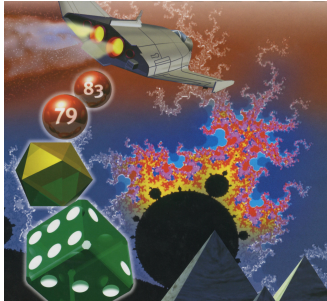


“Public Understanding of Science”

“Communicating with Society”



Günter M. Ziegler

WSF Budapest, November 2015

Disclaimer #1

TU intern - Februar/März 2001 - Menschen

Können Sie in zwei Sätzen erklären ...?

Mathematische Forschung in der Öffentlichkeit - Leibniz-Vorlesung von Günter M. Ziegler

Quasi über Nacht berühmt werden und im Anschluss daran tagelang die Seiten der Zeitungen füllen - wer träumte nicht davon? Einer, dem es so gerade ergangen ist, ist Prof. Dr. Günter M. Ziegler vom **Fachbereich Mathematik** der TU Berlin. Denn am 8. Dezember 2000 gab die **Deutsche Forschungsgemeinschaft** (DFG) die Preisträger im **Gottfried-Wilhelm-Leibniz-Programm** für das Jahr 2001 bekannt. Insgesamt werden elf Wissenschaftler mit dem höchst dotierten deutschen Förderpreis ausgezeichnet - unter ihnen auch Günter M. Ziegler. Am 31. Januar hielt er an der TU Berlin seine Leibniz-Vorlesung, die wir in einer gekürzten und leicht bearbeiteten Fassung abdrucken.



Die ganze Sache kam für mich ja ziemlich überraschend, und der dazugehörige Presserummel hat mich ordentlich überrollt. Man ist ja als Mathematiker nicht unbedingt gewohnt, Interviews zu geben und Schlagzeilen zu produzieren. Wenn's dann doch passiert - und der Anlass ist allemal ein erfreulicher -, dann steht man den Fragen eben relativ unvorbereitet und schutzlos gegenüber. Aber es ist doch interessant, wenn jetzt plötzlich eben ein Mathematiker im Rampenlicht steht, sich anzuschauen, welche Fragen dem dann eigentlich gestellt werden.

Ich habe deshalb gedacht, es könnte lohnend sein, im Abstand von

Disclaimer #2



„Noch 10 Sekunden –!“

„Noch

6

Sekunden!“

(6) “Learn to communicate, be willing to do so”

**The Public Understanding
of Science**

The Royal Society 1985



*The Royal Society
of London*

(6) “Learn to communicate, be willing to do so”

“But our most direct and urgent message must be to the scientists themselves: Learn to communicate with the public, **be willing to do so** and consider it your duty to do so.”

(“The Public Understanding of Science”, London 1985)

„Noch

5

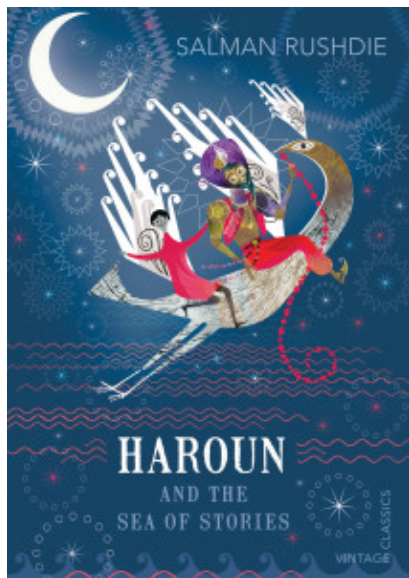
Sekunden!“

(5) “The Public Understanding of Science” is impossible

“All scientists are requested to present their work publicly also in a form that is understandable for the non-specialist.”

(German PUSH Memorandum 1999)

(5) “The Public Understanding of Science” is impossible



„Noch

4

Sekunden!“

(4) “The Public Understanding of Science” is necessary

“**Somebody else's problem** is a psychological effect where people choose to dissociate themselves from an issue that may be in critical need of recognition.”

(Wikipedia)

„Noch

3

Sekunden!“

(3) What is [Your Science] about?

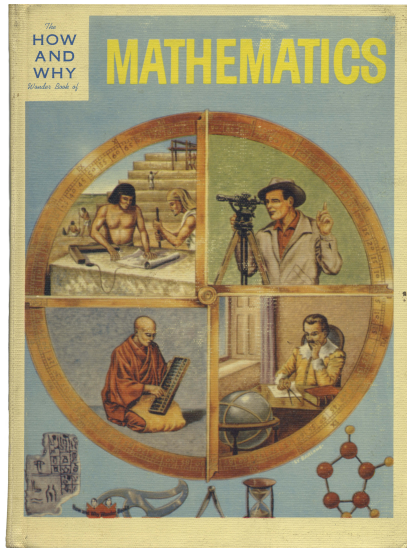
“The student’s views of maths itself included narrow and inaccurate **images** that are often limited to **numbers and basic arithmetic.**”

(Medick et al. 2008)

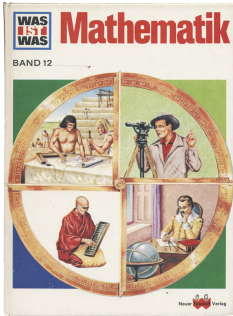
(3) What is [Your Science] about?



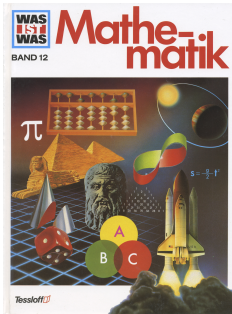
(3) What is [Your Science] about?



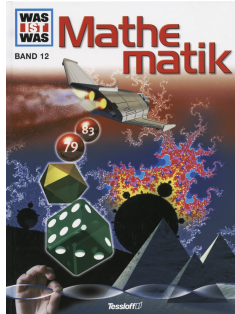
(3) What is [Your Science] about?



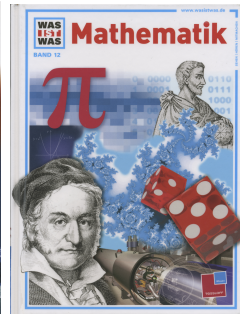
1963



1983



2001



2010

„Noch

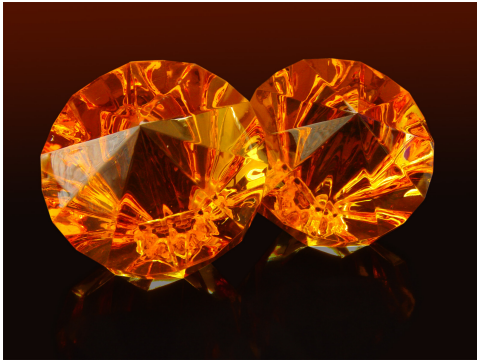
2

Sekunden!“

(2) Communicating Science is about emotions!

“I hope that the popular press will continue to portray **mathematics** as being **like a diamond**: extremely hard material, but valuable and highly prized both for its industrial applications and for its intrinsic beauty.”

(Harold P. Boas, 2003)



1

(1) Communicating What-is-Science happens. It works!

The image shows a YouTube video player interface. At the top left is the YouTube logo with 'DE' next to it. The video title is 'Hexaflexagon Safety Guide'. A text overlay on the right says 'Click here for Part 2!'. The video content shows a hand drawing a hexagon on a piece of paper with a pink marker. The paper has 'PART 2' and 'SEE DESCRIPTION' written on it. Below the video player, the channel name 'Vi Hart' is visible, along with a 'Abonnieren' button and the number '904.043'. The video has 6,368,694 views. At the bottom, there are icons for 'Hinzufügen', 'Teilen', and 'Mehr', along with like and dislike counts of 54,190 and 1,585 respectively.

YouTube DE

Hexaflexagon Safety Guide

Click here for Part 2!

Stummschalten

4:05 / 4:07

Hexaflexagons

Vi Hart

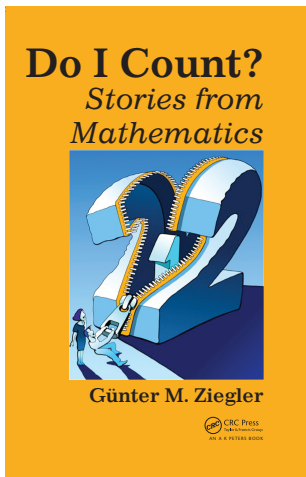
Abonnieren 904.043

6.368.694

Hinzufügen Teilen Mehr

54.190 1.585

(1) Communicating What-is-Science happens. It works!



JETZT

(0) The Most Important Part of Society – Teachers!

“At the beginning of his university studies, the young [teacher] student is confronted with problems that do not remind him at all of what he has dealt with up to then, and of course, he **forgets all these things** immediately and thoroughly.

When after graduation he becomes a teacher, he has to teach exactly this traditional elementary mathematics, and since he can hardly link it with his university mathematics, he soon **readopts the former teaching tradition** and his studies at the university become a more or less pleasant reminiscence which has no influence on his teaching.”

(Felix Klein: “Elementary Mathematics from a Higher Standpoint”, 1908)

(0) The Most Important Part of Society – Teachers!



Z08* „Panorama of mathematics“

Undergraduate course
(in particular for teacher students)

on

- What is Mathematics (today)?

„Panorama der Mathematik“ will present

- the landscape of mathematics („maps“)
- the variety of mathematics
- the people of mathematics
- the making of mathematics
- how mathematics is **applied**

Goals:

- a course
- web materials
- a book





