

Entangled: Technology and the Transformation of Performance, by Chris Salter (Cambridge, Mass. and London: The MIT Press, 2010)

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Chris Salter's MIT book, *Entangled: Technology and the Transformation of Performance*, is a major survey concerning the relationship between technology and art performance. While Salter's study is an ambitious project, it is an important reference work that will assist to progress debates in theatre and performance studies, when art is increasingly technologised. Covering the periods between the late nineteenth century to the beginning of the twenty-first century, it discusses more than a thousand artists, writers, theorists, scientists, and engineers of the past and the present, whose works provide Salter with points of entry to consider 'how technologies, from the mechanical to the computational, have radically transformed artistic performance practices' (xiii). The 'performances' that Salter refers to are created not only by performing artists in theatre, dance and music, but also by visual and new media artists, interaction designers and researchers, and architects. This book discusses technology-based artworks that fall between the cracks of established art genres.

Salter refocuses and expands RoseLee Goldberg's seminal work *Performance Art*, which discusses an alternative history of visual arts and experimental arts practices of the twentieth century, using the term, 'performance' as a key and contested term. Just as in Goldberg's survey does, the first chapter of *Entangled* discusses performance works of the early-twentieth-century European avant-garde movements such as Futurism, Constructivism, Dadaism or Surrealism. Salter examines the practices of these experimental modernist arts in much more detail, including discussions on the contributions made by painters, composers, stage designers, architects, and film directors. For Salter, Richard Wagner's use of stage technology in the late nineteenth century is 'a harbinger for the directions that theatrical scenography would take over the twentieth century' (xxxvi). What interests Salter in the Wagnerian *Gesamtkunstwerk* is its technological control over the perceptual experience of spectators. Here, theatrical scenography is appreciated for its architectural aspects, in terms of its 'physical, real-time situatedness involving collective, co-present spectating, witnessing, and/or participation within the framework of a spatiotemporal event' (xxxiv). Throughout the book, Salter examines aspects of 'theatrical scenography' in a broad range of technology-based experimental artworks in the twentieth and twenty-first centuries using concepts such as temporality, duration, spatiality, participation, interaction, architecture, and environment. This work, as other reviewers have also indicated, usefully clarifies practices that are often multimedia, interdisciplinary, or hybrid, and are thus difficult to categorise and analyse (Schedel 2011 and Chatzichristodoulou 2010).

In addition to the usual references to Haraway's cyborg and Hayle's 'posthuman' in the theatre and performance studies literature on similar subjects, Salter traces his research trajectory through additional theories of science and technology studies (STS) and sociology of science, in particular ANT (Actor-Network Theory) referring to theorists such as Karin Knorr-Cetina, Michel Callon, Bruno Latour, John Law, and Andrew Pickering. These theories ascribe agency to any nonhumans such as bacteria or industrial tools. Salter also draws upon biologist/neuroscientist Francisco Varela's theory on 'the embodied and dynamic interactions between the neural-cognitive system of an organism and its environment' (xxvii). These theories are discussed to highlight the performativity of material entanglements between humans, objects, and environments, providing a template for

Salter's consideration of artworks beyond 'a human-centered affair' of performance studies (xxvii). Indeed, the names of *Entangled*'s chapters such as Space 1: Scene/Machine (1876-1933), Space 2: Media Scenographies (1950-), Performative Architectures, or Interaction are suggestive of Salter's thesis that performance is 'an entanglement among humans, instruments, algorithms, and machines on the stage, in the laboratories, and through the streets of cities' (352).

In particular I was interested in Chapter 7, Machines/Mechanicals, as *Entangled* is one of the few theatre and performance studies books – apart from Steve Dixon's *Digital Performance* (2007) – that includes a chapter on 'performing machines'. The chapter discusses artists and art groups such as Mark Pauline's Survival Research Labs, Chico MacMurtrie's Amorphic Robotic Works, Bill Vorn, and Louis-Philippe Demers, who produce robotic performance works that use mechanical or anthropomorphic figures as 'performers'. Salter also discusses the kinetic art of Jean Tinguely, machinic sound art by Matt Heckett, Gordon Monahan, and Istvan Kantor, machinic installations by Ken Rinaldo and Wim Delvoye, as well as the 'mysterious performing apparatuses' of Rebecca Horn (298). In these works, the animistic power of objects is conjured within a machinic *mise-en-scène*, which contributes to 'a co-productive understanding of what machine autonomy actually signified' (Salter, 2010: 302). It is an effort to go beyond the limitations of the human-machine dichotomy as it is often expressed in the theatre and performance studies literature.

As Salter tries to cover a very broad area of artistic and theoretical enquiry, it is inevitable, given the limitations of space, that there would be some omissions of relevant artists or theorists. For example, it would have been useful for a greater number of women artists of electronic music to have been represented, a point made by Schedel (2011, 102) in her review of Chapter 6, Sound, in Salter's book. The downside of inclusiveness, of course, is that discussion can appear superficial, a mere list of names, including non-western artists as Chatzichristodoulou points out (2010). In this regard, while Salter was aware of the limitations of a project with such expansive aims, he did not succeed in fully addressing the impacts of the 'socio-political-cultural-economic contexts' of the artworks he examined, indicated as one of the main objectives of the book (xiii). The book suffers from attempting to be both a survey text, and a theoretical discussion. Moreover, while it is strategically understandable that Salter distinguishes his study on technology-based artworks and their live actualisation outside theatre spaces, from previous studies that discuss screen- and image-based performance, which includes 'cyber performance' or 'cyber theatre', I would suggest that there are commonalities between these two sides (xxxiv). A more comprehensive and nuanced literature review of recent theatre and performance studies publications on related topics would have assisted to dis-entangle the scholarship so that a reader new to this area might be better able to grasp the complexity of the area Salter treats. .

Nevertheless, *Entangled* is a vitally necessary book, one that demands theatre and performance researchers to continue to probe what 'performance medium' means in the twentieth-first century.

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