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Dror Bar-Natan* (drorbn@math.toronto.edu). *The Dogma is Wrong*. Preliminary report.

It has long been known that there are knot invariants associated to semi-simple Lie algebras, and there has long been a dogma as for how to extract them: "quantize and use representation theory". We present an alternative and better procedure: "centrally extend, approximate by solvable, and learn how to re-order exponentials in a universal enveloping algebra". While equivalent to the old invariants via a complicated process, our invariants are in practice stronger, faster to compute (poly-time vs. exp-time), and clearly carry topological information.

This is joint work with Roland van der Veen and continues work by Rozansky and Overbay. (Received July 20, 2017)