

conclusion is countered by table 7.1(a): all the errors are small, and so it is also plausible that the holographic description of QCD could stretch upto several GeV. This would dovetail nicely with chiral perturbation theory and perturbative QCD.

We have also looked at fitting corrections to the anomalous dimension of the operator  $\bar{q}\gamma^\mu q$  and introducing a coupling of the operator  $\text{Tr } F^4$ . Although these corrections could be used to fine tune the fit by a percent or so they do not appear to be significant corrections to the model. Of course these are only easily implementable examples from an infinite set of possible corrections but finding the corrections to be small provides further understanding of the success of the basic AdS/QCD models. One could also try to include the vacuum expectation values of more operators in the metric (see for example [152]) and a dynamical, predictive mechanism of chiral symmetry breaking [153]. Such effects would be important to study the pion and axial vector meson sectors of the model. As explained in [117] the model used here does not give a good prediction of these sectors because the dilaton form, put in to give the  $\sqrt{n}$  rise in masses, does not lead to a sensible condensate prediction. If one attempted to tackle all of these problems then most likely the number of free parameters would rise faster than the number of available data points. Of course this reflects the fact that a perfect action is in the end just a reparameterization of the full QCD spectrum. We hope though that we have identified the imposition of a UV barrier as an important correction and that these other effects are sub-leading in the  $\rho$  sector. Putting together a complete model of all sectors including the baryons remains as an important challenge.