western classical singing voice. Significantly, these are music theatre works rather than concert pieces. Not coincidentally, Truax is clearly interested in gender and gay issues, as his publication in the *Organised Sound* 8/1 (2003) issue on gender and music technology testifies.

## II.6 Recorded voices

Compositions for live performing vocalist and sound tracks ('tape') or electronics, are but one form of electro-vocal music. Many electroacoustic compositions contain pre-recorded, manipulated and (re)synthesized voices on 'tape' (or other audio storage medium) or as samples to be used with live electronics. What about these voices? Sometimes the source of these voices is credited, and on that basis can easily be assigned a gender. Even synthesized – non-human – voices often sound gendered. However, some vocal sounds are ambiguous and sound neither masculine nor feminine. Some synthetic sounds have a more or less voice-like quality, without being clearly recognisable as vocal sound. Models inspired by the voice are used to analyse and synthesize electronic sounds, for example in IRCAM's program Chant and in Werner Kaegi's VOSIM; in the early days of electronic music, theories and equipment from the science of phonetics were used for producing electronic music (Ungeheuer 1992).<sup>30</sup> Sometimes this results in more or less voice-like qualities, as with the use of formants.

When listening to the pre-recorded, manipulated and synthetic voices on the Computer Music Currents series, much more diversity appears compared to the prevalence of live singing female vocalists mentioned in the previous subsection. On nine compositions, pre-recorded or synthesized male voices can be heard; on eight compositions, similar female voices. Moreover, there is one composition with a pre-recorded boy's voice and another one with children's laughter and a speaking choir of children's voices. The amounts of pre-recorded male and female voices that sing and speak, are almost equal. An exception is that four male voices utter non-verbal sounds while not singing, while none of the female voices are doing this without singing too. Does this more or less equal gender distribution of the recorded voices mean that there is gender equality in the use of pre-recorded or synthesized voice sounds?

When taking the individual compositions into account, gender differences become clearer. All pre-recorded female singing parts are sung by professional

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<sup>30</sup> Phonetic theories and models are mainly based on the male voice (Simpson 2009).

vocalists in a Western classical vocal style for these compositions specifically.<sup>31</sup> The male pre-recorded singing voices are different. In Alain Savouret's *Don Quixotte Corporation* (CMC1), a male falsetto that does not sound like a classically trained voice sings theatrically; it is a persona in this programmatic composition. In François Bayle's *Le Sommeil d'Euclide* (CMC3) some singing voices are part of a soundscape from an Indian village. In Charles Dodge's *Any Resemblance is Purely Coincidental* (CMC11) an already existing, famous historical recording of Enrico Caruso is used, with a highly symbolic value. In Max V. Mathews's *Bicycle Built for Two*<sup>32</sup> (CMC13), the singing voice is artificially synthesized with a computer and sounds like a male voice. In Roger Reynolds' *The Vanity of Words* (CMC4), the speaking and singing voice is Philip Larson's bass-baritone. He delivers some wordless sung phrases (mainly heard in the background of the composition; Larson's reading of Milan Kundera's text has a more prominent place in the composition). This is the only composition in which the use of the male singing voice resembles the use of the female singing voices in other tape compositions.

In the CDs of the Computer Music Series of the Consortium to Distribute Computer Music, there are also many pre-recorded male voices: some thirty-one compositions with pre-recorded or synthesized male voices and sixteen compositions with disembodied female voices. Most of these gendered voices sound as a speaking voice type (with or without text), but there are also pre-recorded singing voices and other vocal sounds. Of some other voices, the gender is indeterminable; most of these indeterminate voices are neither speaking nor singing voices, but consist of other vocal sounds like guttural clicks, or synthetic sounds with an indeterminate vocal quality. The most striking gender difference in the use of pre-recorded voices in the CDCM series is the prevalence of male pre-recorded voices: there are more than twice

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<sup>31</sup> David Evan Jones' *Scritto* (Catherine De Boer, CMC4), Michel Decoust's *Interphone* (Irène Jarsky, CMC4), Richard Karpen's *Il Nome* (Judith Bettina, CMC7), and James Randall's *Mudgett, Monologues for a Mass Murderer* (CMC13).

<sup>32</sup> This popular song was written by Harry Dacre in 1892 and named *Daisy Bell*. The computer synthesis of the vocal part was done by John Kelly and Carol Lochbaum at Bell Telephone Laboratories (physical modeling synthesis, Roads 1996: 267); Max Mathews made the synthetic 'piano' accompaniment and is the arranger of this song (1961). Remarkably, although a collaborative effort with multiple authors, the computer song is often presented as Max Mathews', like on this Wergo CMC13 CD.

as many compositions with pre-recorded male than with pre-recorded female voices; but for each gender, the distribution of vocal types (singing, speaking, other vocal sounds) is approximately the same.

However, it is remarkable that most of the pre-recorded male singing voices are not from the modern-classical Western art music tradition, but are sampled recordings from other musical cultures.<sup>33</sup> Moreover, some male singing voices are ‘computer voices’ modelled on and sounding like a male voice.<sup>34</sup> Thus, the pre-recorded male singing voices are ‘Others’: either from other cultures than the Western art music world, or non-human, artificially generated computer voices. The pre-recorded female singing voices show not such a prominent tendency: these voices consist of some classical singing,<sup>35</sup> some traditional non-Western singing,<sup>36</sup> and some other ways of singing.<sup>37</sup> A ‘choir’ of – as it were – ‘singing’ computer voices of mixed gender is found in Paul Lansky’s *just-more-idle-chatter* (CDCM5).

In the Cultures Électroniques series, the gender distribution of the pre-recorded voices seems roughly equal: forty compositions with pre-recorded male voices and forty compositions with pre-recorded female voices, with almost equal numbers of compositions with speaking voices, text, and other voice sounds of each gender. Thirteen compositions contain pre-recorded male singing voices, eighteen compositions pre-recorded female singing voices. There are forty-four compositions

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<sup>33</sup> For example, blues in Andrew Milburn’s *Elmore* (CDCM5) and Neil B. Rolnick’s *A Robert Johnson Sampler* (CDCM7), Cuban song in Jon Appleton’s *Homenaje a Milanés* (CDCM11), a South-American folk singer in Ricardo Dal Farra’s *Tierra y Sol* (CDCM25), and the voices of chanting Tibetan monks, Japanese shamans and African natives in Mark Wingate’s *Ode to the South-Facing Form* (CDCM20). A few non-Western male singing voices are also heard in Julie Kabat’s *Child and the Moon-tree* (the singing of a Mongolian shepherd and the speaking-singing male voices of the Japanese Noh theater, CDCM 7) and Bischoff/Brown/Erbe/Payne’s *CCM Flotsam* (CDCM 17).

<sup>34</sup> As in Larry Austin’s *Max Mathews Episode* (CDCM15), in Charles Dodge’s *In Celebration* (CDCM18) and in Richard Karpen’s *Denouement* (CDCM12). Max V. Mathews’ computer voice arrangement of *Bicycle Built for Two* is released on Wergo Computer Music Currents volume 13.

<sup>35</sup> As in Michael Matthews’ *In Emptiness, Over Emptiness* (CDCM25) and Yu-Chung Tseng’s *A Little Ying-Yang* (CDCM27).

<sup>36</sup> As in Bischoff/Brown/Erbe/Payne’s *CCM Flotsam* (CDCM17).

<sup>37</sup> As in Larry Austin’s *La Barbara: The Name, The Sounds, The Music* (CDCM13) and Judith Shatin’s *Three Summers Heat* (CDCM29).

with ambiguously gendered voice sounds, and ten compositions with pre-recorded children's voices.

Remarkable, however, are eleven compositions with pre-recorded female voices singing high and non-verbal vocals in a Western classical vocal style,<sup>38</sup> whereas only in James Aikman and Armando Tranquilino's *Tragoida / Komoidia* (CE3p) some wordless Western-classical singing by a pre-recorded male voice is perceived. There are two compositions in which male singing voices from other cultures than the Western art music tradition are of central importance: tango in Pablo Cetta's *...Que me hiciste mal...* (CE8) and flamenco in Mario Verandi's *Figuras Flamencas* (CE9p); and one such composition with a female voice: Beatriz Ferreyra's *Echos* (CE14), with Argentinian and Brazilian popular songs sung by Mercedes Cornu. Singing male voices are also heard in citations of recordings with a strong symbolic cultural meaning (historical recordings and popular song).<sup>39</sup> Remarkable also are the many compositions in which a female voice delivers a poem or other stylized, written text.<sup>40</sup> A smaller number of recorded male voices deliver such texts.<sup>41</sup> Recorded speaking male voices are mostly speaking in a free style and are often

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<sup>38</sup> For example, in Francis Dhomont's *Chiaroscuro... ou les yeux d'ambiguité* (CE3m), James Aikman and Armando Tranquilino's *Tragoida / Komoidia* (CE3p), Richard Karpen's *Il Nome* (CE4), Eugeniusz Rudnik's *Mobile* (CE5), Åke Parmerud's *Alias* (CE6p), Erik Mikael Karlsson's *La Disparition de l'azur* (CE7), Erik Mikael Karlsson and Jens Hedman's *Anchorings / Arrows* (CE7), Joseph Hyde's *Songlines* (CE8), Lars Gunnar Bodin's *For Jon: Fragments of a time to come* (CE9m), Mathew Adkins's *Pagan Circus* (CE10) and Jean-Claude Risset's *Invisible* (CE11m).

<sup>39</sup> Historical recordings and popular song are found in *Maikäfer Flieg* by Lothar Voigtlaender (CE3p), *Andere die Welt, Sie braucht es* by Wilhelm Zobl (CE6m), *Klang, Kar and Melodie* by Mark Wingate (CE9p) and *Ys* by Yves Coffy (CE12); a female singing voice with such a function is found in Lothar Voigtlaender's *Maikäfer Flieg* (CE3p).

<sup>40</sup> Like in Georg Katzer's *La Mécanique et les Agents de l'Erosion* with an un-named female voice reading text from a dictionary (CE2), Dieter Kaufmann's *Le Voyage au Paradis* with text from Robert Musil's *Der Mann ohne Eigenschaften* read by Gunda König (CE3m), Ricardo Mandolini's *Microrreflexiones* with Paul Elouard's 'La Phoenix' read by Anne Gilbert (CE3p), Francisco Kröpfl's *Orillas* with Rodolfo Alonso's 'Orillas' read by Lucia Maranca (CE4), Eduardo Polonio's *ChC* with text from Plato's *Phaedre* (CE8), Love Mangs' *We, we the waves: an acoustic poem* with August Strindberg's 'Vagorna Sjunga' read by Helena Boström (CE11p), Lars Gunnar Bodin's *For Jon: Fragments of a time to come* (CE9m) and Philippe Blanchard's *Casimir* with the voice of Viola Kramer (CE12).

<sup>41</sup> As in Ton Bruynèl's *Chicharras* with a Spanish translation of a poem by Bert Schierbeek read by Lino Calle de Segovia (CE11p), Daniel Zimbaldo's *Cartas desde el real hospital de lunaticos* with text from 'Mrs. Caldwell habla con su hijo' by Camilo José Cela (CE9p), Justice Olsson's *Up!* with the voice of the composer (CE6p) and José Halac's *The breaking of the scream* with a poem by Pablo Anadon performed by the composer (CE14).

found objects<sup>42</sup> (like radio and television broadcasts,<sup>43</sup> political speeches<sup>44</sup> or environmental recordings), or uttered by the composer<sup>45</sup> or by a culturally significant person.<sup>46</sup>

All in all, in the CD series under investigation, the gender distribution of the pre-recorded voices is much more equal compared to the use of live voices, and the use of pre-recorded voices is much more varied than the use of live voices in this genre. Moreover, pre-recorded voices are often manipulated, sometimes dissolving or bending the gender of the voice. However, some gender patterns do appear. Pre-recorded female voices often sing in a Western extended classical vocal style. Pre-recorded male singing voices are mostly different from the Western classical vocal type; and there are some singing ‘male’ computer voices. Thus, male singing voices are the voices of ‘Others’. Also, there is a tendency that pre-recorded male speaking voices quite often are the voice of the composer or poet, or of another culturally significant person, or sampled from radio, television or recordings. Pre-recorded female speaking voices are often by vocalists or singers who perform a text by someone else, specifically for the production of the composition. Like in the mixed genre for vocalist and electronics but somewhat less clear, in pre-recorded electronic music (‘tape music’) a gender pattern of location is reflected: composers are far more often male than female, but women are prominently involved in the production as vocalist, whether performing in a concert or in a studio during the production process.

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<sup>42</sup> Sounds as ‘found objects’ in a most literal sense are composed in Josh Levine’s *Tel*, which is made from tape fragments found in the studio’s wastebasket (CE2).

<sup>43</sup> E.g., *Mobile* by Eugeniusz Rudnik (CE5).

<sup>44</sup> E.g., *Andere die Welt, Sie braucht es* by Wilhelm Zobl (CE6m).

<sup>45</sup> E.g., *Le Ciel et la Terre* by Dieter Kaufmann (CE3p), *Mr Frankenstein’s Babies* by Klaus Röder (CE11p), *Hershe tube rundown* by Michael Jude Bergeman (CE12) and *The breaking of the scream* by José Halac (CE14).

<sup>46</sup> Art historian William S. Hechkscher in Alicyn Warren’s *Longing for the Light* (CE6), composer John Cage in Joseph L. Anderson’s *ChAnGE’S MUSIC* (CE10) and artist Salvador Dali in Jonas Broberg’s *Conversation in Cadaqués* (CE11p).

## II.7 A gender pattern

A musical partnership of a male composer and a female vocalist is typical of electroacoustic music. This stereotype associates woman to body, performance, tradition, non-verbal sound and singing, and man to electronic music technology, innovation, language and authority. This is also a pattern found in popular forms of electronic music, such as house or dance music, see for example Bradby (1993). It resonates with the tendency in contemporary Western culture to associate singing with women, not with men (Cusick 1999b),<sup>47</sup> while technology is seen as a man's world (Benston 1988). More generally, it reflects the dualistic opposition of masculinity versus femininity and mind versus body that is so prevalent in Western culture.

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<sup>47</sup> Simply summarized as: 'in contemporary Euro-American culture, most adult women sing and most adult men do not' (Cusick 1999b: 33).