

SPOTLIGHT ON SCIENCE

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THROUGHOUT history, circus has been a medium for the representation of science in popular culture. Circus has displayed diverse and extraordinary bodies performing feats of strength, flexibility and neuromuscular coordination, inviting curiosity about the life sciences and human potential. Many circus companies have been early adopters of technology as they strive for ever-increasing novelty in their shows, leveraging advancements in the physical sciences. Engineering has created new apparatus and improved safety in the circus arts. In the social sciences realm, circus often reflects and provides commentary on cultural norms or has been used to address social issues. These are just a few examples of the reciprocal relationship between circus and science. This issue of *Circus: Arts, Life and Sciences* shares some of the most recent and exciting research dedicated to the scientific study of circus.

We begin with “Biomechanical analysis of lumbar spine loading in Russian bar porters.” Schmidt and colleagues demonstrated the impacts of candle, salto and repeated jumps on the physical bodies of the artists, noting that the technique of keeping the back relatively straight and hinging at the hip reduces spinal loading. There are, however, still implications for the health and wellness of Russian bar porters. From biomechanics, we move into a physiological analysis of participants in an immersive circus show. In “Physiological measures of audience engagement and interpersonal synchrony during an immersive participatory performance,” a feasibility study by Cossin and researchers, activation of the sympathetic and parasympathetic nervous systems were measured throughout active participation in the show along with measures of group synchrony. Authors concluded that wearable sensors are feasible to collect data

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from active audience members. They recommend early and continuous communication between the artistic and research teams to optimize the immersive experience and the research. The Sciences section closes with a literature review that sheds light on how circus can be an effective medium for knowledge translation. Since Arts-Based Research and Arts-Based Knowledge Translation are not well represented in the French literature, Theberge and colleagues make this knowledge accessible to Francophone readers with their contribution titled “Quand le savoir artistique se mêle au savoir scientifique: une revue de la littérature narrative sur les Arts-Based Research (ABR) et les Arts-Based Knowledge Translation (ABKT)” (*When artistic knowledge meets scientific knowledge: a review of the narrative literature on Arts-Based Research (ABR) and Arts-Based Knowledge Translation (ABKT)*). The paper describes the theoretical foundations, practice, organization, evaluation and epistemic issues of this form of scientific communication with examples drawn from the world of circus.

Two book reviews are included in the issue. The first is Nele Wynants's review of Nic Leonhardt's *Theatre Across Oceans: Mediators of Transatlantic Exchange, 1890–1925*. Wynants notes the focus on technological advancements in transportation and communication as two of the key facilitators in transatlantic exchange for both theatre and circus. Finally, the collection *El Arte del Circo en America del Sur* by Julieta Infantino is reviewed by Rafael Santos de Barros. The review highlights the diverse discourse throughout these collected articles and applauds Infantino for curating the volume in such a way that contradictory perspectives are sometimes placed into dialogue with one another. This gives an inclusive overview of the circus in South America.

Circus: Arts, Life & Sciences is proud to be an interdisciplinary journal. While this issue spotlights a few of many diverse scientific fields, we encourage you to engage with these articles using an interdisciplinary lens, imagining the ways in which your own research or practice could benefit or build from these studies. In compiling this issue, we are grateful for all contributors, including the authors, peer reviewers and translators as well as our editorial and publication teams. We extend our gratitude to Naila Kuhlmann for serving as guest Sciences editor for this issue. Additionally, we would like to thank Louis Patrick Leroux for his past service as an Arts section editor and welcome Gillian Arrighi as she forges ahead in this role. We also welcome Matthew Soloman and Maggie Vanderford as our new Life section editors. Finally, we thank HUPR and Fred Gérard for contributing the cover photo for this and the previous issue, respectively.