

From: "Nowak, Martin" <[REDACTED]>
To: Jeffrey Epstein <jeevacation@gmail.com>
Subject: Fwd: follow-up
Date: Sun, 05 Feb 2012 02:06:26 +0000

i talked with boyd (over skype)
and he sent this

Begin forwarded message:

From: "Brian Boyd (ARTS ENG)" <[REDACTED]>
Date: January 23, 2012 1:42:11 PM EST
To: "Nowak, Martin" <[REDACTED]>
Subject: Re: follow-up

Hi Martin,

Good to chat. May I ask you some questions about how you envisage applying mathematics to literature, just so we can both think about this more before we meet.

Let me ask first what kinds of things in literature you're interested in mathematizing?

the reception of literary works, authors, genres, forms, across wide audiences?

the diffusion of forms, devices, etc, in time and place?

responses to works by individuals? the intensity and form of response, the relation over time between emotion and attention? between the cost of comprehension and the felt benefits? between these factors on a first reading and a re-reading or an nth reading?

the effects of literary engagement on individuals, on their minds or behaviors

the content of literary works:

vocabulary

syntax (e.g. functional shift: I can explain this via a paper a colleague has written)

represented people (and perhaps social class, or role, or the number of characters overall (named or at least individualized) and the amount of text devoted to each?), places, scenes, actions

literary devices: imagery, dialogue, representations of thought, free indirect discourse

the landscape of available options for writers at a particular time, in a particular genre (the great film scholar David Bordwell has suggested something like this in film, in a non-mathematical way)

the boundary between literariness and non-literariness: criteria for fictional versus non-fictional texts, for high versus middle or lowbrow literature?

measures of sheer literary quality? measures of reputation can easily be ascertained by the amount of scholarship, and the space accorded writers in reference works, etc. Could internal measures of quality, which there must be, be quantified, mathematized?

authorship: there is work done with the help of mathematicians or statistically-informed scholars to determine authorship, in the case of anonymous works in more recent times, or simply non-attributed works in older times when the identification of authors on title pages was sporadic. There is much lunatic work on Shakespearean authorship, for instance, with results as divergent as the obsessions of the investigators, but there is also much responsible genuinely academic work with largely convergent results and good statistical skills (showing, for instance, that five plays by Shakespeare were co-authored with different collaborators; the techniques can usually get down to the level of identifying the author of individual scenes)

related to this, statistics of stylistic details have been used to work out the chronology of Shakespeare plays. Some are known within limits set by external evidence, but the dates or date range of many can be identified only by internal evidence

Then let me ask what kinds of questions do you want to ask or answer with the mathematization of literature? I have a very open mind on what kinds of questions might be askable or answerable, but I'd love to know what hunches you have, in case I could offer feedback or tailor my talk in ways that might be maximally relevant.

Another practical question. I presume however you mathematize literature it would depend on having large amounts of data inputted. With the digitization of texts, and the emergence of the digital humanities as a sub-field, this should not be a problem if you're simply focusing on texts, although other data might be more elaborate to input. But I presume you simply theorize the options and implications rather than worry about doing particular studies?

And a final point: let me mention a few studies that you may or may not know of:

Franco Moretti, *Graphs, Maps, and Trees* (Verso, 2005): this applies quantitative methods to the contents of literature, but seems to me very superficial, even if it does cast a different light on literary history. But it has earned a lot of attention: maybe I'm missing something?

Jonathan Gottschall, *Literature, Science, and a New Humanities* (Palgrave, 2008): by a close colleague of mine in the literature and evolution field, this argues for adding quantitative to the traditionally qualitative methods of humanistic and literary study. It offers lots of case studies: such as, for instance, comparing the degree to which adjectives like pretty/handsome/beautiful are used of females versus males in folk tales around the world, and the use of active verbs with females and males as subjects (as I remember: I'm away from my library) to test (and in the case reject) the social constructivist claim that gender differences are only the constructs of local societies

Joseph Carroll, Jonathan Gottschall and others, *Graphing Jane Austen: Paleolithic Politics in British Novels of the Nineteenth Century*: this looks at readers' responses (on a worldwide internet survey) to the characters of these novels, simplified according to the five-factor personality model. The results are striking in the clear separation of the results divide along gender and protagonist/antagonist lines.

A project under way (or perhaps even abandoned) by my friend Marcus Nordlund and a colleague is to track the thematic emphases in *Othello* as singled out in criticism over the centuries. For a century or more literary critics have identified "a theme" in this or that literary work as the fundamental idea and motive for the work,

as explaining it at the deepest level. But competing critics identify competing themes, leading to the charge that there's no cumulative knowledge. Marcus's motivation is partly to show (as he hypothesizes) the high degree of convergence of the thematic terms and emphases, despite the different claims.

There are some things for you to ponder, anyway.

Best,

Brian