

Parallel Session

Creativity through analysis New music for old instruments

The concept of new music for old instruments is not, in itself, new. Nevertheless, explorations in previous eras rarely encountered the brass family of instruments, in any case commonly the last instrumental grouping encountered during a composer's training. The tuba family, as the youngest member of this grouping, is both under-explored and ill-defined, placing it in a particularly extreme position. Nevertheless, the historical predecessors to the tuba, the serpent and bass horn, present sonic resources which cannot be recreated by any modern instrument. This presentation explores how acoustic analysis and codification can provide both composers and performers with a means of creative engagement with historical brass instruments.

The emergence of the serpent pre-dates the development of mechanical pitch change mechanisms, thereby only utilising finger-covered tone holes, which are effective high-pass filters when their diameter is similar to that of the corresponding tube. Meanwhile, the serpent arose following discovery that in order to create powerful lower resonances, an aerophone's tube needs to be not only long but also wide, problematic for tone holes which have to be reached by groups of fingers and covered by the finger tips. The proportionally larger key-covered tone holes found on bass horns, the instrument's nineteenth-century successor, helped to mitigate this situation, although this development was driven primarily by attempts to improve stability of intonation, ergonomics, and volume, often at the expense of the unique timbral resources presented by the serpent.

What might these instruments offer composers and performers today, given, for example, that their idiosyncrasies traditionally seen as detrimental to production of stable equally-tempered pitch material could potentially be exploited as creative impulses? Such explorations require a degree of organological separation from historical contexts in order to provide a means of external analysis that can build upon a performer's haptic feedback. Alongside performance of new compositions for serpent, this paper will present resources which utilise acoustic analysis and quantitative organology alongside experimental data. Together, these demonstrate a sustainable practice method which promotes an experimental approach to historicism, respecting cultural heritage by using it as a lens through which one can view the present and future.

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Jack Adler-McKean is a performer-researcher promoting the tuba family through collaborations with ensembles, composers, and academic institutions. Recent artistic projects include ensemble performances with Ensemble Modern and Klangforum Wien, music theatre productions on stage at the Deutsche

Oper Berlin and Luzerner Theater, chamber music performances at the Pierre Boulez Saal and Elbphilharmonie, collaborations on new solo works with Sarah Nemstov and George Lewis, premières at the BBC Proms and Darmstädter Ferienkurse, and recitals in Rome and Buenos Aires. His first book *The Playing Techniques of the Tuba* was published by Bärenreiter in 2020, while other writings have been featured in the *Historic Brass Society Journal* and *Oxford Handbook of Wind Instruments*, as well as the journals *TEMPO* and *Music and Letters*. He was awarded his PhD in 2023 from the Royal Northern College of Music, and in February 2024 was appointed post-doctorate researcher at Lunds Universitet / Musikhögskolan i Malmö.