

# The VaViM Project



*Virtues and Vices in Mathematics*

Colin Jakob Rittberg

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# Mathematical knowledge-making is done by human actors and human action invites ethical reflection

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- Rapid factorisation and online security
    - The products of mathematical research are not ethically neutral
  - Francis Su and who gets to do mathematics
    - Injustices pertaining to race, gender, and social status
  - The Selberg-Erdős dispute
    - Disagreements over career-shaping recognition, promotion, power, and prizes
  - Olivia Caramello and what counts as a new mathematical result
    - Some structural features of mathematical practices are not ethically neutral
- ❖ *All these cases have to do with knowledge-making; they are epistemological in this sense*



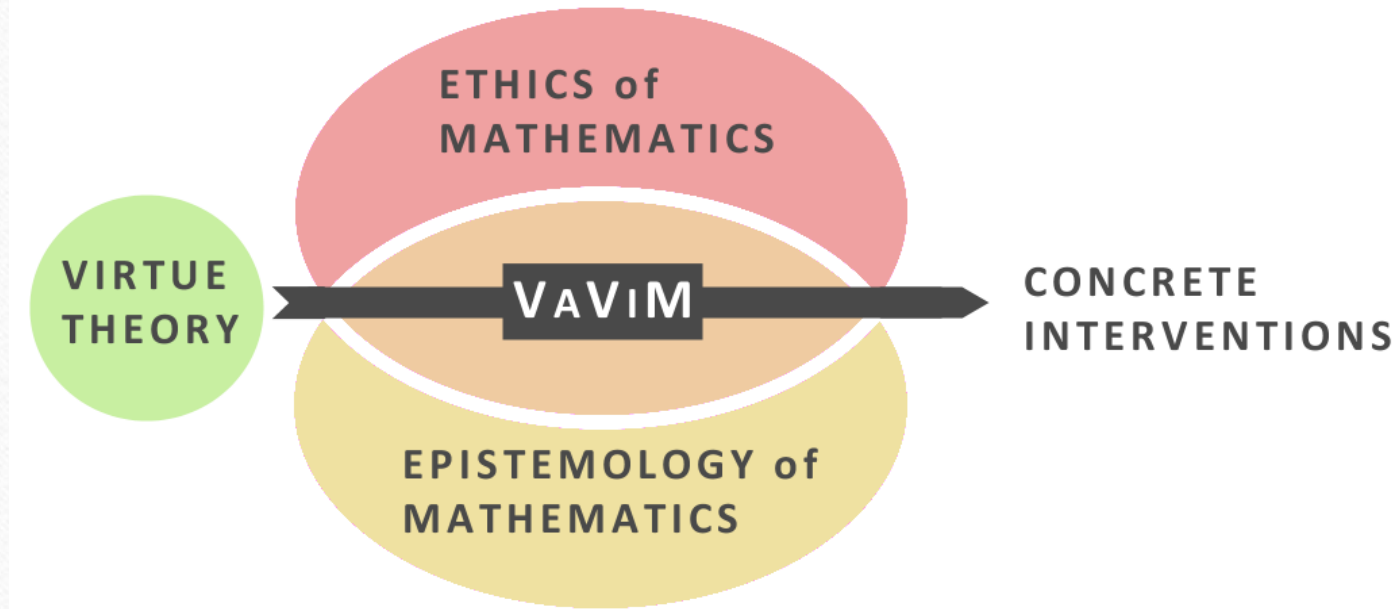
# What's already out there?

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- The ethical nature of mathematical knowledge
  - Plato, Franklin, Ernest, history of probability theory
- Codes of conduct for mathematical knowledge-making
  - Limited scope (plagiarism, minor remarks on social responsibility)
- Individual efforts of mathematicians (Fry, Ethics in Mathematics Society,...)
  - Concentrate on products of mathematical knowledge-making rather than production
- Philosophy of mathematical practices
  - Focus on descriptions of mathematical practices rather than critical ethical reflection

Aim: develop a normative framework for the ethics of mathematical knowledge-making that can support concrete interventions

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# Virtue Theory

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- Pre-theoretical understanding of the virtues
- Soft enough for descriptive accuracy yet persuasive enough for normative force
- Sometimes it is better *not* to follow prescriptions (Selberg-Erdős)
- Charging each other with blame (abc)
- An aretaic turn, i.e. use of virtue talk, currently happens in various philosophical subdisciplines

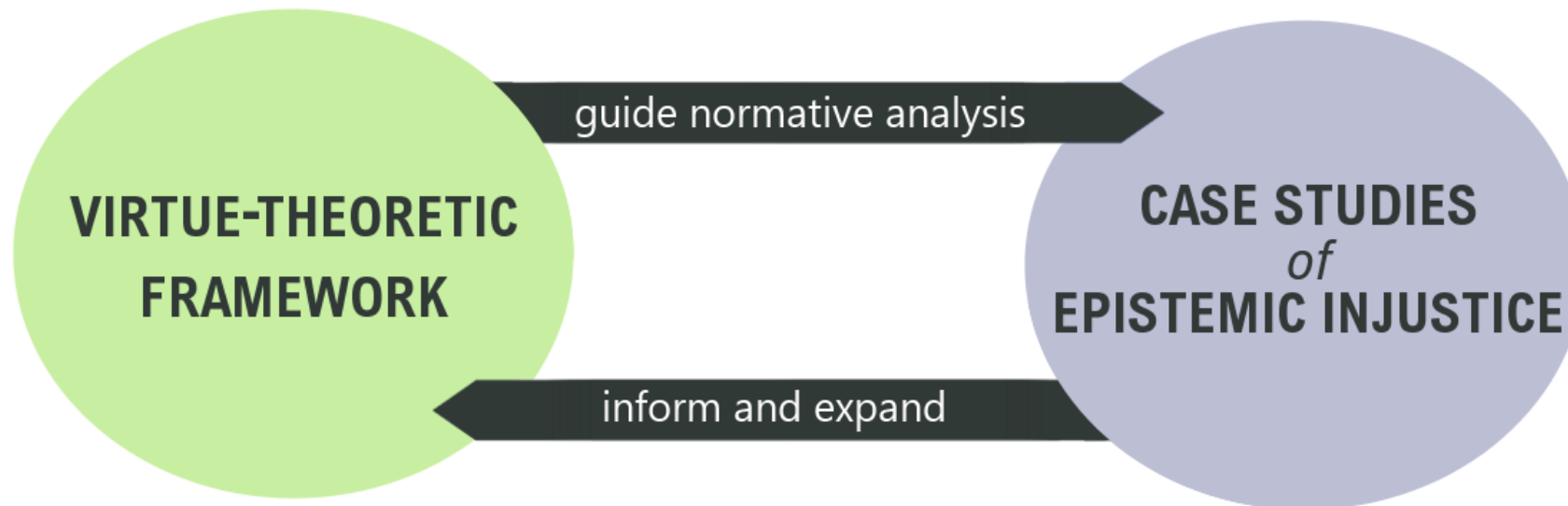
Remarkable lacuna that no virtue theory of mathematics has been developed yet

- The need to adjust existing virtue-theoretic frameworks to the study of mathematics



# Empirically informed philosophy

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# Work packages

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## WP1: *human injustices*

Place to look: publication practices

➤ Current philosophical interest in mathematical publication practices

- Engage with mathematicians (unstructured interviews)
- Harvest existing literature

## WP2: *cultural injustices*

Promising case: *wasan* mathematics

Traditional Japanese *wasan* mathematics vanished after contact with “Western mathematics”. Is there an “Imperialism of Western Mathematics” (Bishop) ?

# Thank You!

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Colin Jakob Rittberg, c.j.rittberg@vu.nl

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