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Some questions of quantum functional analysis approached without matrices.

Principal concepts of quantum functional analysis (i.e., operator space theory) usually are defined in terms of matrices with vector entries and matrix-norms. However, there is another, "non-coordinate" approach to this area based on coefficients. The fact that both approaches are in principle equivalent is known (Pisier). Nevertheless, it appears that up to the present moment there was no systematic exposition of the theory in the framework of the second, "non-matricial" approach. The aim of the talk is to present some results, obtained in the course of the realization of such an exposition. The emphasis is given to the question where - in our opinion - the non-matricial approach makes the theory somewhat more elegant and transparent. Especially this concerns such matters as quantum tensor products and quantum duality. It is probable that some constructions and observations, related to the indicated approach, are of independent interest.