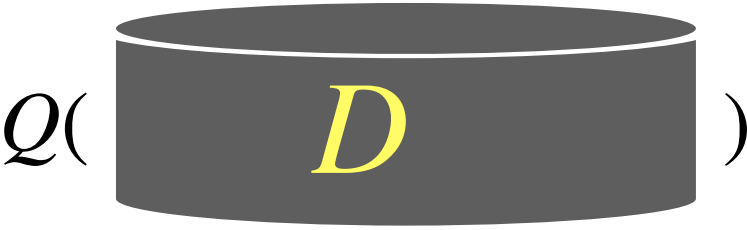




Bound Evaluation with Views

What if queries are not bounded with available A ?



A light blue cylinder with a black outline. The text D_q is written in blue on the side of the cylinder.

D_q





A light blue cylinder with a black outline. The cylinder is oriented horizontally. On the front face of the cylinder, the text D_q is written in a blue, serif font. The 'D' is large and the 'q' is smaller and positioned to the right of the 'D'.

D_q

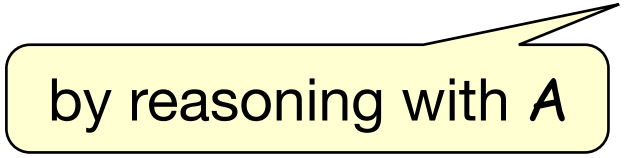




, v @ D



cached views



by reasoning with A

making Q bounded with V

Input: An access schema \mathcal{A} , a query Q , a set \mathcal{V} of views

Question: *Does Q have a bounded rewriting using \mathcal{V} under \mathcal{A} ?*

- Undecidable for first-order logic (FO) queries
- Σ_3^p -complete for SPC queries (conjunctive queries)

Complexity bounds [4]

Effective syntax [5]

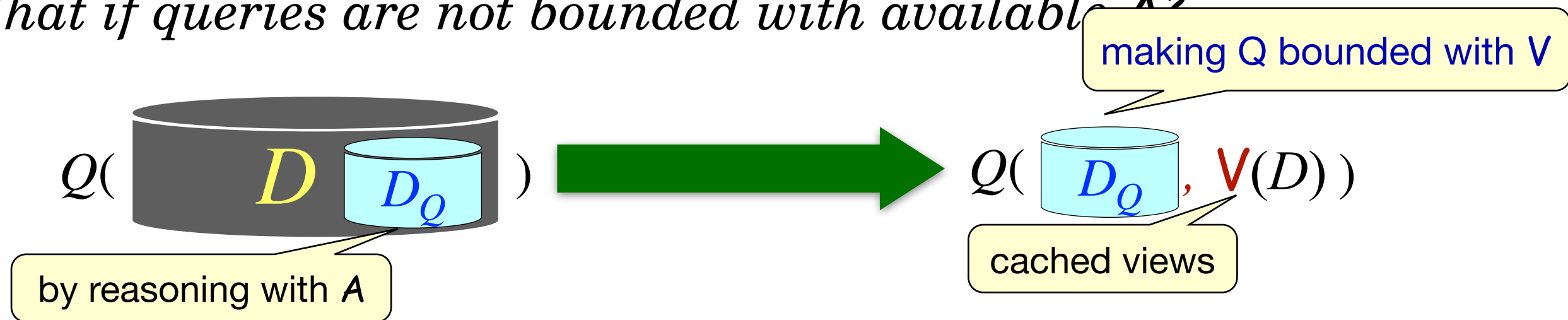
[4] Y. Cao, W. Fan, F. Geerts, P. Lu, Bounded Query Rewriting Using Views, PODS 2016

[5] Y. Cao, W. Fan, F. Geerts, P. Lu, Bounded Query Rewriting Using Views, ACM TODS

Making full practical use of modern evaluation views

Bounded Evaluation with Views

What if queries are not bounded with available \mathcal{A} ?



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Complexity bounds [4]

- **Undecidable** for first-order logic (FO) queries
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Making full practical use of bounded evaluation with views

[4] Y. Cao, W. Fan, F. Geerts, P. Lu, Bounded Query Rewriting Using Views, PODS 2016

[5] Y. Cao, W. Fan, F. Geerts, P. Lu, Bounded Query Rewriting Using Views, ACM TODS

Bounded Approximation

— for unbounded queries