I propose an empirical reading of religious enthusiasm as a case study of the early modern attitude to sensory evidence. Empirical thinkers took a critical view of enthusiasm, which they saw as unwarranted manifestation of unjustified zeal devoid of epistemic foundation, hence contrary to the evidence-based empirical ethos. Here I suggest instead that religious enthusiasm enacted within the spiritual domain what empiricism preconised in the natural-science domain: the view of the senses as supreme, evidence-based, epistemic authority. I propose that, by emphasising the role of externally observable, somato-sensory display as a proxy for internal spiritual states, enthusiasts effectively applied the empirical principle whereby assent ought to be proportional to the evidence, and took enthusiasm itself as said evidence in order to empirically justify faith.