Formulate, Formalize and Run!
How Narrative Theories shape and are shaped by Interactive Digital Narrative

Abstract: What are the links between narrative theories and computing? Narrative works are countless in the digital world: narrative hypertext and hypermedia, interactive fiction, video games, blogs, location-based narrative, etc. They not only form new analytical objects for narrative theories, but also may extend existing narrative theories. One specific type of digital narratives, AI-based Interactive Digital Narrative (IDN), plays a special role in this landscape because it makes use of narrative theories to build the algorithms for the dynamic management of narrative. In return, these algorithms are formal computational models of narrative that are of interest for narratological research. The main feature of these models is that they are “runnable models”, adopting the well known modeling & simulation approach in Science.

Global picture:

The digital world offers new objects and methods of analysis to narrative theories:

"As genres and modes of storytelling evolve alongside the development of new technologies, so fresh methodological opportunities arise for researchers to observe audience reactions to emergent textual forms." (Lang, 2010)

In addition, digital narratives challenge existing narrative theories and encourage their extension:

“I regard narratology as an unfinished project, and if classical narratology fails the test of interactive textuality, this does not necessarily mean that interactive textuality fails the test of narrativity. It rather means that narratology must expand beyond its original territory.” (Ryan, 2006)
In the case of advanced (AI-based) Interactive Digital Narrative, the narrative theories are used by researchers to build computational models of narrative (Szilas, 2002). For example C. Bremond's theory echoes and inspires current research in the domain:

"est-il possible de décrire le réseau complet des options logiquement offertes à un narrateur, en un point quelconque de son récit, pour continuer l'histoire commencée?" (is it possible to describe the complete network of choices that are logically given to a narrator, at any point of his narrative, to continue the story?) (Bremond, 1973)

IDN researchers also propose their own extensions of existing narrative theories, as illustrated here:

“The neo-Aristotelian model of interactive drama provides guidance for AI research aimed at enabling this medium. The model [...] indicates [...] specific guidance on the direction AI research in this area should take. A Neo-Aristotelian Theory of Interactive Drama” (Mateas, 2000)

Other researchers propose novel narrative models and theories that may refine existing narrative theories:

“we have provided a computational model of dramatic situations, by examining a few core elements that can be assembled to create deep atemporal narrative structures” (Szilas, 2016)

Bibliography: