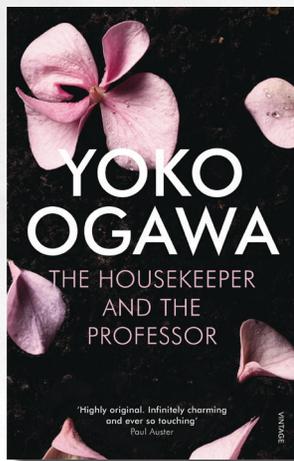


# The Housekeeper and The Professor

*Reviewed by Nia Chari*



The *Housekeeper and the Professor* by Yoko Ogawa, translated by Stephen Snyder, is a story of maths, memory, and the beautiful human connections that change and shape us. It centres around a Professor of maths, the Housekeeper who works for him, and her son, Root. The crux of this story is that the Professor’s memory only lasts 80 minutes. Because of an accident almost 20 years prior to the beginning of the story, he cannot retain new memories for longer than 80 minutes. To quote a character from the book, he can remember a theorem he developed thirty years ago, but he has no idea what he ate for dinner last night. As a result of this, the Housekeeper needs to introduce herself to him every morning, because he forgets about her. Ogawa describes how he sticks little post-its onto his coat-sleeves, to remind him of the most important pieces of information.

One interesting thing about this book is that none of the characters are given names beyond who they are—everyone is referred to as “the Professor”, “the sister-in-law”, and so on. The almost-exception to this rule is Root, the Housekeeper’s son. Upon meeting him, the Professor declares that his head is flat, like a square root sign. After that, we only know him as Root.

In addition to memory loss, the book has two other important themes. The first is the Professor’s love for baseball, which he shares with Root. The second is, of course, his love for maths. The Professor manages to earn a little money by solving problems posed by magazines, but much more important is the way he teaches maths to the Housekeeper. (But more on that later.) It was fascinating to me how these two themes interacted.

*Keywords: memory loss, love for mathematics, beauty, value*

My absolute favourite thing about this book is how Ogawa manages to communicate such a strong love of maths through the writing. Because the Professor's whole life once revolved around the subject, it would have been easy to have him now dismiss it as a painful reminder of the life he used to live. But he kept to it, and it was almost presented to the reader as a lone lifeline in a sea of confusion. To the Professor, maths makes sense in a way his life doesn't. He remembers the concepts he knew before the accident, and whatever new proofs he is working on can be understood by simply re-reading them; he isn't thwarted by his short memory.

In connection to that is the way he teaches maths to the Housekeeper. In the book, they cover some things, but it's implied that he teaches her more. A particularly poignant scene occurs in the beginning, where the Professor shows her how her birthday, February 20<sup>th</sup> (220) is an amicable number with the number imprinted on a watch he got as an award (284). Amicable numbers are those pairs where the sum of the proper divisors of one number equals the other, and vice versa. In this case, these divisors are: 1, 2, 4, 71 and 142, which add up to 220, and 1, 2, 4, 5, 10, 11, 20, 22, 44, 55 and 110, which add up to 284. The former set of numbers are the proper divisors of 284, and the latter are the proper divisors of 220. Note that this only works with the proper divisors of numbers; if we count the number itself as a divisor, 220 and 284 are no longer amicable numbers. (This definition also holds true for perfect numbers, see below.)

The book also introduces readers to:

**Imaginary numbers**—the Professor christens Root thus because of his apparent resemblance to the square root sign ( $\sqrt{\quad}$ ). When explaining this name, he teaches the Housekeeper and Root about imaginary numbers, and how they're special because they can't be seen; 'they live in your heart instead'.

**Perfect numbers**—this scene comes about when the Housekeeper herself discovers that 28 is a perfect number (the sum of its proper divisors

is itself;  $1 + 2 + 4 + 7 + 14 = 28$ ). The Professor explains that 28 is the second-smallest perfect number, and that the smallest is 6 (again,  $1 + 2 + 3 = 6$ ). When the Housekeeper exclaims that they aren't that rare after all, the Professor tells her that the next smallest one is 496, and then 8,128.

**Sum of consecutive numbers:** the Professor assigns Root to figure out the sum of all the numbers from 1-10. Root just adds them up manually, but then the Professor ups the ante—what's the sum of all numbers from 1-100, or 1-1000? The two then have a contest to see if Root can figure out the answer before the Professor does a challenge of his own.

Ogawa also covers Euler's formula, Fermat's last theorem, triangular numbers, twin primes, and several other things.

In many ways, these lessons remind me of classes I've had at school, where maths is shown as a wondrous language, filled with secrets I can discover, rather than a fearful dragon to be bested and slayed.

As someone who is interested in reading, the stylistic choices Ogawa made were fascinating to me. Firstly, the book is in first person—which is difficult to pull off without sounding tacky. Ogawa passes the test with flying colours, crafting a narrative that sounds (in the best possible way) a fusion of a friend telling you a story in a coffee shop and a journal entry with poignancy the rest of us can only dream of.

Second, because none of the characters were mentioned by their 'real' names (Root being the almost-exception, it's a nickname), the book had a timeless, spaceless quality to it. Despite me knowing this book is set in Japan, it felt like it could have been set anytime, anywhere. It helped make this (all things considered, fairly niche book) feel much more accessible.

My reasons for why teachers should read this book and why students will like it are the same—the way maths is handled. As I said before, it's treated as a wonderful adventure, a multifaceted language. Underscoring every equation is a love

and wonder for it, that the Professor effectively teaches the Housekeeper, and us, the readers. To teachers, it might serve as a reminder that this love for the subject is essential to any progress. To students, especially those (like me!) struggling with exams, it might serve as a reminder for what makes maths special to them, or why they chose the subject in the first place.

I would say that the content is understandable to anyone who has a 10th grade education in Maths. But even if you last interacted with the subject years ago (and since you're reading this magazine, I'm assuming the answer to that is no)

concepts are explained with enough simplicity for you to pick it up anyway.

To reiterate, specific things you may enjoy in this book are: its simple, yet masterful handling of the topics at hand, how it focuses so beautifully on human relationships and their poignancy, the writing style, and the way that maths is handled. The book is also less than 200 pages, making it a quick read.

*The Housekeeper and the Professor*, ((博士の愛した数式, *hakase no ai shita suushiki*: literally "The Professor's Beloved Equation") by Yoko Ogawa, translated to English by Stephen Snyder (2003, 2009)



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