



Communicating science

Lyubov Kostova
Winter School: Innovation and Sustainability
Twin4Eco.eu



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Dissemination vs Communication

Promote/facilitate the use of the project / research results

Broader PR type activity reaching out to society as a whole

Научен интердисциплинарен семинар
"Информационно общество"



**Предизвикателства при
достъп до съдържание в
документи от хора със
зрителни увреждания**

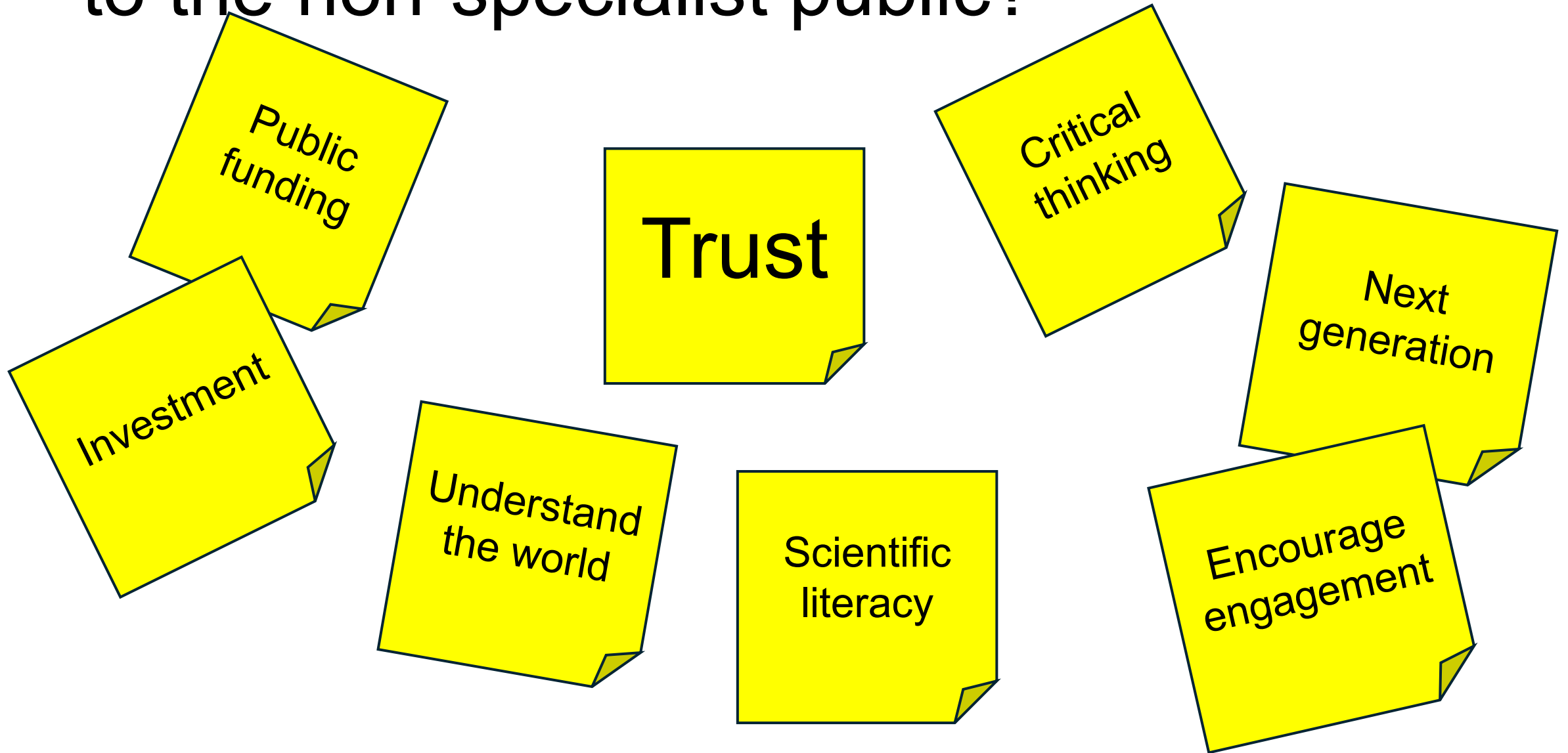
гл. ас. д-р Негослав Събев
Институт по математика и информатика към БАН

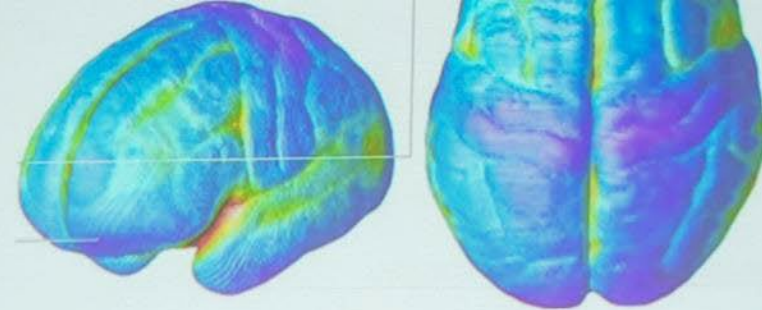
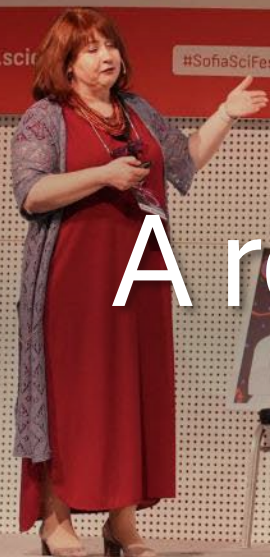


28 Юли 2022 г. (четвъртък от 17:00 ч.),
гр. Велико Търново, ул. Никола Габровски, №78, Институт по математика и
информатика при БАН и на живо в система Jitsi – <https://meet.jit.si/INIS>



Why even bother communicating science to the non-specialist public?

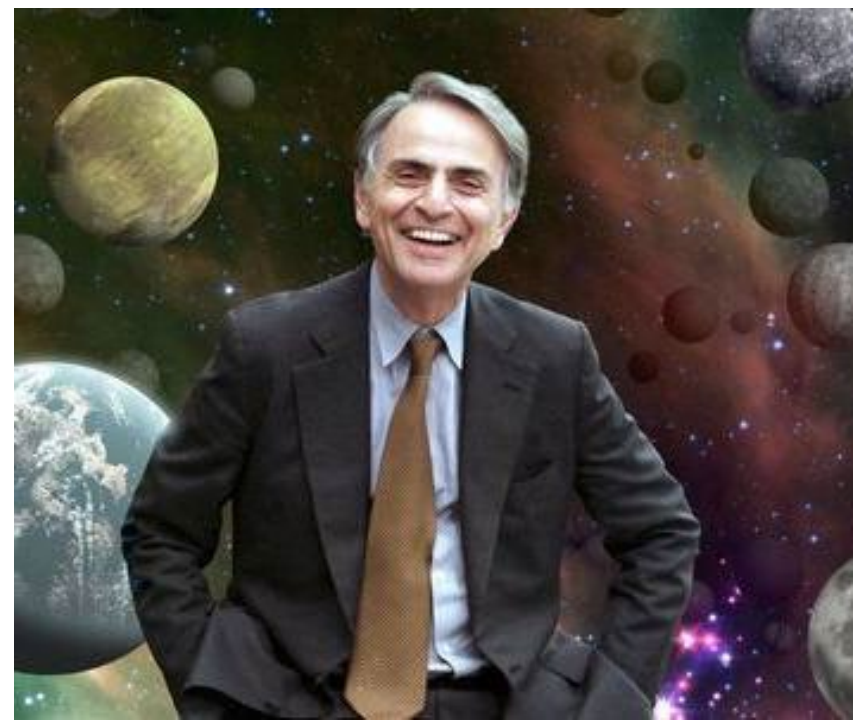
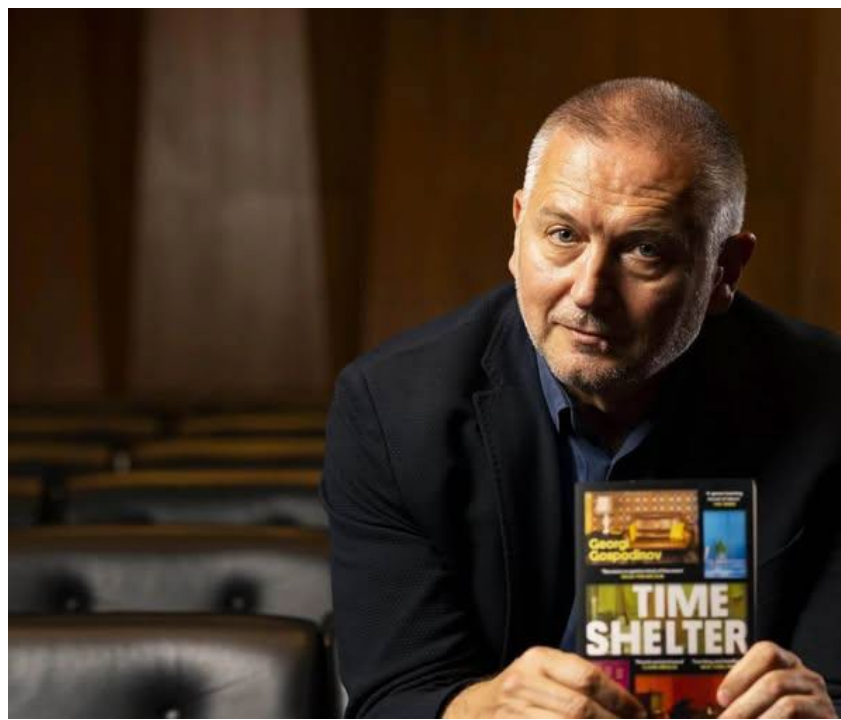




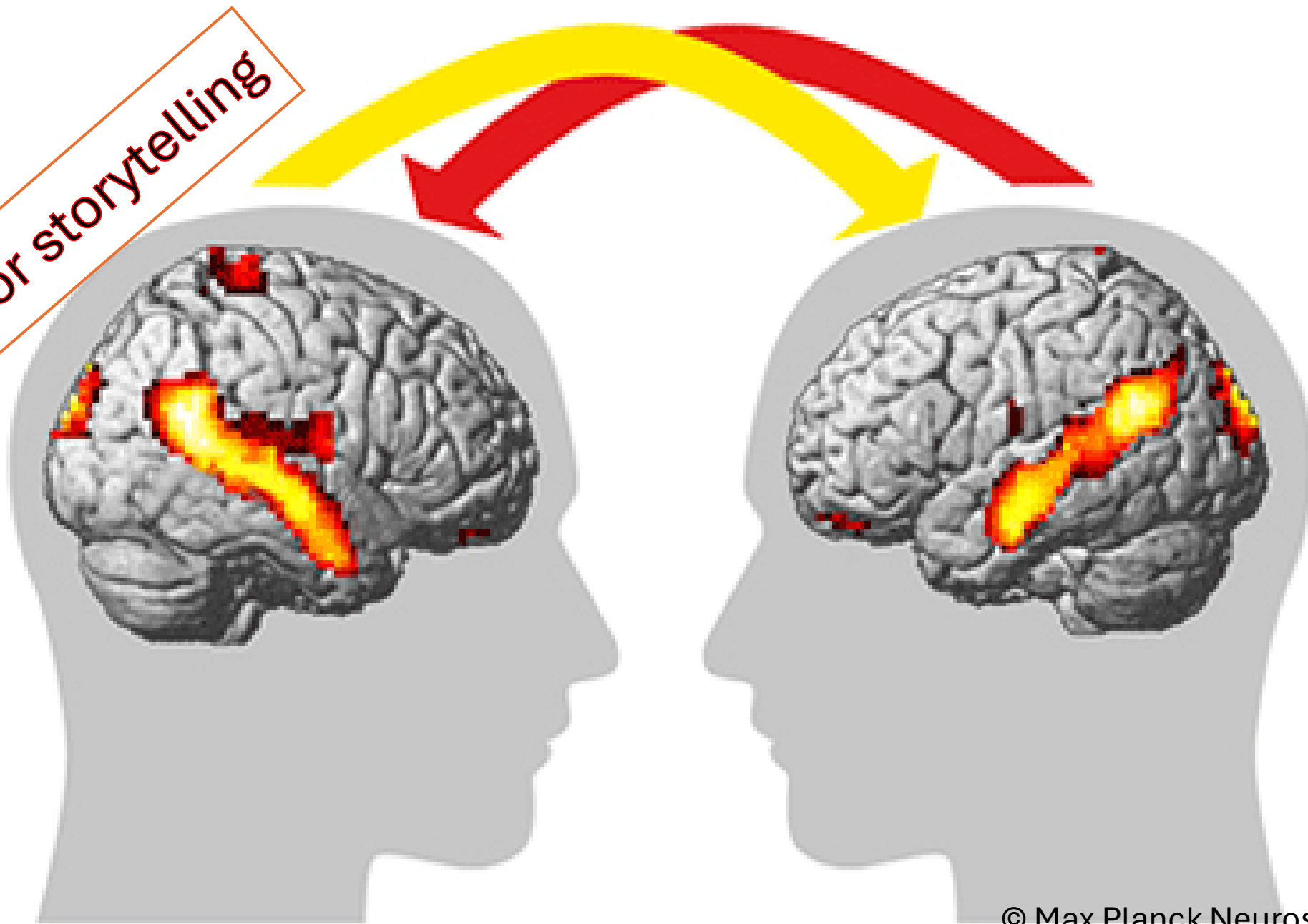
17 години

A really good story!



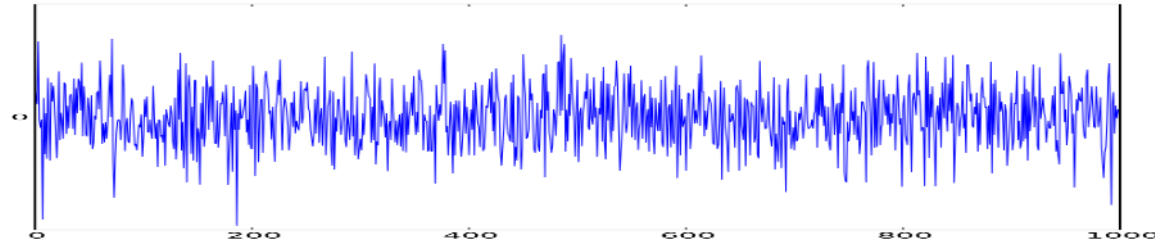


Hardwired for storytelling



[illegible]

The communication process



Sender



Encoding



Message



Channel



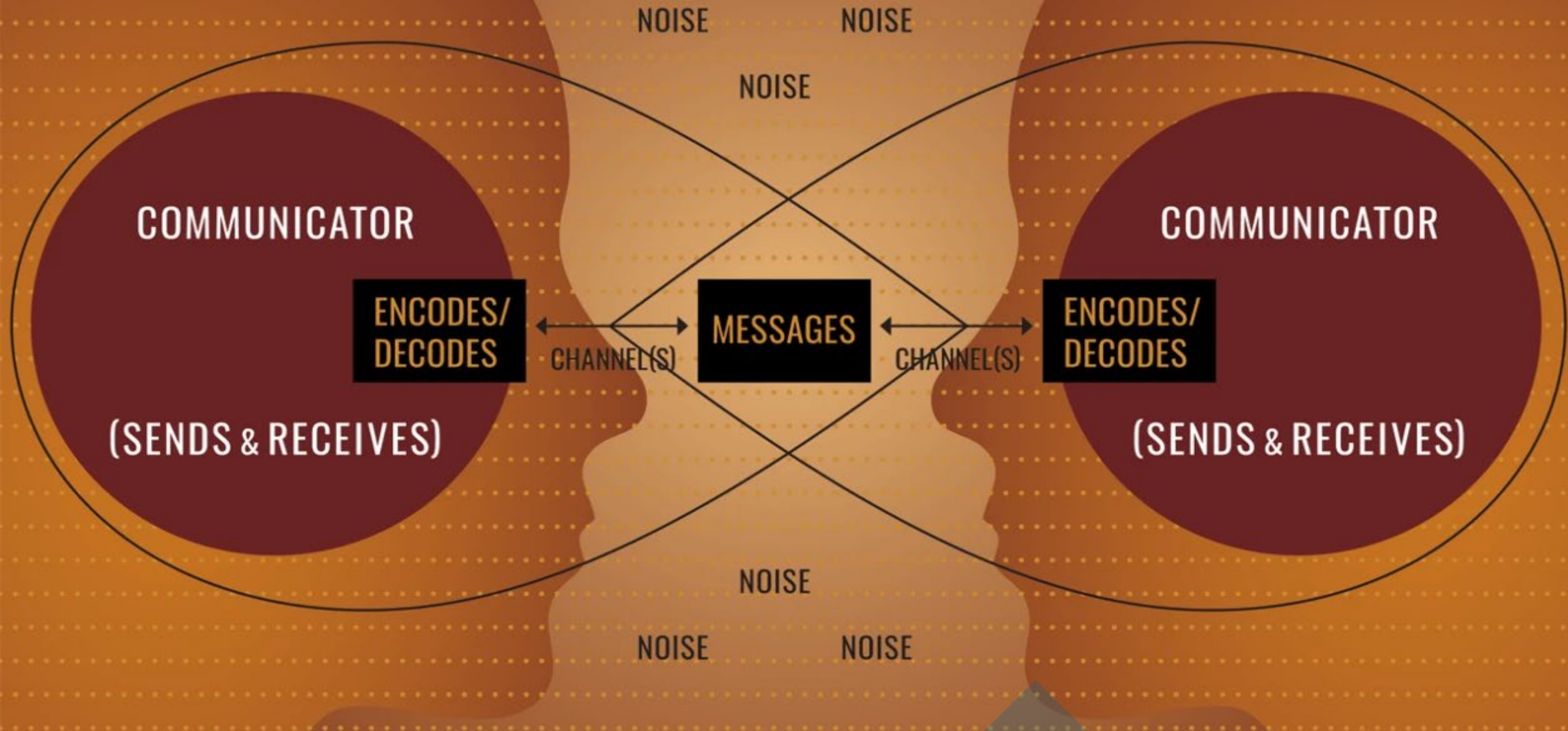
Receiver



Decoding



TRANSACTIONAL MODEL OF COMMUNICATION





If you talk to a man in a language
he understands, that goes to his
head. If you talk to him in his own
language, that goes to his heart.

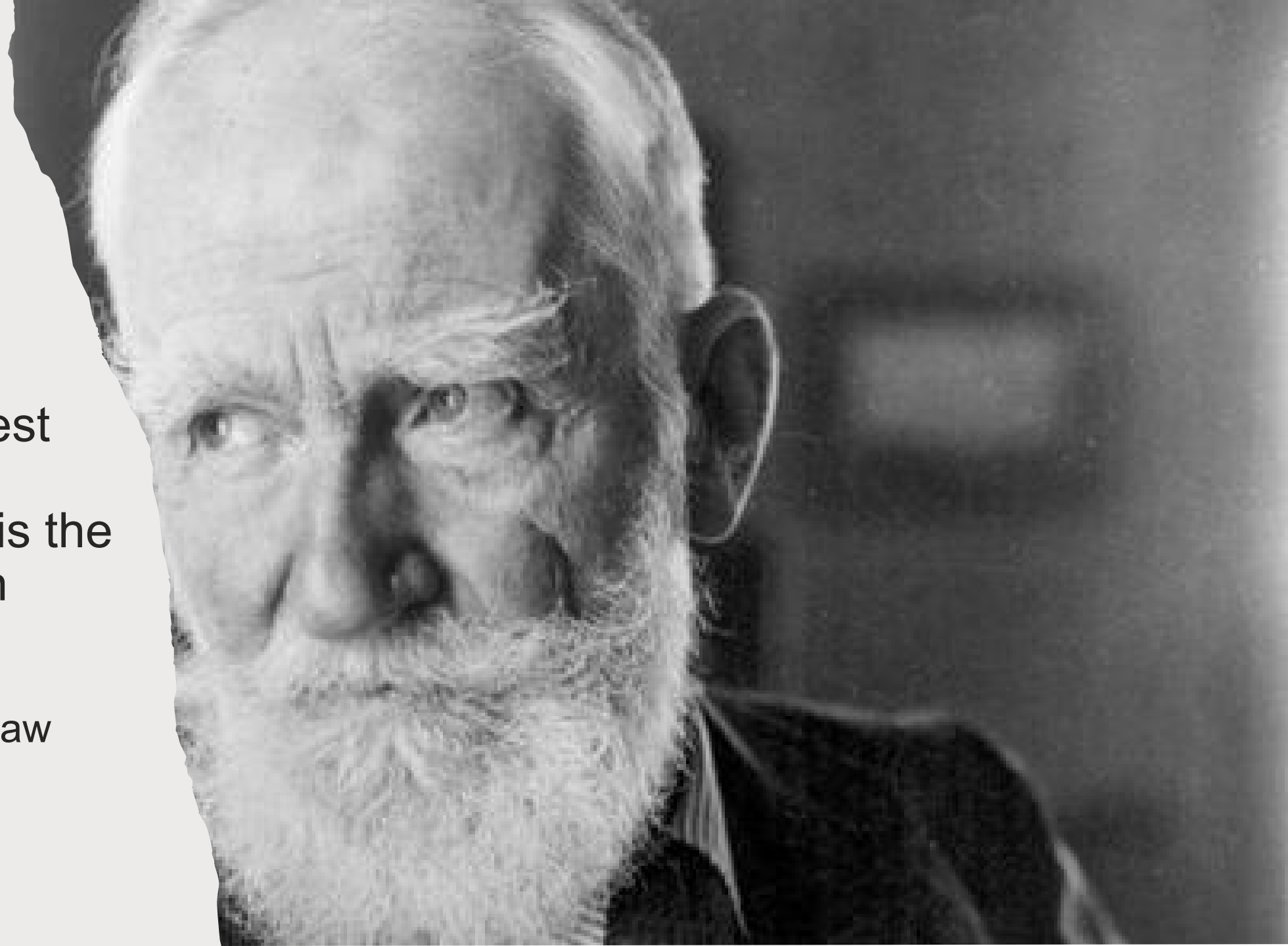
Nelson Mandela

Кажи му „аго“ да му стане драго.

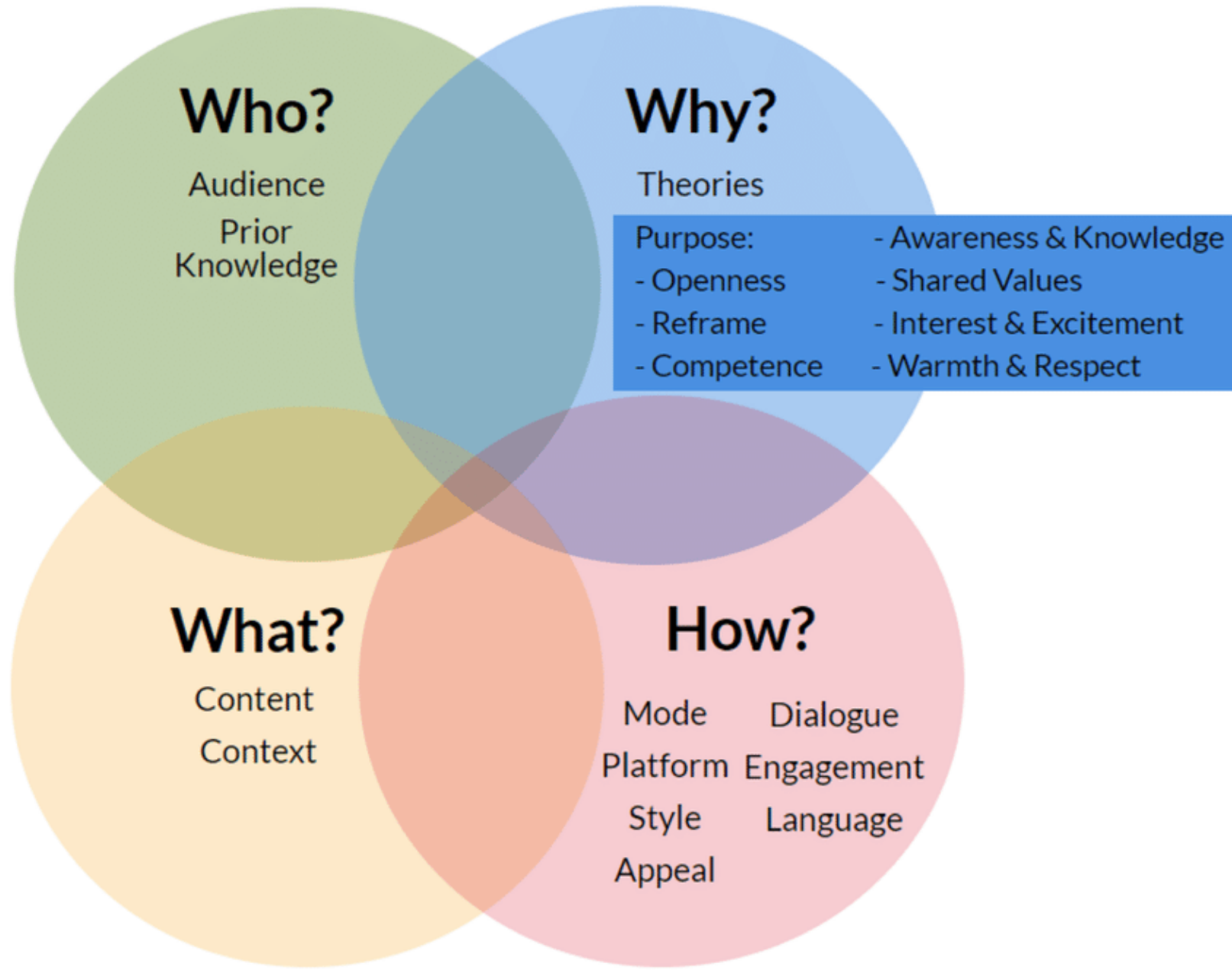
българска поговорка

The single biggest
problem of
communication is the
illusion it's taken
place.

George Bernard Shaw

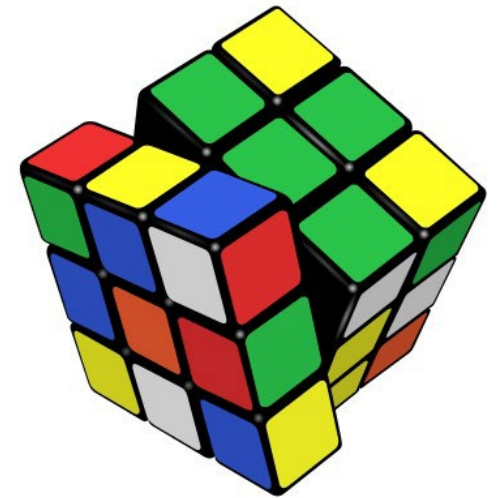


The Essential Elements for Effective Science Communication



Overview of the Essential Elements for Effective Science Communication (EEES) framework (adapted from Wack et al., 2021). Elements are organized into interrelated strategic categories of who, why, what, and how. The element of purpose is broken down into important SciComm objectives as defined by Besley et al. (2018)

7 good questions to answer for yourself



A man with a beard, wearing a dark shirt, is looking up in awe at a massive, ancient stone face carved into a cliff. The face has a long, flowing beard and intense, weathered features. The word "What?" is written in large, white, sans-serif font across the center of the image, with a white horizontal line underneath it.

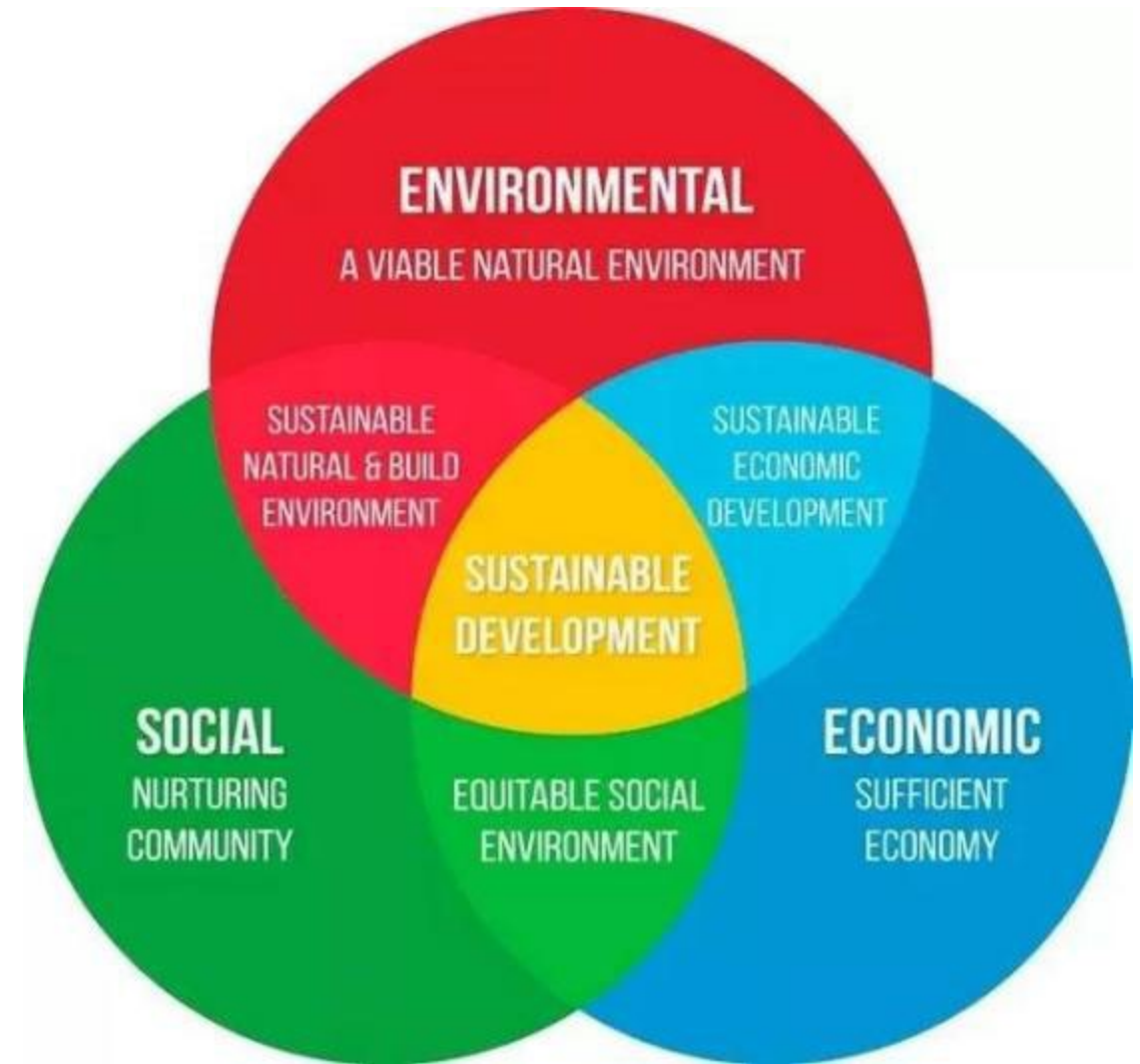
What?

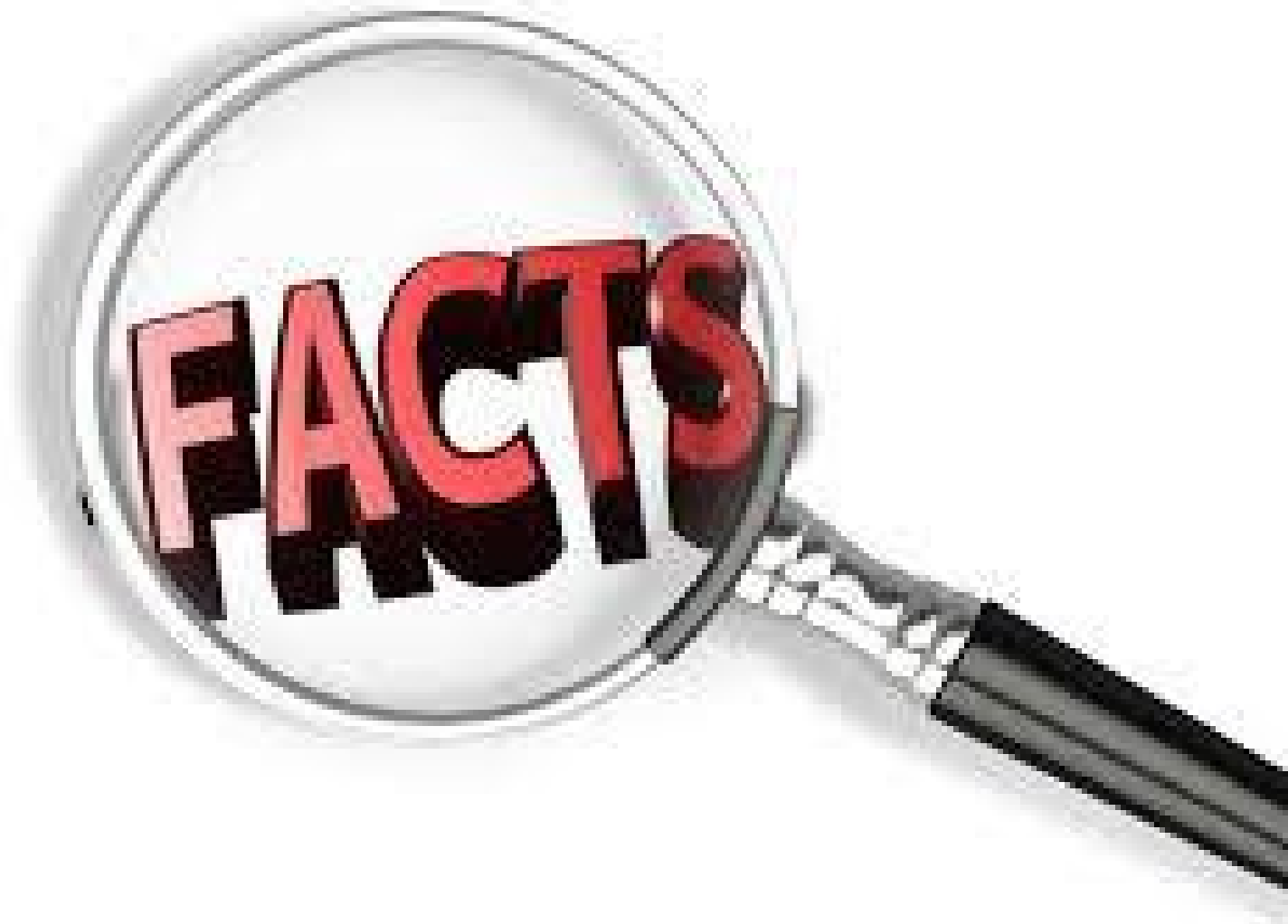
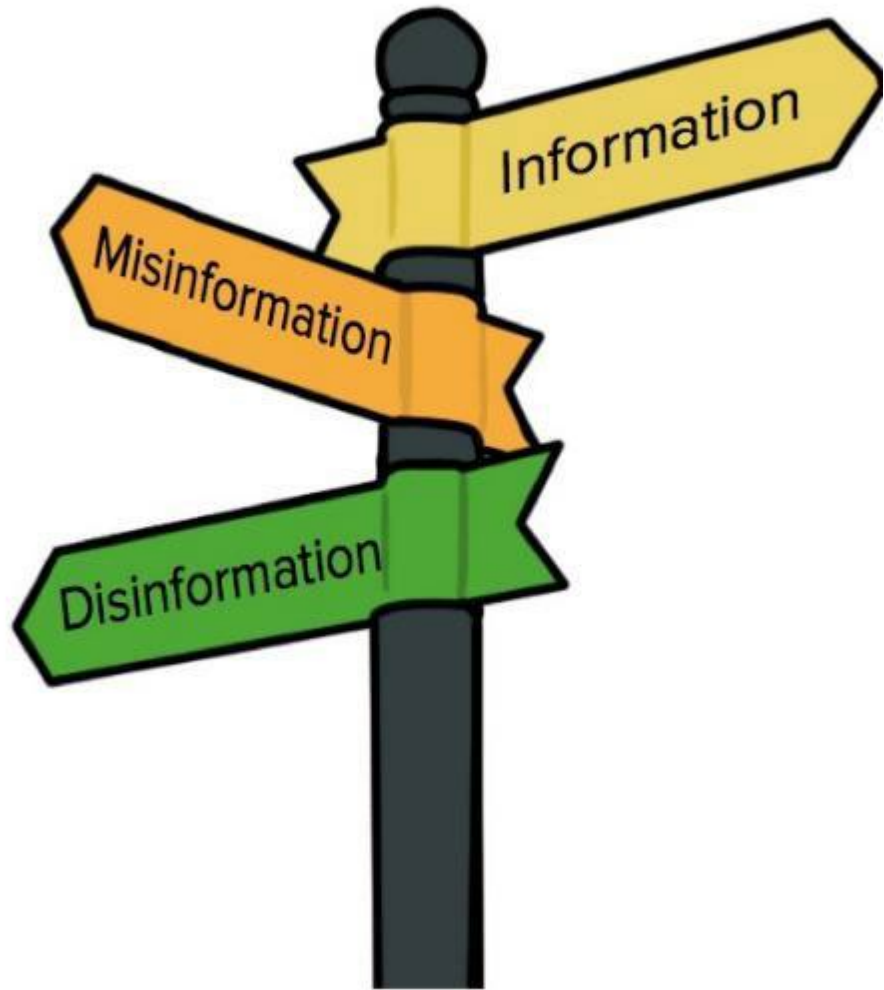


Why?

Why science?

SUSTAINABLE DEVELOPMENT GOALS

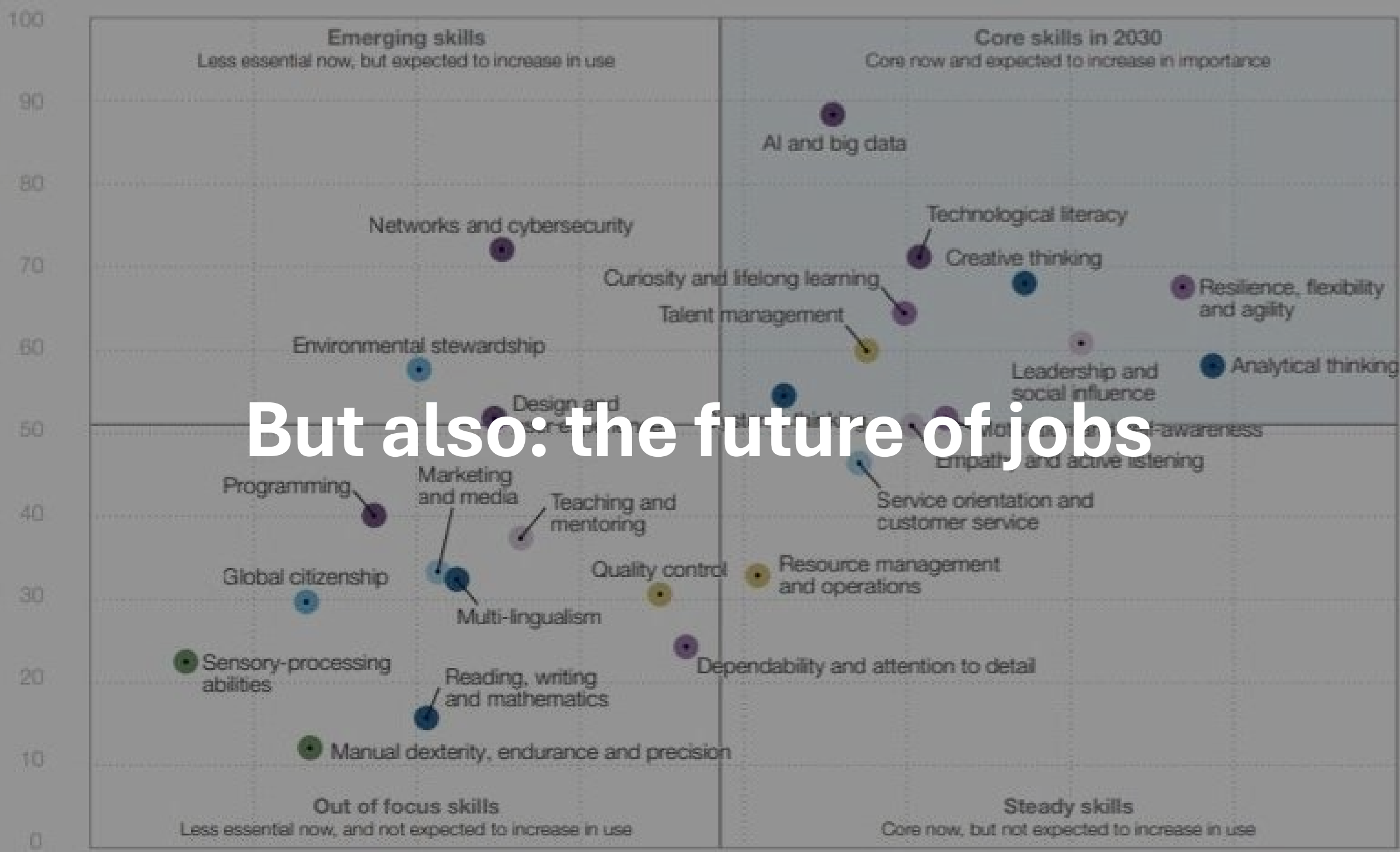







Role models

Share of employers expecting increasing skills in use by 2030 (%)



But also: the future of jobs



Who?
Who for?
Who with?



Know your audience

Who are they?

age

What do
they do

What
makes
them tick

barriers

habits

Who do
they trust

beliefs

What are
their
biases

language

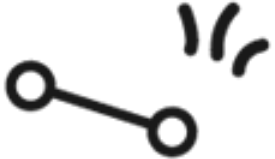
education

What's in
it for them

Where are
they

What
happens if
left out

Who else
has tried



Research shows that **62%** of students who enter kindergarten with limited exposure to science struggle with science in 3rd grade, and **54%** still struggle in eighth grade.

— American Educational Research Association



Inclusion and special ed

<https://bom.org.uk/learning-inclusion/>

Collaborative Immersive Studio

Digital creative storytelling is at the heart of what we do and we combine these skills with cutting edge technology to produce unique and compelling interactive content.

[Learn More](#)



CHILDREN & YOUNG PEOPLE

Children & Young People

Our schools programmes are empowering young Black and SEND learners across Birmingham and beyond to unleash their creative potential. We also run monthly creative coding workshops and our flagship annual Summer Camp.

Powering Up

Powering Up is a 3 year, Paul Hamlyn Foundation funded project working with black children at

Engineering Inclusive Futures

Engineering Inclusive Futures is a bespoke project to elevate disabled



Teacher Guides

Teacher Guides are free, downloadable PDFs.

Art and the Electromagnetic Spectrum

How do museum conservators apply science to analyze the condition of an artwork?

This lesson will help students understand applications of electromagnetic radiation in art conservation.



Primary Subject and Grade: 9-12 Science

Secondary Subject and Grade: 9-12 Visual Arts

Components: Lesson Plan, images, Student Activities

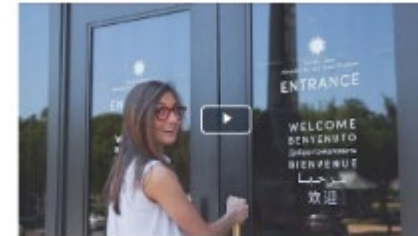
Standards: Science 9-12.5 Science and Technology; 9-12.6 Personal and Social Perspective.

Visual Arts K-12.6 Making Connections Between Visual Arts Disciplines.

[Download Te](#)

Electronic Superhighway

Auroras Are Weird



[Description](#)

[Transcript](#)

What do arctic explorers, solar burps, and the Civil War have to do with American art?

SAAM's *ReFrame* explores American art's many meanings and connections with experts across the Smithsonian.

In this episode of SAAM's award-winning web series *ReFrame*, join host Melissa as she crisscrosses the Smithsonian to learn about the Northern Lights and their depiction in a Civil War-era landscape painting.

Graphite!



[Description](#)

[Transcript](#)

In this episode of SAAM's award-winning web series *ReFrame*, join host Melissa as she crisscrosses the Smithsonian to learn about the material properties of graphite and a sculpture "of the land made from the land."

Science & Art: The Smithsonian

<https://americanart.si.edu/education/k-12/resources/science>

So many ways to cut the pi(e)

- Written / oral
- Direct participation / contribution, co-authorship
- Stand-alone / longitudinal / regular
- Engage / inspire / include / encourage
- Interdisciplinary
- Fundamental / new research
- ...





ИНСТАЛАЦИЯ "В МАЛКИЯ ГОЛЯМ СВЯТ НА ПРИЛЕПИТЕ"



ТАНГО В КОСМОСА



МОВИМЕНТО/ВАРИАЦИИ



В МАЛКИЯ ГОЛЯМ СВЯТ НА ПРИЛЕПИТЕ



- Art: photo / video / theatre / dance / music / books / poetry
- On stage: show, presentation, panel discussion; competitions
- Pre-formatted: Café Scientifique; A Pint of Science; Science Ambassadors, TEDx
- Festivals, science centres
- Websites, blogs, podcasts, social media
- Media interviews, articles
- Open lab
- Workshops
- Citizen science





Да си поиграем със светлината

Светлината е навсякъде около нас и без нея животът ни би бил немислим. От гледна точка на физиката, тя е...



Бум, квак, тряс!

Гледайте с децата си това научно шоу на Явор Денчев! От квакащи жаби и тътен на гръмотевици, през...



Тъмната страна на Вселената

Над 80% от материята във Вселената не излъчва и не поглъща светлина. За нейното съществуване съдим по...



Екстремни химични елементи

Понастоящем са известни 118 химични елемента, 20 от които са получени единствено в лабораторни условия, а...



От местопроизшествието

Той е физик, но вече е участвал в над 20 експертизи по досъдебни производства и съдебни дела, повечето за...



Изкуствен интелект и етика

През последните години изкуственият интелект тихо, но отчетливо навлиза във всяка област на живота ни...



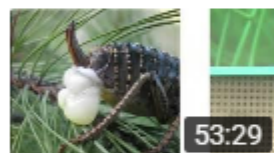
Тайните и красотата на мозъка

Тялото ни едва ли има по-голяма загадка от човешкия мозък. Но какво знае съвременната наука за него?...



Биохимия на стреса

Как хроничният стрес се отразява върху метаболитните процеси в организма, респективно върху здравословнот...



Влюбената дървеница

Става дума за секс, но този път през погледа на насекомите. Гледайте, за да научите няколко стряскащи...



Възход и падение на бозайниците

Хората сме бозайници, подобно на повече от 6,000 други животински вида – от мишките и прилепите до слонове...



Без възраст

Човек неизбежно натрупва години, но можем ли да забавим процеса на стареене или дори малко да обърне...



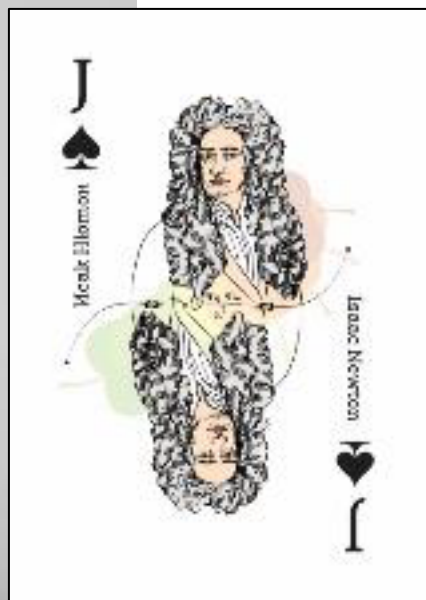
НАЧАЛО / НОВИНИ / НАУКА

Кое е любимото грозно животно на София

Софийският фестивал на науката приключи

НАУКА OFFNEWS | ПОСЛЕДНА ПРОМЯНА 18 май 2015 в 11:34  721  1





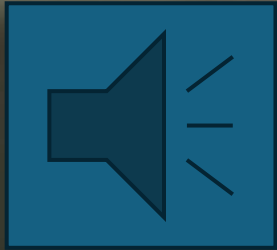
- right means of expression
- + right tone of voice
- + right audience
- + the right place
- + at the right time
- = communication / impact of message





A dozen of Lyubov's top tips

- Be clear (to yourself) re your communication goals
- Care about the details – ask!
- Think it through, plan and practise
- Tailor content/tone to your audiences
- Start with the most critical information
- Confidentiality / legal
- Avoid jargon (and abbreviations!)
- Visualise / contextualise data
- Dress appropriately (be yourself)
- Body language
- Share your passion (let your eyes speak)
- Be confident (you're the expert!)
- Get training





Thank you!
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