

# TECHNOLOGY, MUSIC, PEOPLE

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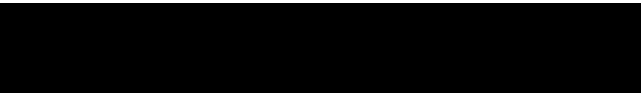
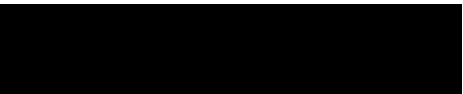
# HELSINKI PHILHARMONIC ORCHESTRA



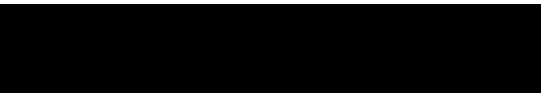
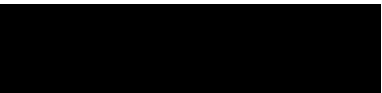
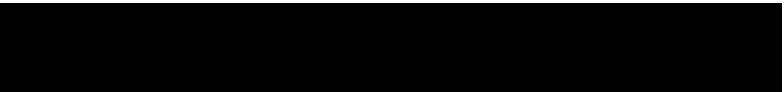


# **HELSINKI PHILHARMONIC ORCHESTRA – THEN AND TODAY**

- # Founded by Robert Kajanus in 1882**
- # Premiered majority of Jean Sibelius' orchestral works**
- # 102 musicians, chief conductor Susanna Mälkki**
- # 89 yearly concerts, 110 000 visitors**
- # Digital possibilities, audience development  
eg. Angry Birds VR concert demo**



# THE HOLY ALLIANCE OF TECHNOLOGY & ART

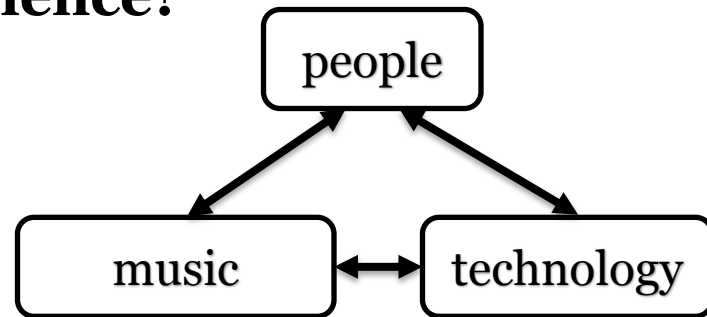




# THE HOLY ALLIANCE OF TECHNOLOGY & ART

# How can music reach its audience?

# How shall technology be meaningful to people?





# **THE HOLY ALLIANCE OF TECHNOLOGY & ART**

**# What can technologies - like Virtual Reality - do?**

- 1. Replicate reality**
- 2. Transform reality**
- 3. Imagine and create new worlds**



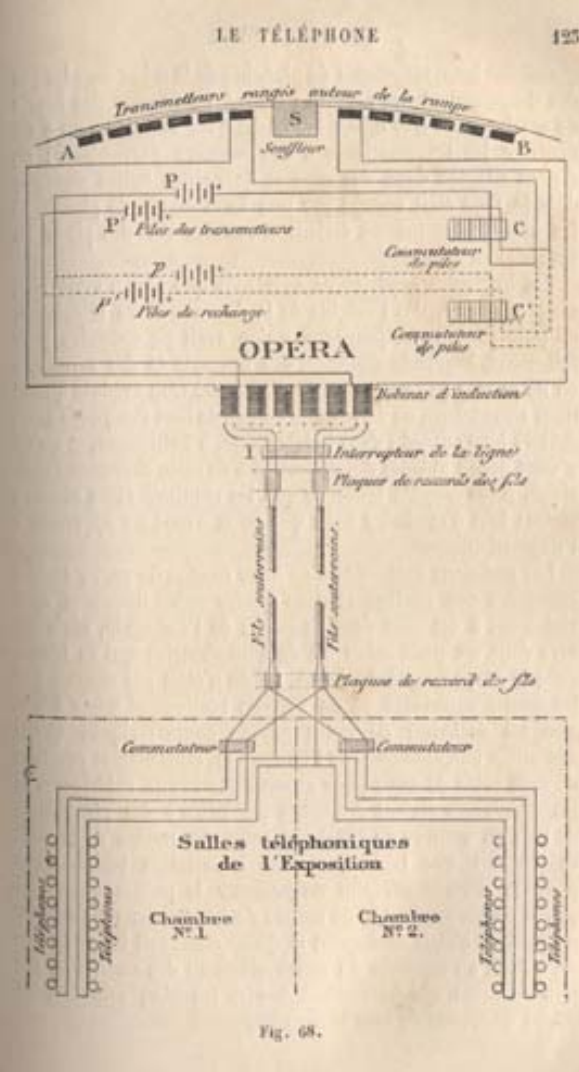
# **INNOVATION TOWARDS HUMANITY: A BRIEF HISTORY**





# THÉÂTROPHONE

- # Graham Bell patent in 1876
- # Clement Ader Théâtrophone concert in 1881 Paris world expo
- # Paris Opera Orchestra concert transmitted over 2km
- # 80 telephone transmitters around the stage, stereophonic sound
- # Basis for future radio programming



# RECORDING INDUSTRY

# Phonograph by Thomas Edison  
in 1877

# First stereo recording by Leopold  
Stokowski and the Philadelphia  
Orchestra in 1932;  
*Scriabin Poem of Fire*

-> *Irreversible effect on music,  
compositions and interpretation*







# RADIOMUSIC OF THE 1920'S

# First public radio broadcast in 1910,  
BBC founded in 1922

# Creating music for the new media,  
concept of *radiomusic*

# Participatory projects through  
radio transmissions, eg. Hindemith

-> *democratization of music*

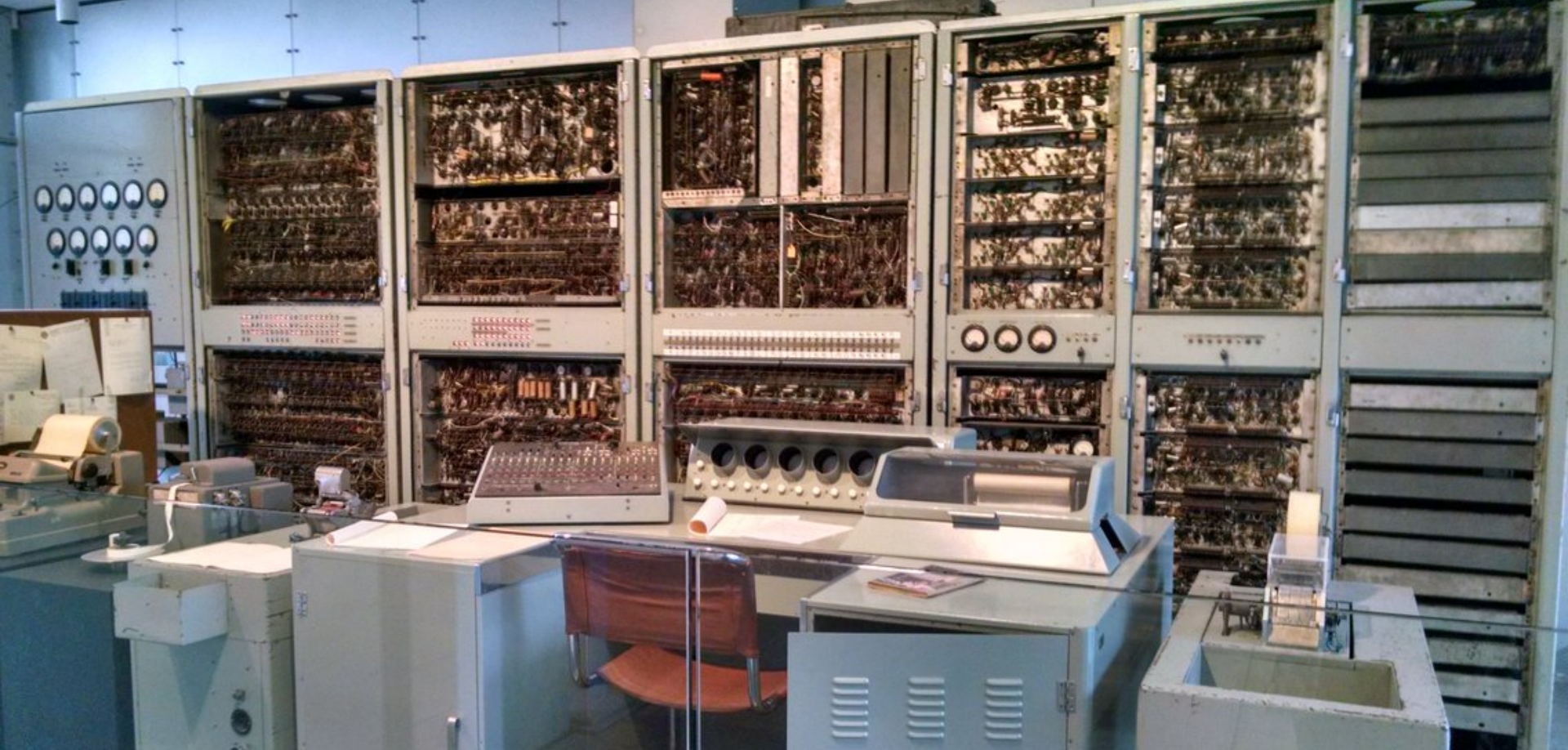


# RADIOMUSIC OF THE 1920'S

”Radio confronts the serious musician of our times for the first time with the task to create works to which a possible large circle of listeners is receptive.

Content and form of these radio compositions must thus be able to be of interest to a large number of people of all kinds, and also the musical means of expression must avoid any obstacles for the primitive listener.”

- Kurt Weill (1929)



**CSIRAC (1949) and the first computer generated sound in 1951**



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# IMMERSIVE SOUND

# Eg. John Cage:  
*Williams Mix* (1953)

Edgar Varèse:  
*Poème électronique* (1958)

Karlheinz Stockhausen  
*Gesang der Junlinge* (1955-56)  
*Spherical Concert Hall* (1970)  
*Oktophonie* (1991)

# Finally becoming reachable  
for a regular listener





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# TASK OF AN ORCHESTRA?





# TASK OF AN ORCHESTRA?

## # Examples of surrounding sound in music

- Veli-Matti Puumala: *Root* (2017)
- Bergrun Snæbjörnsdóttir: *Esoteric Mass* (2014)
- Magnus Lindberg: *Kraft* (1985)
- Karlheinz Stockhausen: *Gruppen* (1955-57)
- Richard Strauss: *Eine Alpensinfonie* (1915)
- Respighi *Pines of Rome*, Ives *3<sup>rd</sup> Symphony*, Mahler...

## # Medieval churches and an immersive sound experience

# **TASK OF AN ORCHESTRA?**

**# VR, AR, IoT, AI, Cyborgs**

**# Immersive sound in reaching audiences**

**1. Overcome distance and time**

**2. Facilitate or allow new participation**

**3. Augment, boost and change the experience**

**4. Imagine new soundworlds**

**# How can we touch people?**





# THANK YOU!

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