



**CENTRE FOR  
INNOVATION**  
Leiden University



**Universiteit  
Leiden**

# VIDEOS IN HIGHER EDUCATION

Researcher; Lecturer; Filmmaker;  
Jeanine Reutemann

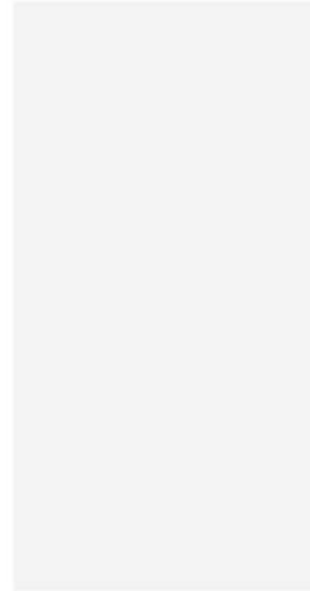




<https://www.youtube.com/watch?v=5VEHBuuRKXI>



# DATA SET 448 MOOC



**Research Video (2016):  
„Videos in Higher Education – A Journey  
into the World of Digital Education“**



**RESULTS?**

# Protein basics

## Outline:

- Polymers of amino acids
- Order specified by bases in mRNA
- Fold spontaneously into catalytic structures, driven by hydrophobic effects and hydrogen bonds

## Learning Objectives:

- Describe protein 1° and 2° structure
- Relate to gene structure



2

```
ages.c (~/src/101/1/guide)
27 int ages[n];
28
29 // get everyone's age
30 for (int i = 0; i < n; i++)
31 {
32     printf("Age of person %i: ", i + 1);
33     ages[i] = GetInt();
34 }
35
36 // report everyone's age a year hence
37 printf("Time passes...\n");
38 for (int i = 0; i < n; i++)
39 {
40     printf("A year from now, person %i will be %i years old.\n", i + 1, age
41 }
42 }
```

Terminal

Harvard@appliance: ~/src/101/1



## What Does Scalable Mean?

- Operationally:
  - In the past: "Works even if data doesn't fit in main memory"
  - Now: "Can make use of 1000s of cheap computers"
- Algorithmically:
  - In the past: If you have  $N$  data items, you must do no more than  $N^2$  operations – "polynomial time algorithms"
  - Now: If you have  $N$  data items, you must do no more than  $N \log k$  operations, for some large  $k$ 
    - Polynomial-time algorithms must be parallelized
  - Soon: If you have  $N$  data items, you should do no more than  $N \log(N)$  operations
    - As data sizes go up, you may only get one pass at the data
    - The data is streaming – you better make that one pass count
    - Ex: Large Synoptic Survey Telescope (30TB / night)





# Principles of Electrical Circuits

L18 Operational Amplifier

Operational Amplifier  
Op Amp



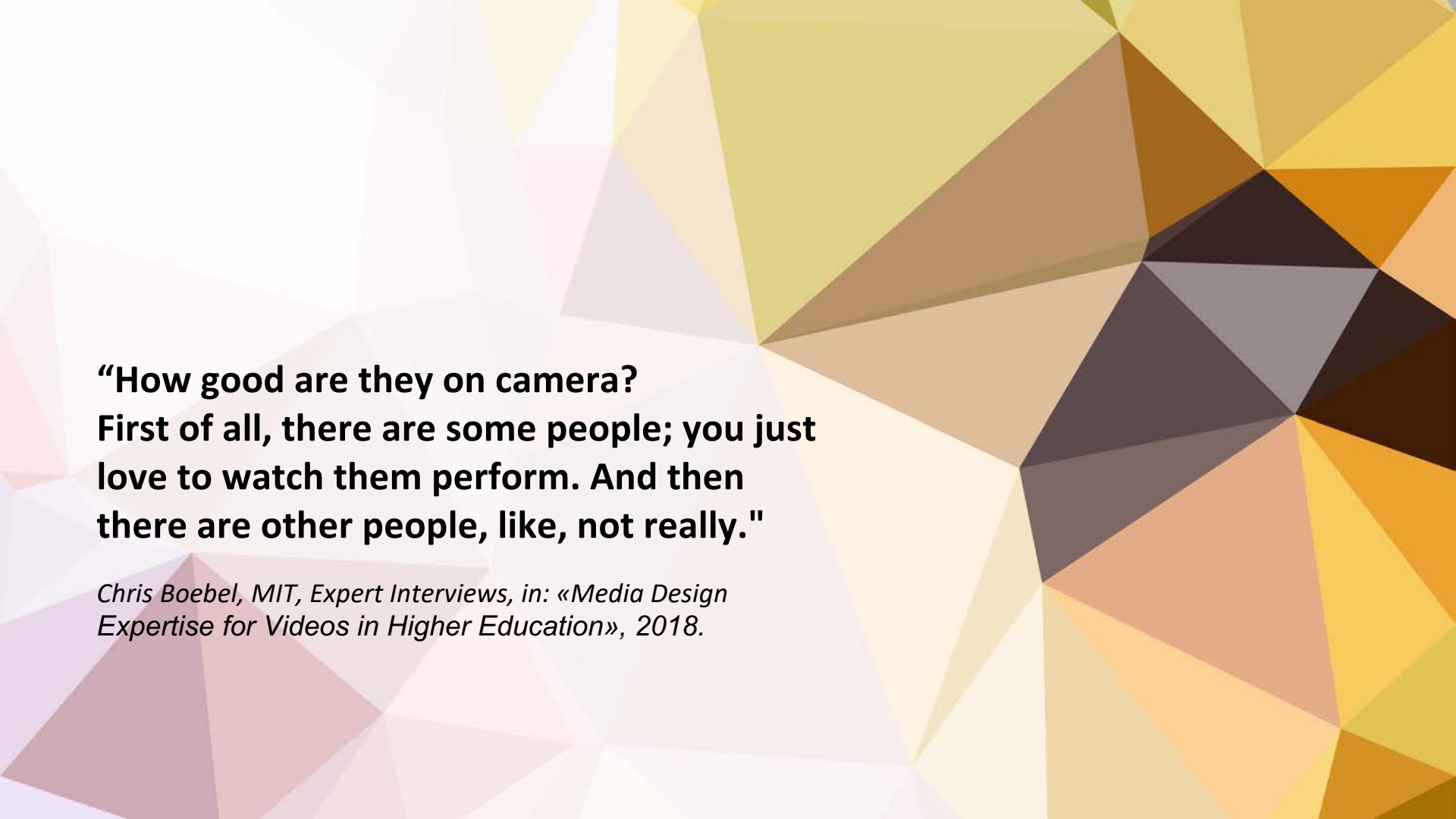
Principles of Electric Circuits by Tsinghua University

presented by Guip  
dubbed by Xinjie





**PERFORMANCE**



**“How good are they on camera?  
First of all, there are some people; you just  
love to watch them perform. And then  
there are other people, like, not really.”**

*Chris Boebel, MIT, Expert Interviews, in: «Media Design  
Expertise for Videos in Higher Education», 2018.*

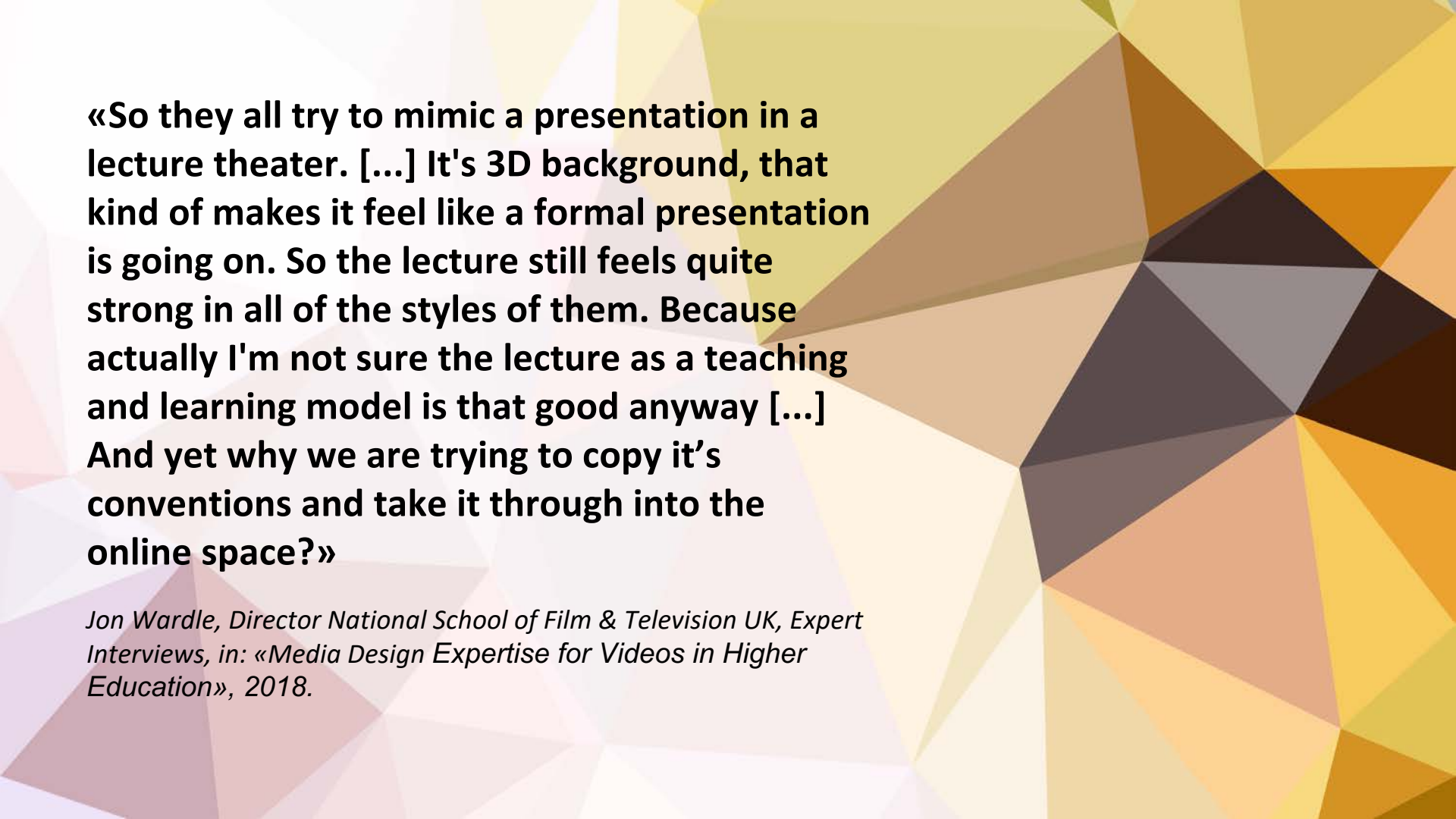
**TU Delft**

**Equivalent Circuit**

**JV-Curve**

The image shows a man in a white lab coat presenting a slide. The slide contains an equivalent circuit diagram and a JV-curve graph. The equivalent circuit diagram shows a voltage source  $V_{oc}$  in series with a diode, a parallel combination of a resistor  $R_{sh}$  and a diode, and a series resistor  $R_s$ . The JV-curve graph plots Current Density  $J$  (mA/cm<sup>2</sup>) on the y-axis (from -40 to 20) against Voltage  $V$  (V) on the x-axis (from 0.0 to 1.0). The graph shows a green line for the current density, a blue line for the open-circuit voltage  $V_{oc}$ , and a red line for the maximum power point  $P_{max}$ . Key points on the graph are labeled:  $J_{sc}$  (short-circuit current density),  $V_{mp}$  (maximum power point voltage), and  $J_{mp}$  (maximum power point current density). The text 'Maximum power point' is written at the bottom right of the graph.





**«So they all try to mimic a presentation in a lecture theater. [...] It's 3D background, that kind of makes it feel like a formal presentation is going on. So the lecture still feels quite strong in all of the styles of them. Because actually I'm not sure the lecture as a teaching and learning model is that good anyway [...] And yet why we are trying to copy it's conventions and take it through into the online space?»**

*Jon Wardle, Director National School of Film & Television UK, Expert Interviews, in: «Media Design Expertise for Videos in Higher Education», 2018.*

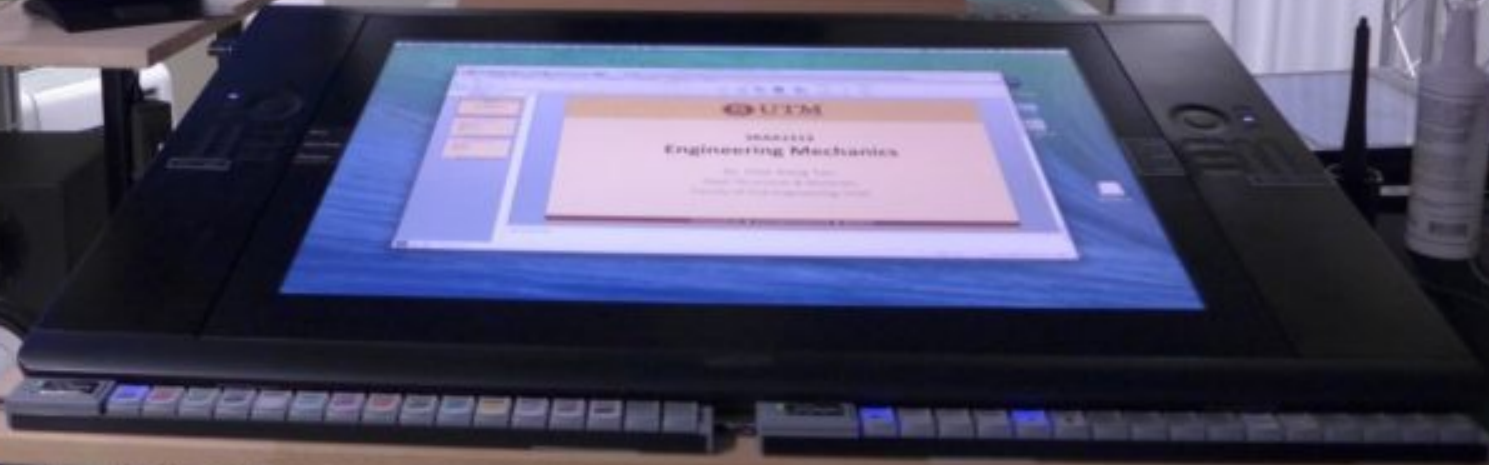
The background is a complex, abstract geometric pattern composed of numerous triangles of various sizes and colors. The colors include shades of yellow, orange, brown, grey, and purple, creating a vibrant and textured effect. The triangles are arranged in a way that they seem to radiate from different points, giving the overall image a sense of movement and depth.

# **CAMERAWORK**





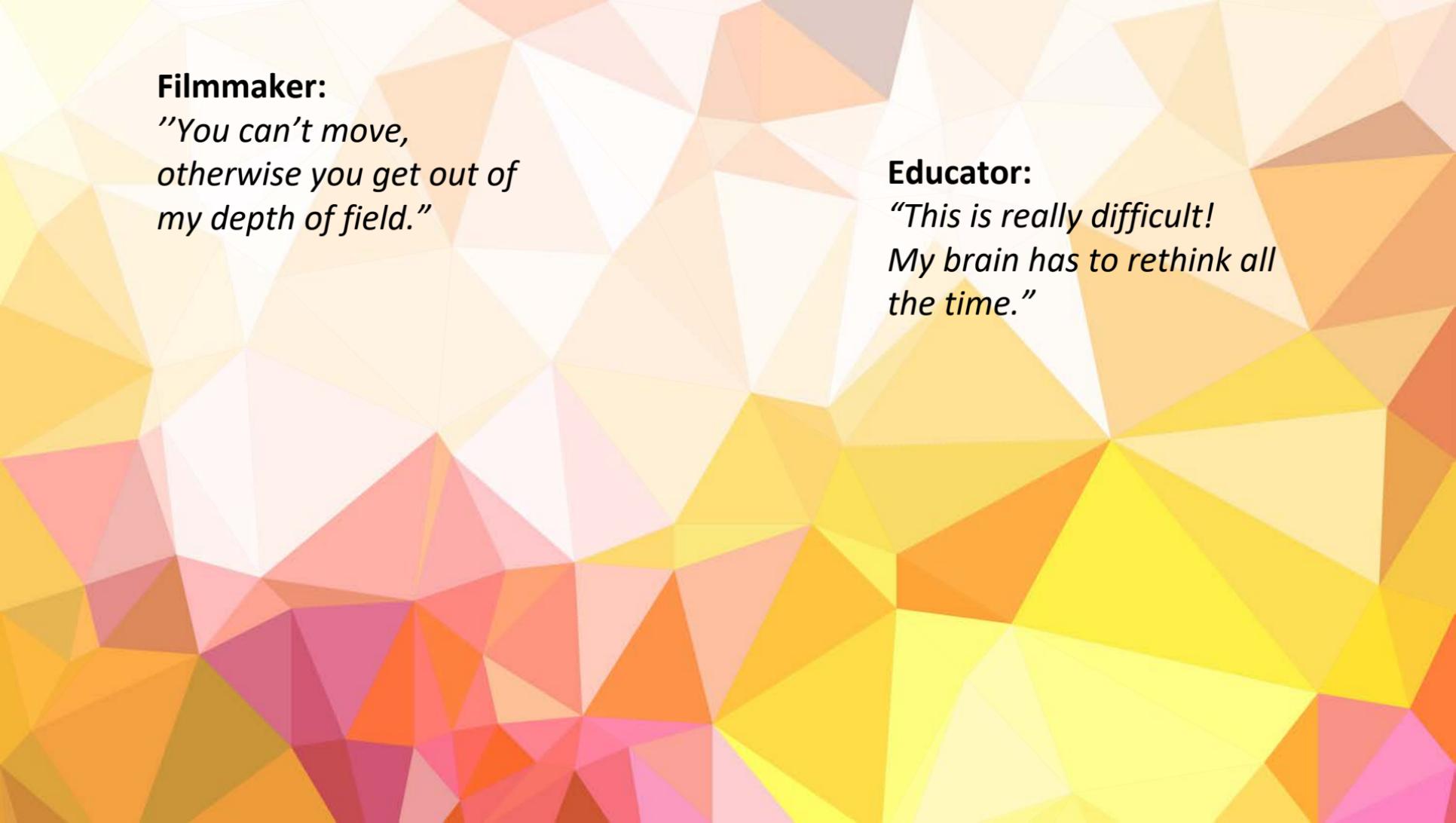






**Filmmaker:**

*"You can't move,  
otherwise you get out of  
my depth of field."*



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*"You can't move,  
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**Educator:**

*"This is really difficult!  
My brain has to rethink all  
the time."*



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**Filmmaker:** *"Try to stand upright!"*

**Filmmaker:** *"Shoulders back!"*

**Filmmaker:** *"Don't wiggle around!"*



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**Filmmaker:** *"Try to stand upright!"*

**Filmmaker:** *"Shoulders back!"*

**Filmmaker:** *"Don't wiggle around!"*

**Educator:**

*"I guess I'm learning  
to swim."*

The background is an abstract composition of numerous overlapping triangles in various shades of pink, red, orange, and purple. A large, solid white circle is positioned in the upper-left quadrant, partially overlapping the colorful triangles. The text is centered within this white circle.

# **Interference of the media design with the performance of Talking Heads?**

**Interference of the media design  
with the performance  
of Talking Heads?**

**Yes!**

**Interference of the media design  
with the performance  
of Talking Heads?**

**But how?**

A close-up portrait of Benjamin Short, a young man with short brown hair and blue eyes, looking slightly to the right. He is wearing a dark suit jacket, a white shirt, and a dark tie. The background is a blurred view of a brick building with a green roof, seen through a window. The lighting is bright and even.

Sheffield.

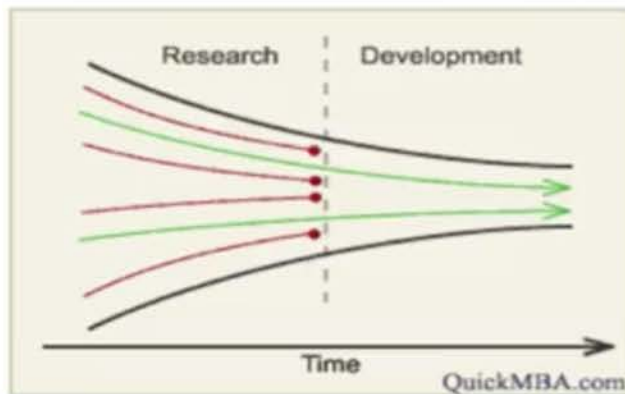
Benjamin Short

Head of Graduate Placement and Recruitment

Tata Steel

## Closed Innovation Model

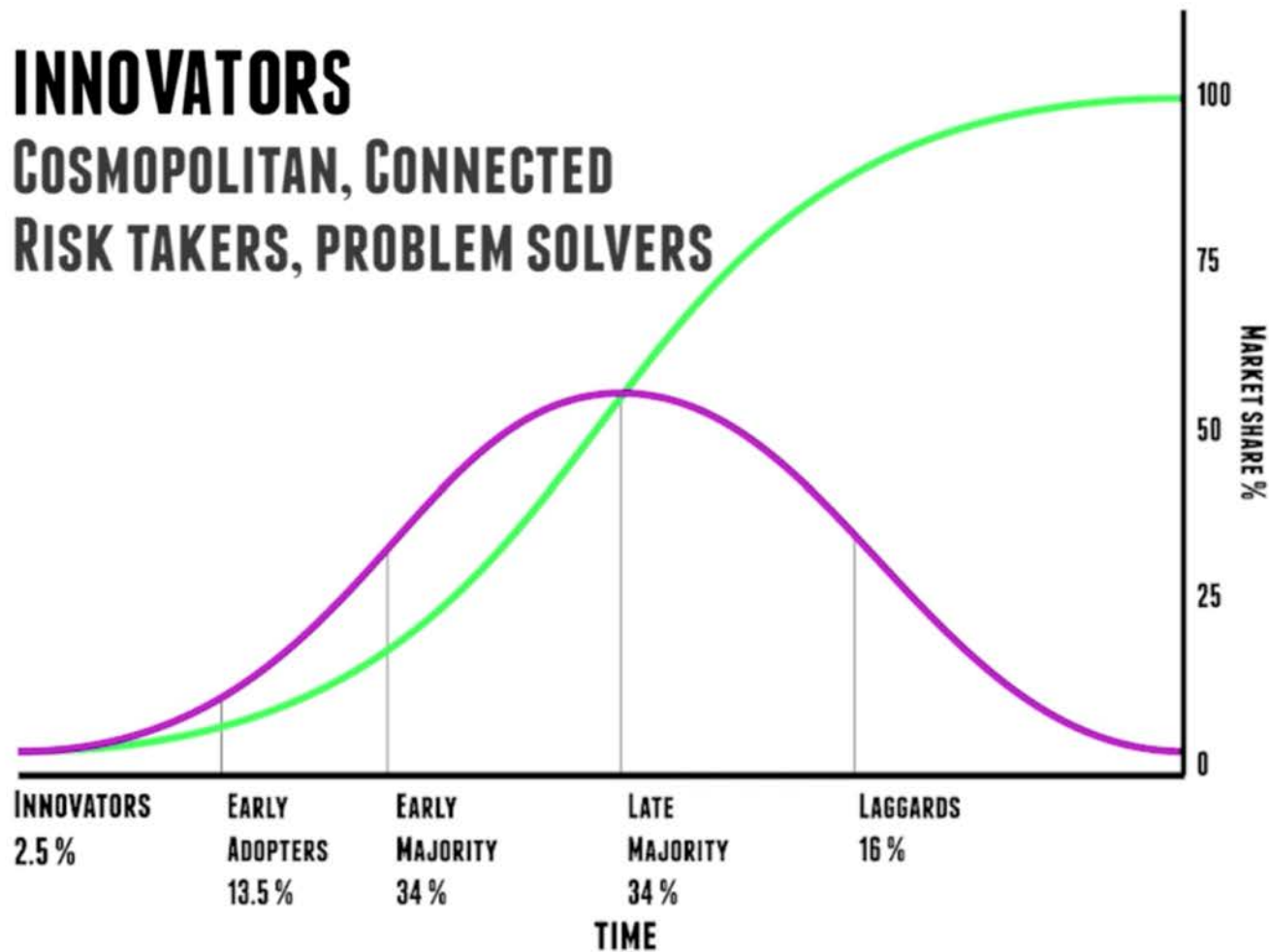
- Recruit top talent for internal R&D
- Innovate only within firm's boundaries
- Filter internal ideas for defined market





# INNOVATORS

**COSMOPOLITAN, CONNECTED  
RISK TAKERS, PROBLEM SOLVERS**

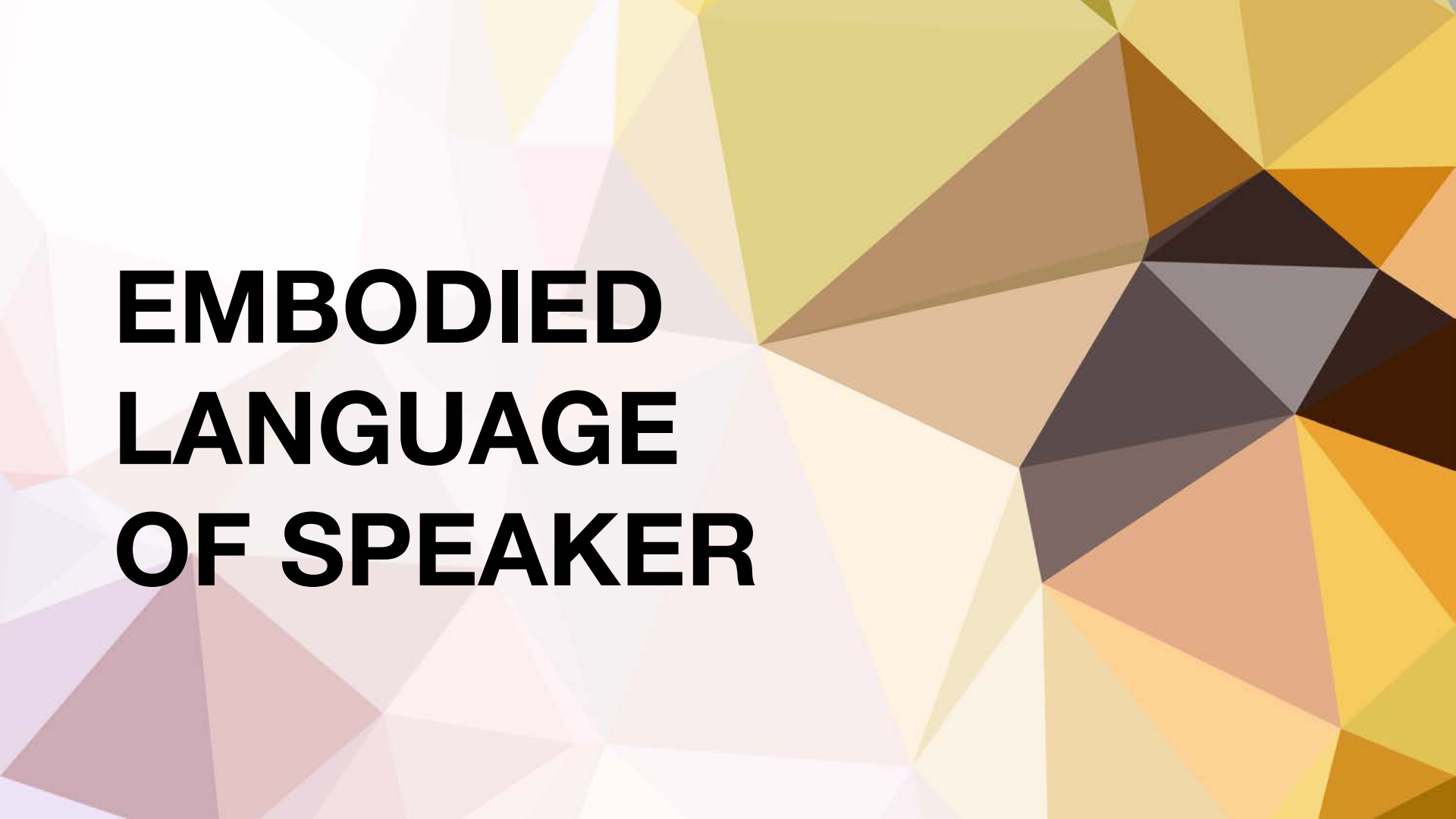


# THERE IS NO EMPTY ROOM **NEVER**

- no measurement of size
- lack of 3D room effect
- 100% focus on the speaker
- no place to hide
- meaning making out of facial expressions, gestures, body tonus, clothing, eye bags...

# nakedness. Create security with  
(power pose) mobilier, thematic objects,  
different light settings





# **EMBODIED LANGUAGE OF SPEAKER**

# **EXAMPLE: GESTURES**

- (1) Communicative function of gestures**
- (2) Self-referential function of gestures**

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- (1) Communicative function of gestures
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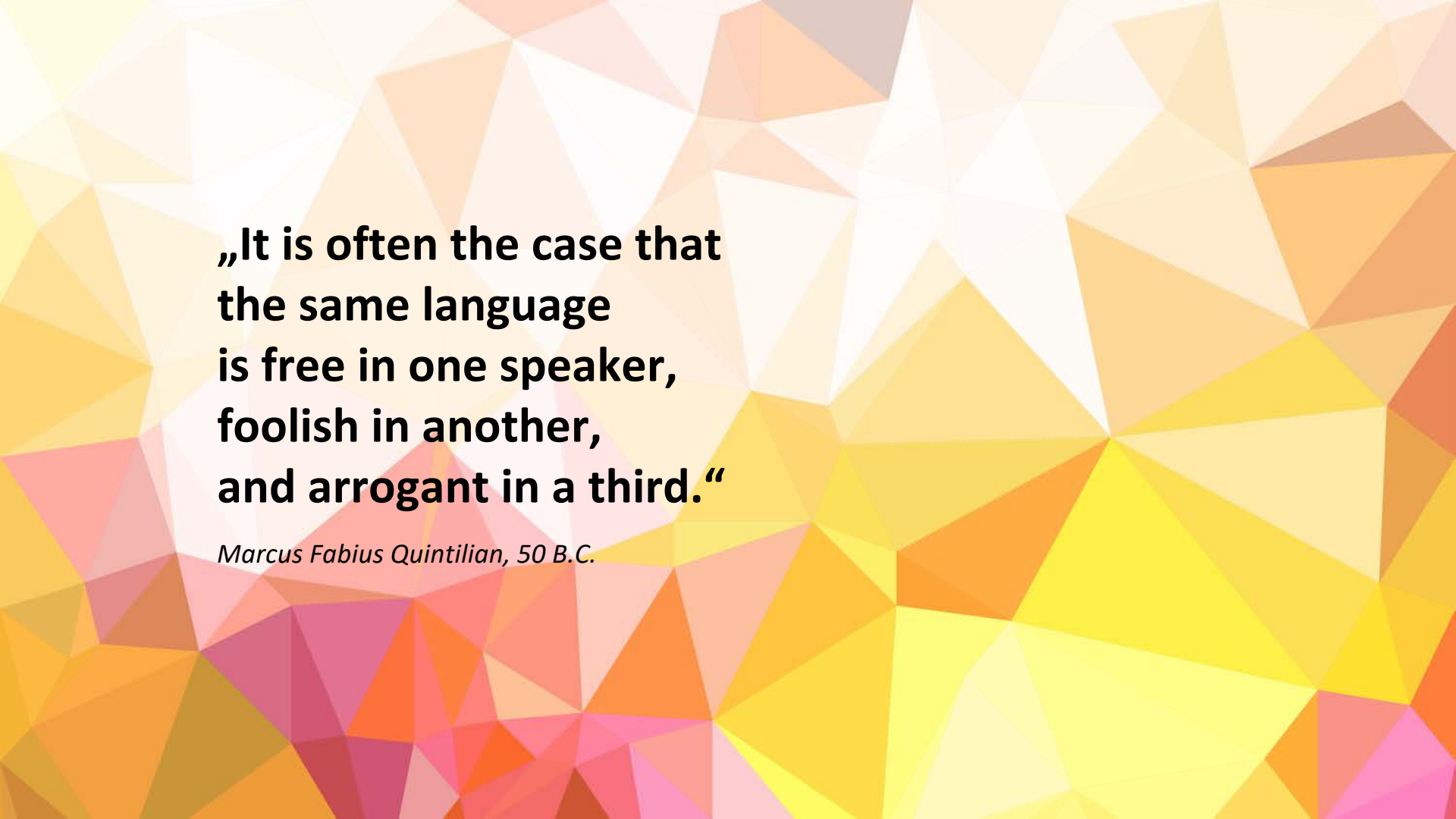
**“But gestures also have functions for the gesturers him or herself. [...] When you make gestures, your communicative processes change the way you actually think about. The topic you are talking about, changes when you try to express something in the hand.”**

*Prof. Sotaro Kita, Gesture & Communication Researcher, 2015.*

The background is a complex, abstract geometric pattern composed of numerous triangles of various sizes and colors. The color palette includes shades of yellow, orange, pink, and purple, creating a vibrant and dynamic visual effect.

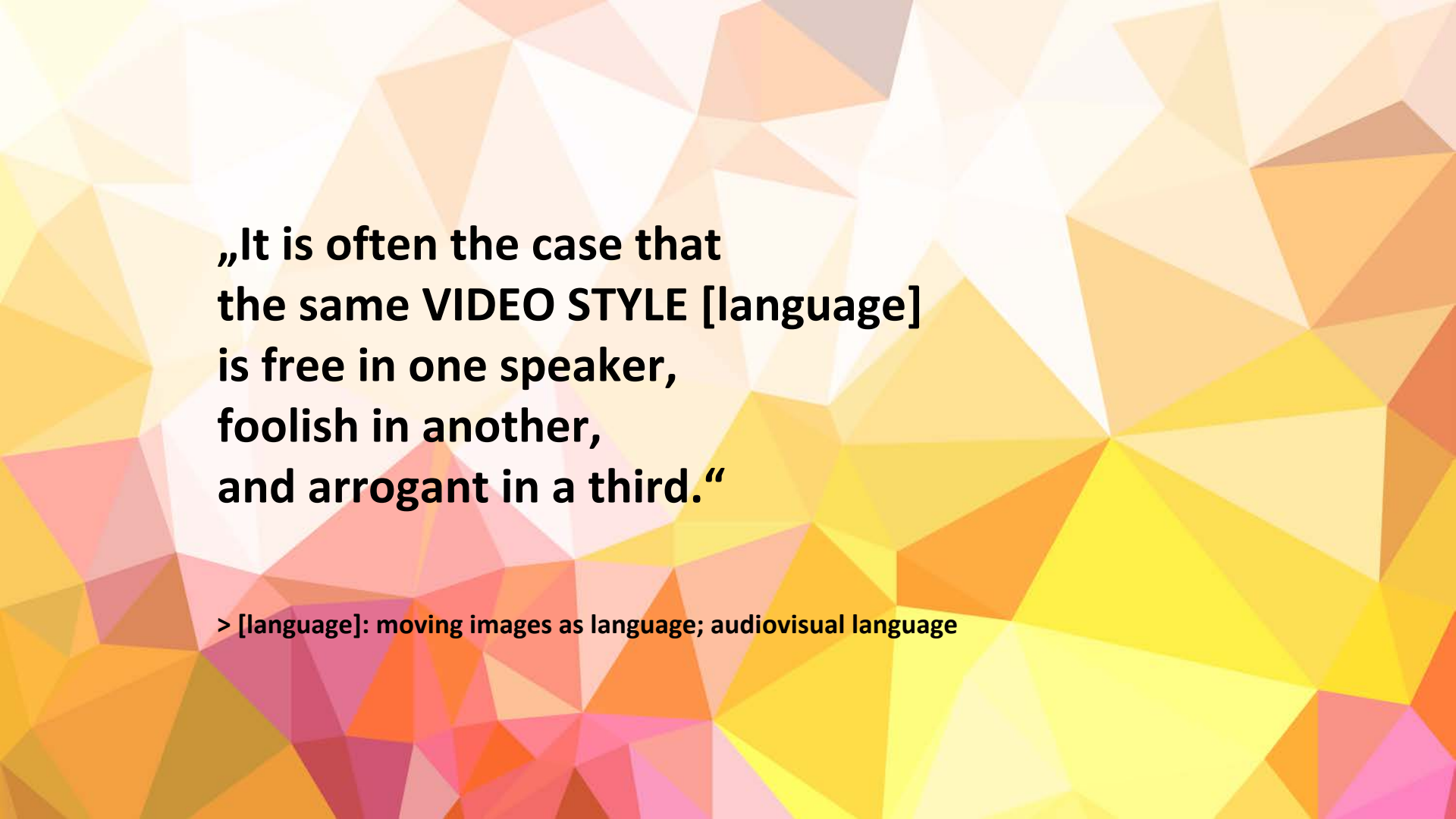
# CO-DESIGN

*Disciplines; Topics; Characters*



**„It is often the case that  
the same language  
is free in one speaker,  
foolish in another,  
and arrogant in a third.“**

*Marcus Fabius Quintilian, 50 B.C.*



**„It is often the case that  
the same VIDEO STYLE [language]  
is free in one speaker,  
foolish in another,  
and arrogant in a third.“**

**> [language]: moving images as language; audiovisual language**

# KEY TAKEAWAYS

- 1. The performance of speakers is essential in educational videos – embodied language!**

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1. **The performance of speakers is essential in educational videos – embodied language!**
2. **Media design can support or hinder the**
3. **Video  $\neq$  Copy. Media design knowledge meets scientific educational knowledge: Co-Design!**

## Manifesto Videos in Higher Education

*The manifesto is published under a CC-BY-SA Licence.*



<b>Boebel, Chris</b>	Mass. Institute of Technology	- e -	9
<b>Cannova, Sandro</b>	Freelance Filmmaker	- d -	19
<b>Cox, David</b>	Harvard University	- e -	27
<b>Ederer, Peer</b>	Zeppelin University	- d -	37
<b>Hainsworth, Clayton</b>	edX	- e -	49
<b>Hertling, Peter</b>	FH Kiel	- d -	61
<b>Kita, Sotaro</b>	University of Warwick	- e -	79
<b>Klopfer, Eric</b>	Mass. Institute of Technology	- e -	87
<b>Ruppertz, Lara</b>	prev. Iversity	- d -	95

105	- e -	Pedro, <b>Schloendorn</b>	prev. PRO7/SAT1
115	- d -	Christina Maria, <b>Schollerer</b>	FH Potsdam
123	- d -	Felix <b>Seyfarth</b>	University of St. Gallen
137	- e -	Emiliana, <b>Simon-Thomas</b>	UC BERKELEY
149	- e -	& Jason, <b>Marsh</b>	UC Berkeley
157	- e -	Nigel, <b>Smith</b>	Futurelearn
165	- e -	Esther, <b>Snelson</b>	prev. The Open University
		Jon, <b>Wardle</b>	National Film & Television School UK

«Media Design Expertise for Videos in Higher Education.

A Collection of Interviews with Lecturers, Filmmakers and Communication Experts from the Fields of Science Teaching, Media Design, Gesture Studies and Digital Education», open access, 2018.



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**Presentation available on:  
[audiovisualresearch.org](https://audiovisualresearch.org)**

**Manifesto Videos in Higher Education:  
[medium.com](https://medium.com)**

**Book «Media Design Expertise for Videos in  
Higher Education»,  
open access, 2018 on: [osf.io](https://osf.io), researchgate,  
[audiovisualresearch.org](https://audiovisualresearch.org)**

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