Chapter 12
Final Comments and Further Reading

The recent survey [50] and the lecture notes of Grifo [88] provide more information on symbolic powers and the containment problem for ideals.

Except in special cases (such as square free monomial ideals), there is no algorithm for computing Waldschmidt constants. Similarly, there is no general algorithm for computing resurgences. See [10] for examples demonstrating some techniques for determining Waldschmidt constants and resurgences, and some specific open problems. For another indication of the difficulty of the problem of computing Waldschmidt constants and resurgences, see [119] for an essentially complete determination of Waldschmidt constants and resurgences for ideals of fat points where the number of points is at most three. This paper also obtains results on symbolic defects in the case of ideals which are not square free. The paper [56] gives additional properties of the symbolic defect, most notably, it is shown that the symbolic defect sequence is a quasi-polynomial function. (We also are pleased to note that the papers [56, 119] are some of the papers resulting from the PRAGMATIC workshop.)

E. Carlini et al., *Ideals of Powers and Powers of Ideals*, Lecture Notes of the Unione Matematica Italiana 27, https://doi.org/10.1007/978-3-030-45247-6_12