

It is his ideas brought to life by the Minister of Education, Roman Giertych - including the fact a teacher is nowadays a public functionary. Starting September this year, children's backpacks will be weighed - this is also a result of his acts. He wrote a book that has a chance to revolutionise the system of teaching mathematics. Press, television are mad about it. It is currently being translated into English. "Any idiot could learn math with this book. Even me" - claimed one of the students. Let us meet its author. Krzysztof Cywiński. Came from Cieszyn to Zabrze, professionally attached to Gliwice. Mathematician - revolutionist who never finished his studies. The one to have spotted mistakes in a mathematical encyclopedia published by WSiP. He has collected his thanks and his corrections were included in the next issue.

# Genius? Do not insult me.

I prefer to speak of mathematics, not myself.

**Of course. I would still like to know what happened to have you interested in it. We must therefore visit the past. First the mathematician, then mathematics.**

In that case let me first say that I have studied at the SPRAWDŹ. I had only three semesters to finish... and I quit.

## Why?

It was 1983. I chose a title for my end-of-term assignment: SPRAWDŹ. And my professor was terrified. He said: either change the title, or leave the university yourself, or you will have no other choice but leave. And so I left on my own. I went back to Silesia and worked as a postman in Gliwice for some time. There was even a Moscow episode. I left for CCCP to study international journalism. I had been chosen to attend the Arabian language course. I quit a year later, as I'd reached the conclusion that it was an espionage school. Secondly... Well, another reason was one of the sound of H. (laughter)

## A phoneme as a reason to quit studies?

Among all. The fact is I could not sound it. It turned out that the Arabians have their vocal cords shaped by the desert sand. And so I realised that I would not study something I knew I would not master. I went back to working at a post office. I quit because of political reasons. My protest caused a referendum to be held in 1987, which was supposed to strengthen the communistic government. I was made to distribute leaflets in my free time. I answered nothing would ever force me to do it. Then there was some work in a mine. This I treated as escaping into my little internal immigration.

### **So how did your mathematical adventure start?**

Back in my military school, I encountered a lecture on advanced mathematics and physics, and various mathematical methods in practice. When I worked for the mine, my friend asked me to help his son. We did some simple geometry with the use of a pair of compasses and a ruler. It turned out that however I was able to do this - I could not explain a thing. Still, my disability to explain really pleased the boy. He admitted that I did it a lot better than his school teacher! And so it started. My other friends started sending me their children. And I, at the age of 30, fell in love with mathematics. I also taught at school.

### **A moment please. Studies?**

That was a long time ago. Different times. Nothing but pedagogical preparation was needed. At University I passed 4 semesters of pedagogic, a semester of didactics, and 3 semesters of psychology.

### **But what mathematical-oriented studies have you done?**

None.

### **Are you trying to tell me that the author of a mathematical bestseller, a book whose two thousand copies were sold within four months, a man who has corrected an encyclopedia written by PAN professor, a wanted tutor - is not a mathematician?**

(laughter) For 20 years I have been working with mathematics, doing it for a living, I write math books... Am I a mathematician? I believe that one does not need to finish universities to fulfill their dreams and be respected. It is mainly about knowledge and sacrificing oneself to a few thousand hours of practice. I began reading about the history of mathematics, being interested in the history of terms, where they came from. For example the origin of raising to a power, geometry. And so after a year of attacking various problems I came to questioning two theorems by one of the professors contributing to an encyclopedia that can be found in any school library. I proved that the whole theory is wrong and I introduced some corrections.

### **Why the idea of writing a book?**

We should go back to my first student and my inability to explain...

### **Which turned out to be a great ability...**

Yes, because a teacher is someone who can possess control over a student. Not by force, but personality. I will ask you a question. Does any Physical Education master jump better than Adam Małysz? (note: former Polish ski jumping champion)

**I believe not.**

Exactly. Teaching is a practical ability. Universities often have professors that have never taught in schools. And a teacher is a PRAKTYK, personality, like an actor on a stage. I do not wish to insult people who have graduated from universities as I have not finished them myself. But please notice - professors from universities of technology complain that they will soon have to teach students fractions...

**Let us return to the unfinished story. First student, inability to explain...**

I decided to read a little. But school books for students are terribly boring. I noticed something important had slipped the authors' minds. Namely, the whole material is stretched throughout 12 years of studies. Nobody ever thought of organising it. It is like teaching to read and introducing one letter per year.

**The book by Krzysztof Cywiński is but 76 pages long. How is it possible that elementary school children, secondary and high school and university students can learn from it?**

I wanted my book to be that thin for one reason. So it would not frighten. Because a modern student does not like reading. That is why there is no part focusing on shorter multiplication formulas - it would have gone 30 pages fatter. It contains the whole material up to the second grade of secondary school, and the rest is just a result of this knowledge. If one learns to solve equations, they will have no problem with inequations. I can show you what the basic matura material looks like. 11 tasks require either solving a linear equation or converting a formula. In short: to pass, you must master the basics, and all the formulas and equations are in the provided "tables". Have I convinced you? (note: every matura student, while sitting the math part of the exam, has a thin book containing basic formulas covering all the material needed to pass math)

**Yes. Without mastering the basic material, you may not take one step further. I have started reading your book. I, a classic humanist and a mathematical hopeless case, managed to become addicted. The book is full of formulas, which I dislike, but I still read it.**

You are the only journalist that is trying to read it. The publishers believe that the amount of formulas decrease sales. My book contains nothing but formulas and comments, and yet people buy it. Distributors are also shocked.

**Maybe the light writing style and amusing comments...**

Teaching mathematics is pleasure. You can do it in an amusing way, but two plus two must remain four.

**How long did it take to finish mathematics for hopeless cases?**

11 years.

???

My book is a record of working with students. Their own wisdom. I somewhat tested it on them. I gave the book to a different student each time and if there happened to be anything unclear - I corrected it.

**You achieve great success as a pro publico bono. Is every idea that has come to life because of you connected with education?**

No. I am the main idea source of a project started by professor Zyta Gilowska. It has brought great savings to the country's budget. I have suggested to take it easy on taxes when it concerns businesses that have only just started existing on the market. A great many of people made use of it.

**Teacher as a public functionary. You gave the idea, Roman Giertych brought it to life.**

When I heard about the case with the students putting a trash bucket on a teacher's head, I lost it. I went to Silesia to speak to an LPR representative and I presented this solution. It cost nothing, and since then there have been less havoc in schools. Thanks to that, secondary school students need to pass an obligatory exam.

**Well, then they cannot be pleased.**

A typical secondary school student, upon finishing school, knows over 20 English words. Cause? The only true exam is matura, and until that, for 12 years, there is no devil, do what you want. I believe that exams should come after each stage of studies. Because of the budget, they only made the one taking place upon finishing secondary school.

**To finish off, can a humanist be a good mathematician?**

I am a humanist...