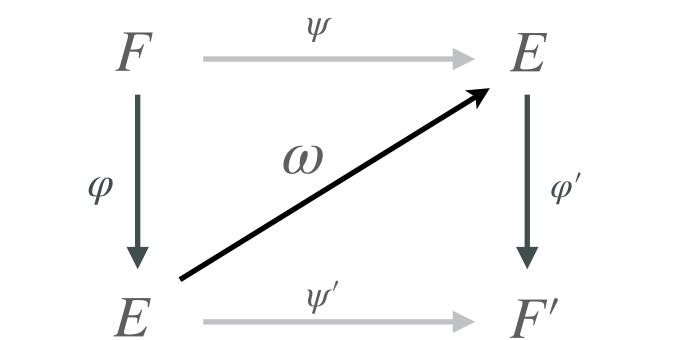
PART 4 2D Future



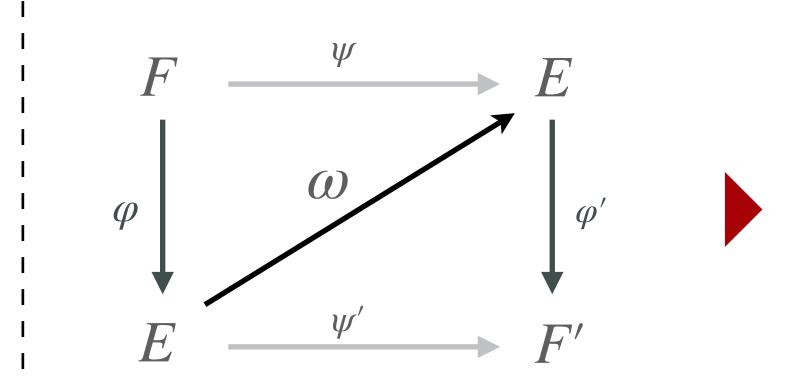
say we want to create such a square, but we only have E and some $\omega \in \operatorname{End}(E)$ of degree $q(2^a-q)$

we can find a suitable isogeny $\varphi: F \to E$ using Kani!!!



PART 4 2D Future

Nakagawa - Onuki trick (2023)



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1

If the square above existed, then Kani's lemma should apply

should give 2D isogeny $\Phi: E \times E \to F \times F'$ of degree 2^a

