# Towards a Gradus ad Parnassum for Computer Music

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So, do you want to be a Computer Music Composer?

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...then they look for a studio assistant.

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The composer, crippled by his lack of skills, gives control to the skilled assistant. Who is the author of the piece?

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So, let's try and define what a *Gradus ad Parnassum* for Computer Music should be. This is what we will try to achieve in this talk.

# Defining the area

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 Moore's definition of the discipline (F R Moore: Elements of Computer Music)

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- The roadmap for Sound and Music Computing http://smcnetwork.org/roadmap

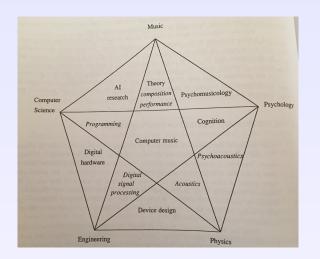
# The disciplinary context

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"Most academic disciplines are disciplines of thought. They exist to define a "correct" (or at least useful) view of some subset of human knowledge. Computer music, however, is strongly interdisciplinary, therefore a "correct" view is one that does justice to several points of view simultaneously" (*Elements*, p.23)

# Moore's interdisciplinary map

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- "Intensify interaction between research and the arts"
- "Design appropriate multidisciplinary curricula for SMC"

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- computer technology and programming
- fundamental mathematics

## Introduction

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Such a programme could be designed to use a music programming language as the main educational and creative tool in a computer environment. This would be the centrepiece joining all the course elements.

The programme is divided into five sections:

Introduction to Computer Music

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- Music Programming

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- Music Programming
- Interaction

- Introduction to Computer Music
- Music Programming
- Interaction
- Sound Synthesis and Processing

- Introduction to Computer Music
- Music Programming
- Interaction
- Sound Synthesis and Processing
- Composition studies

This section would introduce the area of Computer Music, and its background.

Historical notes

- Historical notes
- Music Systems

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- Technical foundations

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Here, we would focus on a particular system:

Fundamental concepts

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- Signals and graphs

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- Control of flow

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- Signals and graphs
- Control of flow
- Composition/extensions

Different ways to interact with a music system:

Computer scores and Scripting

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- MIDI control

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- Networking (OSC, etc.)

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- MIDI control
- Networking (OSC, etc.)
- Hardware hacking

This can be more generally applied, but using the chosen system for examples:

Classic techniques (subtractive, additive, distortion)

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- Physical models.

# Composition studies

Complementing the programme, a look at various ways in which computer music can be composed:

Classic fixed-media composition

- Classic fixed-media composition
- Fixed-media plus live performances

- Classic fixed-media composition
- Fixed-media plus live performances
- Live processing

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- Fixed-media plus live performances
- Live processing
- Improvisation, live coding

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- Fixed-media plus live performances
- Live processing
- Improvisation, live coding
- Installations
- Network and web-based music

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This idea, encouraged by the traditional conservatory education, is completely bankrupt and useless for the majority of aspiring musicians today. It does not account for the fluid nature of music-making that is taking place around us. It does not foster the learning of skills that are key to the embracing of technology.

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While we are still not able to define completely our 'Gradus ad Parnassum', there is clearly something out there that is emerging as the foundations of our discipline.