Restricted rational Cherednik algebras I, II.
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The rational Cherednik algebra $H_{t,c}(G,V)$ for a finite irreducible complex reflection group (G,V) and parameters (t,c) is a deformation of the algebra $S(V \oplus V^*) \rtimes \mathbb{C}G$ and was introduced in 2002 by Etingof and Ginzburg as a tool for understanding the symplectic geometry of the quotient $(V \oplus V^*)/G$. The restricted rational Cherednik algebra $\overline{H}_c$ of (G,V) in c is now a particular canonical finite-dimensional quotient of $H_{0,c}$ and thus captures a certain part of the representation theory of $H_{0,c}$.

For specifying and solving some questions arising in the representation theory of $\overline{H}_c$ I will discuss very generally some concepts of *specialization theory*, which deals with the transportation of information (e.g., blocks and simple modules) from the generic fiber of an algebra bundle to a special fiber.

After this general discussion I will apply these results to $\overline{H}_c$ and will in the end present computational methods which helped to solve open questions about $\overline{H}_c$ for exceptional groups.