Storytelling-Principles for Scientists

Giving your grant proposal the persuasive edge

Focus: When and how to use literary communication-techniques for proposal-writing
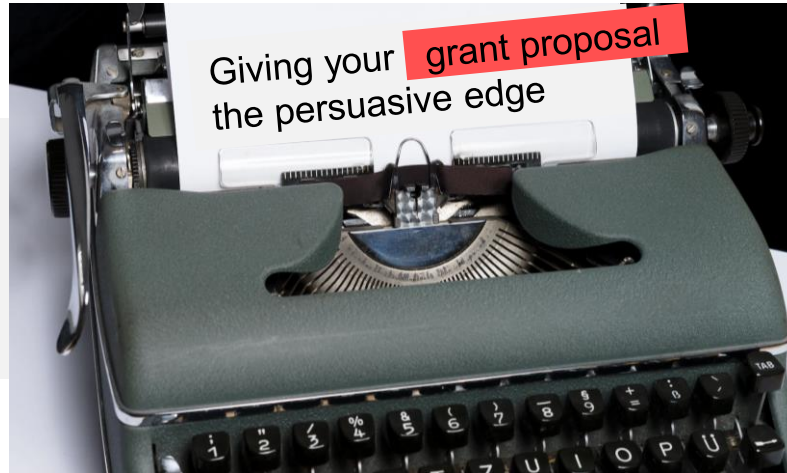
Output: Draft of an abstract of your proposal reflecting story-telling principles.

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Stories are a particular type of message

Message

Emotions ←——— **Primary strategy for persuasion** ———→ Logic

PARAMETERS OF MESSAGE DESIGN

Stories

	CONTENT	
subjective experiences („human touch")	**CONTENT**	topical information (e.g. empirical facts, conceptual structures)
maximising for effect (drama, surprise, twists …)	**COMPOSITION**	maximising for consistency and coherence (in reasoning, presentation)
Vivid, rich in associations, variety	**LANGUAGE**	technical, standardised, neutral, abstract

Reports

Decision matrix: when to make use of storytelling principles?		Are your expertise and accomplishments enough to convince your audience?	
		Yes	No
Is audience scientifically homogenous?	Yes	Report	
	No		Story

Dealing with the risk of stories II
Use story principles inconspicuously by creating „hybrid messages"

Message Form	
Content	
Composition	
Style	

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Pure Story	
Content	Subjective experiences
Composition	Dramatic effects
Style	Vivid language

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Pure Report	
Content	Topical information
Composition	Coherence
Style	Technical language

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Report with story elements	
Content	
Composition	
Style	

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Report with story elements	
Content	
Composition	
Style	

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You have multiple options to add „subjective experiences" in your scientific communication

(Some) **Forms of „subjective experiences"** availabe to describe your research

These options are even available, if you do „basic research", without immediate impact

Impact on others' lives

The **experience** of doing science

Mimicking subjective experiences (anthromorphising)

… on a specific group

… on „people" in general

Your own experience

Experience of others (e.g. eminent scientists)

GUIDING QUESTIONS

- Is there a link between your research and an entity/process that affects the lifes of others (people in general, a specific group, your audience)?

- How did an insight come about?
- Have there maybe been unexpected events (suprises, challenges, chance, coincidences etc.) in the process?

- Can the topic be described with words and phrases that are typically used for describing human experiences?
- Who could be the hero/ine in your story?

Captivating stories provoke changes in the audience's emotional responses

Emotional states

Alertness

Tranquillity

DISTURBANCE
(e.g. a problem, a challenge)

CONSEQUENCE
(response or action to resolve the disturbance)

The current **ORDER** of things (state of the world, equilibrium)

Dramaturgy ("plot") of captivating stories: Describe to …

Time (t)

E_1

tE_2

E_3

… inform

… raise tension

… lower tension
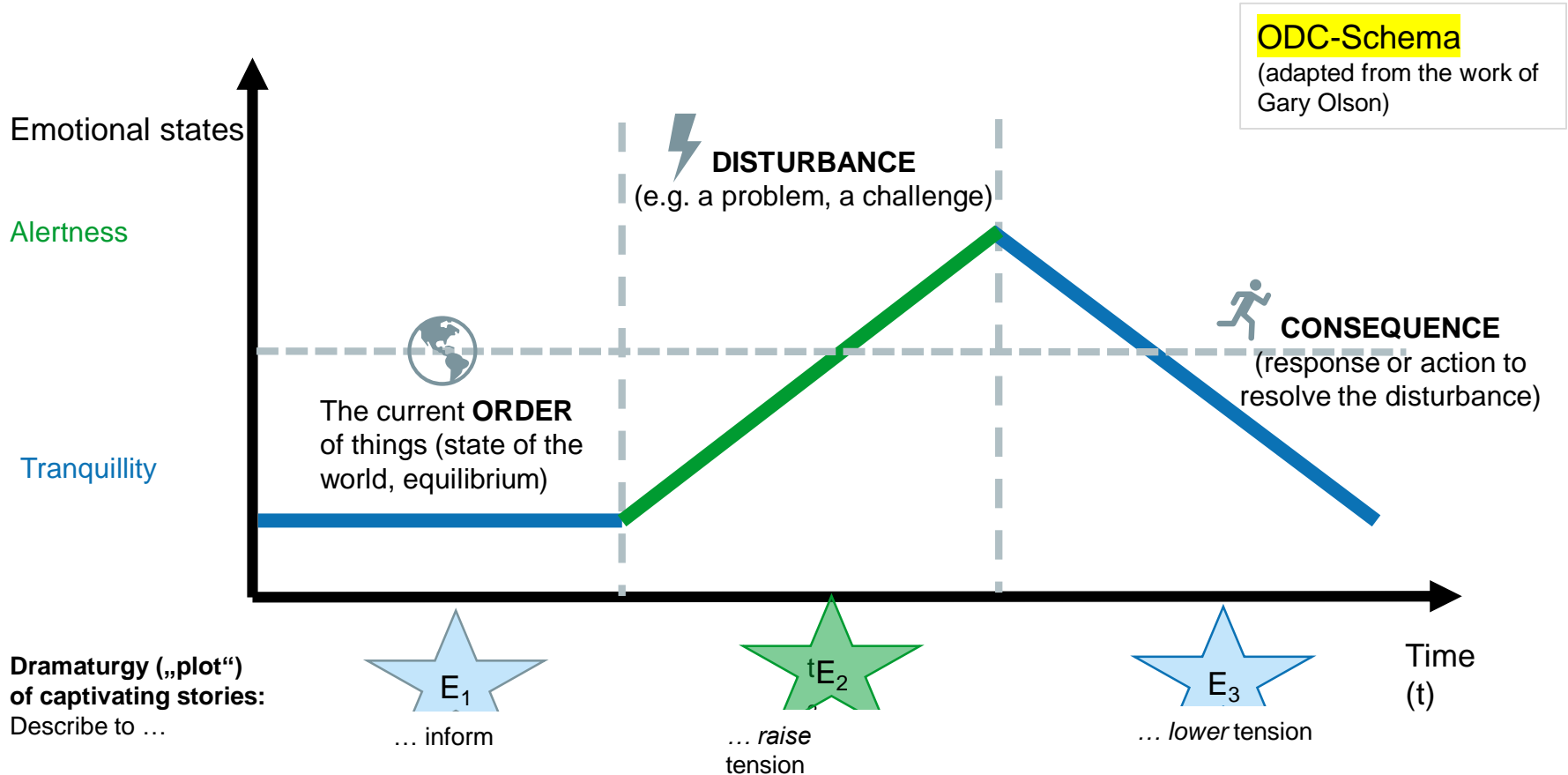
1 The portrait of a black hole

**J. ANTON ZENSUS
MICHAEL KRAMER
KARL M. MENTEN
SILKE BRITZEN**
↘ *Max Planck Institute
for Radio Astronomy,
Bonn*

Black holes are exotic objects that spark the imagination of researchers and science fiction authors equally. But despite many indirect indications of their existence, these celestial giants in space have so far eluded observation. Only with modern technology has the invisible become visible. The Event Horizon Telescope – a combination of seven radio telescopes spread across half the globe – has produced the first image of a black hole at the centre of the galaxy Messier 87. More than 30 employees from the Max Planck Institute for Radio Astronomy in Bonn contributed to this success.

2 A deadly bite

ENA A. LEVASHINA
↘ *Max Planck Institute
for Infection Biology,
Berlin*

Most mosquitoes are no more than a nuisance. But the bite of an Anopheles mosquito can be fatal, if it contains malaria parasites. By studying the interactions between the vector, pathogen, and the host, we want to build up scientific bases for interruption of disease transmission.

Principles for using the „ODC":
A dramatic story includes three events

Emotional States

DISTURBANCE

CONSEQUENCE

ORDER

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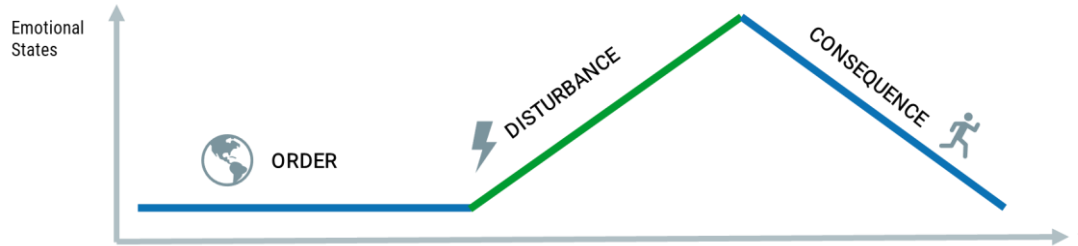
To tell a dramatic story, you need three events!

A helpful analogy

Stating a fact   **vs.**   **Communicating a fact with a story**

„The earth is a sphere."

„For centuries, humans believed the earth was flat.

But we know have evidence that the earth is a sphere.

Therefore, we should dismiss alternative views."

≈

Image: Unsplash (Crazy Cake)

Communicating a fact through a story is **like giving a birthday present**: as the gift is usually accompanied by a card and some wrapping, a fact is embedded in the triplet of dramatic story-events: order, disturbance, consequence.

There is no limit for using the ODC in your communication
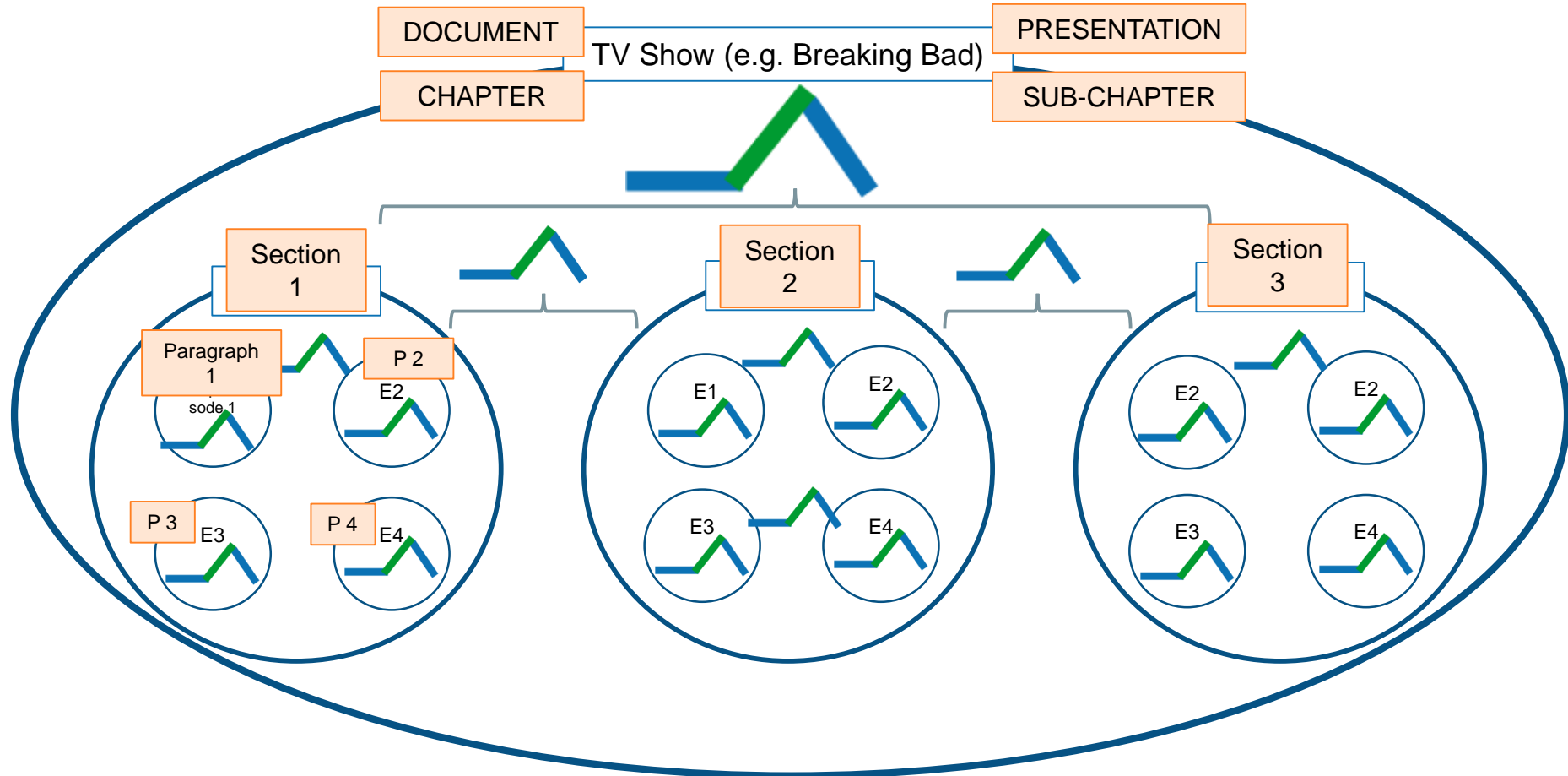
PLiK plots contain multiple story elements (ii)

The current state of the world (status quo)

An intervention (to change the status quo)

The future state of the world (as a consequence of the intervention)

The Obstacle
An explanation for why the beneficiary has not achieved the goal, yet

The Action Plan
The specific steps to turn the promise into reality (e.g. process, components, methods)

The Goal
solving someone's problem, fulfilling someone's need

The Root Cause
Explanation for why „the obstacle" is such a problem („root cause") AND the justification for a different approach

The Insight
The change in perspective, the innovation that is capable of undoing the „root-cause" of the obstacle (and thus the obstacle itself)

The Wider Benefits
The possibilities of your solution above and beyond the beneficary's original goal

A (counterfactual) example of proposal story

(Imagine Johannes Gutenberg would have written a grant proposal)

Understanding of reproducing documents

A compelling goal/promise
Reproduce documents faster

The wider benefits
Disseminating information

An action plan
Combine technologies

A revelation/ insight
Replace manual labor with mechanical labor

An obstacle
Reliance on manual labor

The root cause
Natural limits to gains in speed

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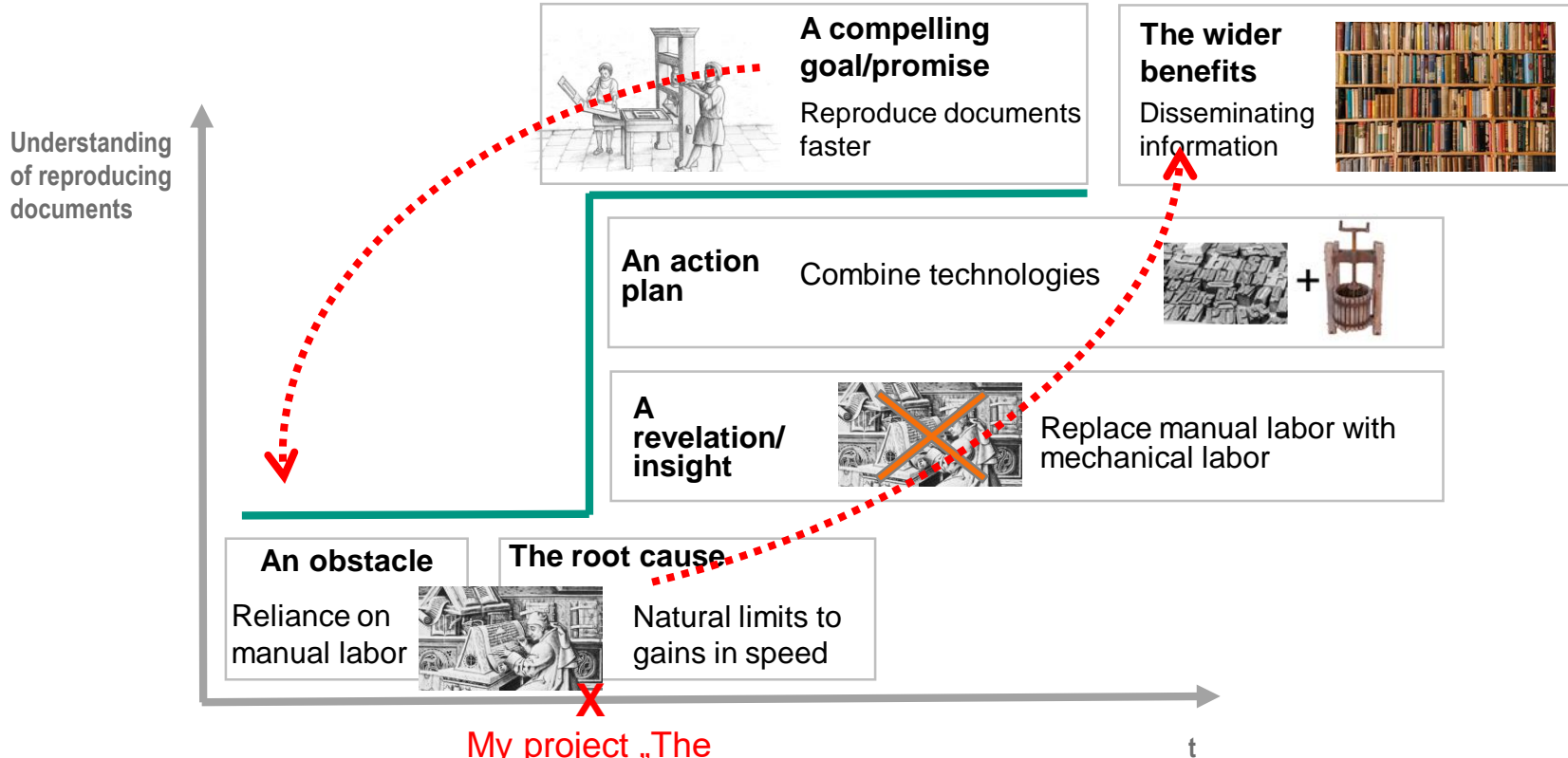
My project „The Printing Press"

A (counterfactual) example of a proposal story

(Imagine Johannes Gutenberg would have written a grant proposal)

Proposal for an initiative to invent a mechanical book press	
Our goal is …	… to make the reproduction of written documents faster.
Up to now, this goal could not have been achieved because …	… documents are replicated by hand.
Yet, we also have to recognise that …	… there is a natural limit to the speed with which humans can write, severely limiting the gains in efficiency that can be reaped by focusing only on manual labor.
In order to move forward, we thus suggest a novel approach, i.e. to …	… reduce the involvement of humans in copying documents. Instead, we want to use mechanical devices in this process.
To realise this change in perspective, we will …	… examine mechanical devices in other domains for their potential to serve as a basis for a machine that copies documents. Given our experience in multiple domains, in particular printing (moveable letters) and wine-making (pressing grapes), we will consider combining these two technologies into one new device: the printing press.
Once our goal has been established, further benefits will follow from it, such as …	… a massive growth in the number of documents that can be reproduced, thereby making information and knowledge accessible at an unprecedented scale.

In PLiK plots, the audience drives the story

The current state of the world (status quo)

An intervention (to change the status quo)

The future state of the world (as a consequence of the intervention)

The Obstacle
An explanation for why the **BENEFICIARY** has not achieved the goal, yet

The Action Plan
The specific steps to turn the promise into reality (e.g. process, components, methods)

The Goal
solving **SOMEONES** problem, fulfilling someone's need

The Root Cause
Explanation for why „the obstacle" is such a problem („root cause") AND the justification for a different approach

The Insight
The change in perspective, the innovation that is capable of undoing the „root-cause" of the obstacle (and thus the obstacle itself)

The Wider Benefits
The possibilities of your solution above and beyond the **BENEFICARY'S** original goal

Your abstract can be written entirely as a (condensed) proposal story

Your proposal	
[Goal] **Our goal is …**	
[Obstacle] **Up to now, this goal could not have been achieved because …**	
[Root Cause] **Yet, we also have to recognise that …**	
[Insight] **In order to move forward, we thus suggest a novel approach, i.e. to …**	
[Action plan] **To realise this change in perspective, we will …**	
[Wider Benefits] **Once our goal has been established, further benefits will follow from it, such as …**	

Dr. Stefan Götze

Applying PLiK plots: What are your story elements?

Who is your „audience"? Who (what specific community) benefits from your poject?

The Obstacle
Why has the beneficiary not achieved the goal, yet?

The Action Plan
How will you turn the goal into reality?

The Goal
What problem will you solve?

The Root Cause
Why is „the obstacle" such a problem?

The Insight
What is your innovative approach that is capable of undoing the „root-cause"?

The Wider Benefits
What are possibilities of your solution beyond the original goal?

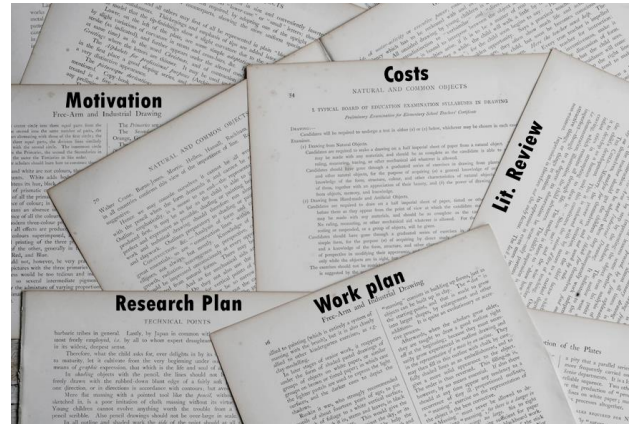Dr. Stefan Götze   KHYS

Application process often have both scripted and unscripted elements

Process steps **without templates** or only little restrictions on form:

- Abstract/Summary Statements
- Presentations
- Interviews/Q&A

→ You can tell your „pure" story

If you are given **templates** or other forms of design restrictions:

- seek correspondences between your story (elements of it) and the template
- Use structural and linguistic story elements