Diversity = Algorithmic

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Structure

- Why is diversity important?
- Thinking about live coding as an approach to Diversity
- What are we 'inputting' (in terms of gender).
- How could we handle things differently?
- Could this work with other forms of diversity?

Cognitive diversity is important in developing group creativity

'the integration of diverse perspectives and previously unconnected knowledge underpins the generation of new knowledge' (Mitchell 2006).

"Equality is not a credential, it is a task"

(Ahmed 2017).

This perspective … requires us to be vigilant as to the outcomes of our actions, and to adjust those actions in order to improve our outcomes.

If we use live coding — which inherently includes an ongoing evaluation loop — as an analogy the task of equality can be defined as such:

- What does my code produce?
- Why does my code produce this?
- What do I want my code to produce?
- What changes can I make to my code in order to get the results I am seeking?

Plainly speaking, algorithms are recipes: what you put in, and the instructions you give for the handling of that input, govern what you get out.

Or in equality terms,

who enters the field in the first place
+ how the community treats them
= who stays in the field

We need to ensure our input and our
community defining algorithms will result
in the desired outcome of our equality
efforts.

```
set numCampuses = random()
set campusAccessibility  = []

for numCampuses
      campusAccessibility[i] = [accessible,
notAccesible].choose
   end for;

set disabledStudent

for campusAccessibility
   if campusAccessibility[i] == accessible
      disabledStudent.considers()
   else
      disabledStudent.doesNotConsider()
   end if;
end for;
```

```
set numCampuses = random()
set campusAccessibility  = []

    for numCampuses
        campusAccessibility[i] = [accessible, notAccesible].choose
    end for;


set disabledStudent

for campusAccessibility
    if campusAccessibility[i] == accessible
        disabledStudent.considers()
    else
        if university.willingToChange() ||
university.listensToActivists()
            disabledStudent.considers()
        else
            disabledStudent.doesNotConsider()
        end if;
    end if;
end for;
```

What are the inputs?

1. Male Dominance in Teaching

2. Lack of Female Students in Post Graduate Training

3. Complex Codes of Language and Acceptance

4. Lack of Opportunities for Women to Progress their Careers
   (Lack of women booked as performers / lack of visibility.)

5. Overt Sexism Throughout the Industry

6. Unconscious Bias

```
set populationSize = random()
set population  = []


    for populationSize
        population[i] = [male, female].choose
    end for;


set PGStudyEncouraged  = []


for population
    if population[i] == male
        PGStudyEncouraged[i] = true.probablity(>0.5)
    else
        PGStudyEncouraged[i] = true.probablity(<0.5)
    end if;
end for;


for PGStudyEncouraged
    if PGStudyEncouraged [i] == true
        population[i].completesStudyAndAppliedForTeachingRole().probablity(>0.5)
    else
        population[i].doesNotCompleteStudy().probablity(>0.5)
    end if;
end for;
```

If input = lack of support for females to undertake postgraduate studies in the field

Then Output = high volume of male tutors applying for teaching roles

If input = high volume of male tutors

Then handling = students do not experience female point of view or expertise

Output = students fail to learn the contributions of female music technologists, perpetuating the myth that there are no women contributors, or if there are, they are not 'high level contributors'

If input = Majority male students fail to learn of women's contribution to music technology

Then Handling = claim women's invisibility is due to there being no good female artists

Output = fewer performances of women's work

fewer citations of women's contributions

students fail to learn the contributions of female music technologists, perpetuating the myth that there are no women contributors

If input = fewer performances of women's work

Then handling = claim women's invisibility is due to there being no good female artists

Output = Majority male students fail to learn of women's contribution to music technology

If Input = more performances by women

Then handling = More citations and programme notes informing others about work

Output = More male students aware of women's contribution + More opportunities for professional performances for women

If input = More male students aware of women's contribution

Then handling ≠ claim women's invisibility is due to there being no good female artists

Output = Less sexist environment for women to enter

If Input = Less sexist environment for women to enter

Then handling = encouragement of female undergrads to continue to masters and PhD level

Output = More women applying for teaching jobs

If Input = More women applying for teaching jobs

Then Handling = Blind bias control

Output = More women in teaching roles

If Input = More women in teaching roles

Then Handling = More male students aware of women's contribution

More opportunities for professional performances for women

More women cited in academia

Output = More balanced departments and performance spaces.

What other forms of diversity can we think about in this way?

Economic Discrimination

Transgender Discrimination

Religion

Disability

Conclusion

Approaching diversity as a task allows us to define a series of steps which can be taken.

By consulting with, and listening to, those facing barriers we can properly determine barriers and strategies to address them.

Research has shown that there are multiple barriers to equality in the field of electronic music and live coding. We can see that there are approaches to diversity where our live coding skills and modes of thinking could be very useful.

The basic structure of a diversity task requires considering: Input, Handling and Output. Modify input and handling, and the output will also change. This can be edited in real time as with live coding.