Literature & Culture and/as Intelligent Systems

University of Stuttgart Digital Workshop

16–17 December 2021

Confirmed Keynote Address: Dr. James Smithies, Director of King's Digital Lab, King's College London

Research on 'intelligent systems' broadly impacts the everyday lives of citizens worldwide, from self-driving cars, facial recognition, and 'intelligent' robots, to algorithms that create personalized advertisements that influence consumer choice. The societal, political, cultural, and ethical impacts of advances in this field have become matters of concern – and have also shaped literary and cultural production. Especially in recent years, literary texts that explore various aspects of intelligent systems have been thriving: novels such as Ian McEwan's *Machines Like Me* (2019), Kazuo Ishiguro's *Klara and the Sun* (2021), and Mark Wheaton's *Emily Eternal* (2019) have drawn public interest and have put a new focus on the 'knowledge of literature' in that these narratives not only reflect upon, but often also engage in, re-creating (and advancing) intelligent systems on the level of the storyworld. In effect, literary texts are both shaped by and actively shaping their cultural contexts of production and reception. With regard to the impact of various agents and environments on the design of a narrative – the text properties considered typical for a particular literary genre, as well as the robustness of specific genres due to their ability to adapt to changing requirements across different times and cultures – questions arise to what extent literature (or specific text types) can also be regarded as intelligent systems.

Needless to stress, literature and culture are not machines, and thus cannot be conceptualised as intelligent systems in the narrow sense of the term. Nor are they genuinely autonomous, in that they cannot sense their environments like 'natural intelligent systems,' such as bacteria and cells, are able to, since literary texts require one (or several) agent(s) to come into being. And yet, they share some key features with what has come to be known as intelligent systems: a) literary texts are highly *dynamic and adaptive* to changing historical and cultural contexts in their ability to *productively interacting* with complex environments; b) further, they are *integrative*, since they, in the words of Virginia Woolf, have "devoured so many forms" (1927, 224) and trends, and thereby drive the development of (new) genres; c) in addition, they *build up a knowledge base*, which helps to distinguish forms or developments of fiction, performance, or lyric within specific genres; and d) they include a certain degree of *self-reflexivity*, which comes to the fore, for instance, in metafictional elements or language poetry. Acutely aware about and responsive of other cultural, political, social systems, literary texts evolve and adapt to a wide variety of different environments, and have emerged as highly flexible and resilient within and across changing cultural ecologies.

Approaching literary texts as intelligent systems includes several challenges. First, it requires defining 'intelligence' and 'systems' in relation to literature and culture. Steven Pinker's approach on 'intelligence' as "the ability to choose an action that best satisfies conflicting goals" (2019, 300) and the approach to literature as cultural ecology that views literature as "an ecological force within larger systems of cultural discourse" (Zapf 2016, 4) might serve as a starting points in that they integrate aspects of creativity and imagination, and highlight the ability of literary texts to (critically) engage in a wide variety of different discourses of their time (and beyond) and renew themselves within this process. These features, which are at the core of literary production and reception, are abilities frequently associated with 'intelligent systems.'

Thus, part of the aim of this workshop is to identify, discuss, and also overcome these challenges to further explore to what extent intelligent systems might serve as a 'travelling concept' (Darbellay 2012, Bal 2002), which can be used to advance interdisciplinary research and exchange, and to foster the circulation of knowledge amongst researchers working in this field. Computer models, as they are developed in the Digital Humanities, for instance, might help capture trends and developments in literary production and/or in the reflective discourse of literary studies. However, how productive such data-oriented modelling approaches may be for our understanding of literature as an 'intelligent system' has not yet been explored. The workshop will offer a forum to discuss these, and further approaches, and to examine what literature knows about 'intelligent systems.'

As an outgrowth of the Stuttgart Research Focus Interchange Forum for Reflecting on Intelligent Systems (SRF IRIS) (https://www.iris.uni-stuttgart.de/), the overarching goal of this workshop is to explore literature and culture both *in relation to* intelligent systems and *as* intelligent systems:

(1) Discussing various representations of intelligent systems in literary texts, we aim to assess the different ways in which literature reflects upon the ethical, cultural, political, and social impacts of recent developments in the field of intelligent or autonomous systems. This will help to explain the key function of literature in unveiling the potentials and limits of intelligent systems.

(2) Examining to what extent literature and culture can be regarded *as* intelligent systems themselves, i.e., as systems that are flexible, adaptive, integrative, and – to some extent – also self-learning, will enable us to gain a deeper understanding of the concept and assess its role as a travelling concept, which might aid in the circulation of knowledge across disciplines working in this field.

Suggested topics and fields of research include, but are not limited to:

- changing representations of intelligent systems/AI in literature
- intelligent systems as a travelling concept in literature and culture
- genre theory
- systems theory
- literary ecology
- narrative intelligence

- literary crisis detection
- creativity & machine learning
- speculative futures
- ethics & future technologies
- literature generators
- computational storytelling
- algorithmic literary criticism

We welcome 15-minute input papers from scholars of all career stages, backgrounds, disciplines. The workshop will be held online. Please send an abstract of 300-400 words with contact information and a short bio to jessica.bundschuh@ilw.uni-stuttgart.de under the subject line of "intelligent systems" by **29 October 2021.** For any other questions, feel free to reach out to any of the hosts below.

Hosted by the University of Stuttgart, Department of English Literatures & Cultures and the Interchange Forum for Reflecting on Intelligent Systems (IRIS) and organized by Prof. Dr. Sibylle Baumbach, Dr. Jessica Bundschuh (Department of English Literatures & Cultures) and Prof. Dr. Jonas Kuhn (Institute for Natural Language Processing).

Works Cited

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