

From Event to Node: How Nodal Structures Impact on Teaching and Research in the Humanities and Social Sciences

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While Past Narratives have events as their basic units, Future Narratives characteristically operate with nodes. A node is a situation that allows for more than just one continuation. Therefore, by definition, Past Narratives are uni-linear, while Future Narratives are multi-linear. Thus, by operating with nodes, Future Narratives cannot only talk about the future, but they perform aspects of futurity that seem essential: its openness, its contingency, and the fact that behind each present moment there opens up a space of possibilities that has not yet coagulated into actuality. Since Future Narratives can be found in all genres and media and, what is more, bridge the fiction/non-fiction divide, the impact of Future Narratives and their conceptualization is across the board and of greatest importance not only to media studies and teaching, but also to any kind of communicating about the future.

1. By Way of Introduction: How do Globalization and Digitalization Impact on Teaching and Research in the Humanities?

There is little doubt that the interlinked processes of globalization and digitalization will fundamentally transform the practices and institutions of higher education and have already begun to do so in a revolutionary way. While by no means all effects of this transformation have to be welcomed unreservedly – for example, judged from actual experience, the blessings of MOOCs (Massive Open Online Courses) seem to be rather mixed, and the fact that, mostly for purely economic reasons, undistinguished colleges seem to rush in where more respectable academic bodies fear to tread, could be taken as a warning not to embrace everything simply because it is new

and *en vogue* – but the advantages of what comes broadly under the heading of Digital Humanities can hardly be denied.

Let me cite but two examples from my own field, English and American Literature. Both at LMU Munich and at UC Berkeley I have taught courses on Eighteenth-century British travel writing, covering primary texts from Lady Mary Wortley Montagu's *Turkish Embassy Letters* to Mary Wollstonecraft's *Letters Written During a Short Residence in Sweden, Norway, and Denmark* and from Laurence Sterne's *Sentimental Journey* to George Forster's *A Voyage Around the World*. While there are fine paperback editions of most (though not of all) of these required reading texts, it added extra spice to my courses that all students in my class could see, read, and study the first editions on their laptops and tablets, simply by accessing the online database of *Eighteenth-century Collections Online* (ECCO). An experience that had previously been reserved for researchers having the time and resources to go to the British Library or to the Bodleian has been spread and shared out to undergraduate students – and it gives them a totally new idea of what literary studies is all about. To be sure, there is still a difference between an electronic copy of a first edition and the real thing, but the difference is not as big as that between a first edition and a paperback.

Or take the example of William Blake, the English Romantic artist and poet, whose plates offer not just illustrations of his poems, but are, in fact, comprehensive text-image artefacts. Although we have made enormous progress in producing incredibly accurate facsimile editions, the possibilities offered by such sites as www.blakearchive.org go far beyond what can be done in a printed and bound book. Since all extant copies of his *Songs of Innocence* and of *Songs of Experience* are unique in being hand-coloured in different ways and show different orders in the arrangement of the plates so that no two copies are identical, all a facsimile edition of, say, *Songs of Innocence* can do is reproduce one specific copy, and one only. But the Blake Archive has all of them. To see the copy of *Songs of Innocence* that was found last, in the 1980s, by Detlef Dörrbecker, in the Bavarian State Library, you would have to go to Munich and ask for a special permit to inspect the wonderfully preserved copy. Once it has been digitalized, this will no longer be necessary.

It need hardly be pointed out how in both instances digitalization and (potentially global) accessibility transforms both research and teaching in the humanities: curiously enough, it brings us back and closer to the old German, Humboldtian idea(l) of uniting research and teaching (*Forschung und Lehre*), simply because our primary material can be had here, at hand, in the classroom.

I do not underestimate the difficulties that have to be overcome until this becomes common practice. Are these databases access-free? Or do you have to pay extortionate sums for using them? Can your institution afford them? Then there is a language problem if you belong to a smaller linguistic community, or a political problem if, for whatever reason, the country you happen to live in restricts access to certain sites. In addition, digitalization in the humanities, under the aspect of the production of texts, may also encourage an inflation of premature publication – simply because it is so easy to publish, circumventing the hurdles of traditional academic publishing. Finally, a lot

could be said for the aesthetic experience of handling a real book. But that is not my topic here.

In this article I should like to draw attention to another kind of revolution, of which globalization and digitalization in the social sciences and in the humanities are only a part. This other revolution has remained largely unnoticed, because, until very recently, we did not even have a word for it and because our cognitive segmentation of the world did not facilitate the identification of a unified corpus of phenomena that are, however, united by one single common feature and for which now we have a name: the name is Future Narratives.¹

2. What are Future Narratives?

Most narratives that we know link two events that have already occurred. They are about what has already happened (whether in reality or fictitiously), we can therefore call them Past Narratives (PNs). Linking one event with another, PNs are uni-linear. There are also narratives that are or purport to be about something that is happening right now. Such present-tense narratives (for example, the live reportage of a football match) are similar to PNs in that they are also uni-linear. There is, however, an increasingly burgeoning corpus of narratives (in the widest sense of the word, as anything that linguistically or mentally connects two events) that have one special feature not occurring in others: they contain at least one situation that allows for more than one continuation. We call such a situation a node. And a narrative that contains at least one node can be called a Future Narrative (FN), in contradistinction to a PN. The major difference between a PN and a FN is that, while the primary unit of a PN is an event, the primary unit of a FN is a node. This is a purely technical matter. Its consequences, however, are momentous: while PNs are, by definition, uni-linear, FNs aren't. They are, by definition, multi-linear. And they are called Future Narratives because by virtue of this feature they not only thematize aspects of futurity, such as openness, undecidedness, potentiality, and so on, but they display them.

The problem with established Narratology is that it is almost exclusively based upon or derived from PNs. That means it lacks a vocabulary that would even allow you to describe the phenomenon of FNs, let alone explain it. Research into FNs was funded generously because we promised to at least sketch out a narratology and a poetics of FNs.

In the *Narrating Futures* project, we used Mathematical Graph Theory to generally describe what happens in a FN, no matter in which medium it is realized. This made sense because Mathematical Graph Theory operates with the concepts of nodes (situations that allow for more than one continuation) and edges (lines that connect one node with another). Deliberately ignoring media-specificity and the fiction/non-fiction divide, we were happy to have an analytical tool that allowed us to give the most abstract representation of a FN as such and thereby preserved the ubiquity of a corpus hitherto not even recognized as a corpus in its own right. Once conceptualized in such a way, FNs could be identified irrespective of their concrete realization in a specific medium (that was left to volumes 2 to 5 of our series) and irrespective of

whether they referred to ‘real’ or ‘imaginary’ processes. Note that identifying FNs did not bring the phenomenon into the world, but the concept constituted FNs as objects of inquiry. Once that step had been taken, you can find such narratives in print, you can find them in movies, you can find them in computer and online games, you find them in sophisticated simulations of complex real-life processes, in scenarios used by insurance companies and world climate change experts, by peak oil aficionados, politicians, and communicators. They are everywhere. They cut across all media and genre boundaries, they cut across the dividing line between fact and fiction, between the actual and the virtual: they are everywhere.

3. Different Kinds of FNs

Having established the overall corpus of FNs (up until that point hidden by a different, established segmentation of reality), we could proceed with an interior differentiation of the body of these narratives. Obviously, the first question you have to ask yourself when you meet a narrative is, does it have a node? If it has, it’s a FN. If it hasn’t, it isn’t. That is a simple, technical matter. Once you have identified a FN, one possible next question is whether or not you/the reader/player/user has a choice in the matter of how the nodal situation is continued. If there is choice (and not every FN does offer choice in the matter), is it choice under information? Are you reliably informed about the consequences of your choice? If not, then it is just a gamble and you might just as well flip a coin (that is, if the node has a bifurcation only – but nodes may have many more than just two continuations; two is just the minimum).

And then, decisively, can you go back to a certain node? In the same ‘run’ or only if you restart the game? Is there reversibility in this process or is it uni-directional? Life is uni-directional not in the sense that you cannot try to make good, try to make amends for your mistakes, but in the sense that you cannot go back and go down the other road and make the first continuation ‘unhappen’. But you can – and that’s the point of it – you *can* in most FNs. That is one of the reasons why people are attracted to them. If life can be regarded as a series of innumerable nodes, then one major attraction of some FNs (though not of all) is that you can do exactly what you can’t do in real life: you can go back again. You can realize a different option. Sometimes within the course of the very same game, sometimes only by playing a new run in the game. But you can. The reversibility of decisions, necessarily based on the retrievability and iterability of situations, marks out FNs of this kind as sanction-free arenas of possible behaviours. That is why, in this respect, such FNs are like games.

It is not an irrelevant feature of such FNs that they grant the reader/viewer/user a significantly higher degree of agency than PNs can in the first place. The agency found in FNs is of a different category than that which can be realized in PNs.

4. Possibility Space and Nodal Power

Further interior differentiations are identified by questions such as: can a character in a FN (character or avatar or viewer) learn and develop or does s/he remain stable

throughout the run of one particular FN? Or, is space in this FN just a backdrop? Or is it interactive? (With regard to time in FNs: all you ever have is *now*.) It should be clear that if a character can change and if the environment is interactive, then the possibility space that is opened up by a node is wider than if not. In other words: the nodal power contained in that node tends to be significantly higher. That is, the third key concept that the NAFU research group named, alongside ‘node’ and ‘edge’ is ‘nodal power’. Nodal power is the degree to which a situation is open (containing a space of possibilities).

The nodal power of any present, unresolved nodal situation, seen as something that the architecture of that particular FN (as opposed to any concrete run through that architecture) offers in that particular scene, is, of course, something that can be ascertained exactly as an aspect of that very architectural structure. It is the space of possibilities demarcated by the edges of its various continuations, until they reach their respective next nodes. Once one of these continuations has been realized, there is no longer a space of possibilities – until a new node opens up a new one. But from an architectural point of view – which is the one that we are taking – you can map the roads not taken and all the differences they make (between them). These differences, to repeat, are called nodal power, which is the degree of openness we are offered by a particular situation.

5. The Great Conversion, or, the Present Nodal Situation

Any nodal situation in a FN can be seen as the feeding of a possibility space through the needle’s eye of the present moment. As potentiality is realized in a particular way, nodes are exploded and turned into actual events (see Figure 1).

At the same time, and as a consequence of this, any present nodal situation can be read as symmetrically mirroring the rationale of both PNs and FNs (Figure 2).

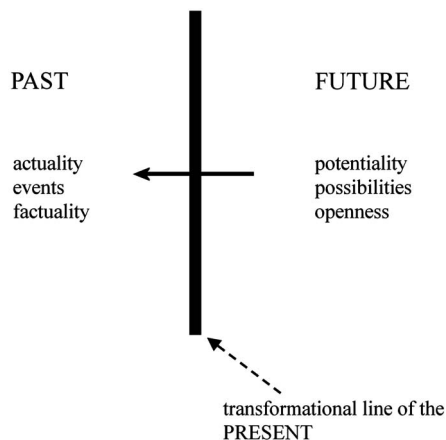


Figure 1. The great conversion.

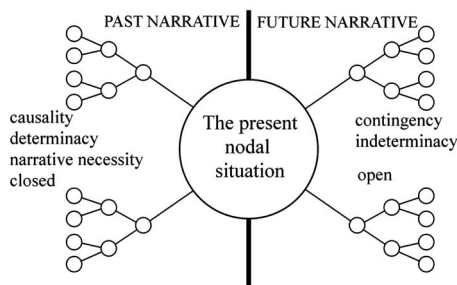


Figure 2. PN and FN symmetrically mirrored in the present situation.

6. The Media-Historical Moment

For reasons of space, this article cannot even begin to sketch out how FNs are refracted through the different media (what you can ‘do’ in the line of FNs in books, videos, movies, game play, computer simulations of real-world processes, scenarios, etc). What can be done, however, is to sketch how and why it is that it is only now, that is in the late 20th and early 21st centuries, that FNs have truly come into their own and that they appear on our screen. The story (a PN) goes like this.

For the first few hundred million years after their initial appearance on our planet, all brains were stuck in the permanent present, and most brains still are today. But not yours and not mine, because two or three million years ago our ancestors began a great escape from the here and now, and their getaway vehicle was a highly specialized mass of grey tissue, fragile, wrinkled and appended. This frontal lobe – the last part of the human brain to evolve, the slowest to mature and the first to deteriorate in old age – is a time machine that allows each of us to vacate the present and experience the future before it happens.²

That is why, according to cognitive scientist and expert in the philosophy of the mind Daniel Dennett, the human brain is an ‘anticipation machine’ and why ‘making future’ is the most important thing it does.³ That, and nothing else, is the absolutely indispensable neurological precondition for speech, not the other speech organs (that we share, to a degree) with other animals – speech organs are necessary, but not sufficient: what you need is a sufficiently developed nervous system. Then, and only then, can you have language – and the future, which is all there isn’t and never was.

But the time-line we’re looking at is crucial. Some 2 to 3 million years ago, we developed frontal lobes and thereby, for all we know, the capability to leave an eternal present. But we wanted the medium to communicate that new dimension of existence. We wanted it for a very, very long time. Because only some 50,000 to 30,000 years ago, we developed language, able to express that which cannot be pointed at. And only some 5,200 years ago (i.e. around 3,200 BC) we developed writing. Two media, one building upon the other to geometrically increase its communicative power, that are designed to deal with what is *not* there – and what that entails: our fears as well as our hopes.

Quite decidedly, the world is not everything that is the case. The world is not simply the sum total of everything there is and everything there ever was. We left that

stage 3 million years ago. One should not trust people who tell you otherwise. They are still sitting up in their trees. The world is everything there is, ever was – and will be. It is present, past and future. And that third part may well be the most exciting one. It is the one that our brains started to produce long before they found a linguistic medium to communicate it to others. It isn't so long ago that we discovered that the future doesn't have to be linear, just because, retrospectively, we imagine the present to be a point in time that could be reached by one route only. It doesn't have to be. And we are looking for new media to express this. We are looking for media that allow us the narrating of futures. If 'making future' is what defines us as humans, then research into narrating futures is right where it's at: it is looking right at the core of what it means to be human.

Historical research shows that practically everything we need for FNs was at hand around 1700.⁴ The answer to the question why it was only in the last third of the 20th century that FNs took off is an easy one: it is for media-historical reasons, because up until then we wanted the appropriate 'carrier' for this kind of narrative: electronic media, the computer, the internet.

7. The Final Image

A river is uni-linear. It is a Past Narrative. We look back. We understand where we come from. But we have turned our backs to the sea. When the river hits the coastline, when it meets the open sea, there is no longer only one way. That line is supplanted by a space – a space of possibilities. That space is navigable. It makes all the differences. The moment we face the sea, we witness and experience a great paradigm change.

- As FNs increasingly complement PNs, we pass from a dominant preoccupation with the past to an exciting interest in futures, in what is not yet determined.
- Turning our backs upon the past and facing the future, we can downgrade (although never deny) the importance of events and become fascinated by nodes instead, as focal points of future developments, charged with possibility.
- We turn from mere actuality to the potentiality of the present moment, to all that it contains in the way of possible continuations.
- We turn from the illusion of necessity and causal determination (largely an effect created by PNs anyway) to the dizzying reality of contingency.
- We turn from past-tied uni-linearity to future-bound multi-linearity.
- From closure to openness.
- We turn from a preoccupation with objects to the category of agency.
- Most importantly, we increasingly re-orientate ourselves from an exclusive pre-occupation with retrospectively making meaning(s) to the creative activity of making future(s), prospectively.

And as in any proper FN, all this is happening now.

The nodal power of a situation, it was said, is the degree of openness it has. It seems there is an incredible amount of nodal power in this present moment of the evolution of mankind.

There is only one way to go down a river. But once you have reached the open sea, there are wide open spaces before you – and a plurality of ways to go. This is not, to avoid any misunderstanding, a prediction, not a forecast. This is happening right now: the present is the period of FNs, for we are increasingly thinking in terms of possibility, contingency, openness, multiple paths, tipping points and feedbacks, and this simply cannot be communicated in a uni-linear form. It can only be communicated in the form of Future Narratives.

As specialists working in the social sciences and the humanities we are not only witnessing this sea change, it is also the very material of our research: as part of the great transformation – from past narratives to future narratives – it falls to us to understand and explore these processes.

References and Notes

1. Research into Future Narratives (FNs) was supported by a €900,000 Advanced Investigator Grant from the European Research Council under the European Community's Seventh Framework Programme (FP7/2007-2013)/ERC grant agreement no. 229135. The results of our research in the *Narrating Futures* (NAFU) project were published in a five-volume book series: Vol. 1 – C. Bode and R. Dietrich (2013) *Future Narratives: Theory, Poetics, and Media-Historical Moment* (Berlin/New York: de Gruyter); vol. 2 – F. Meifert (2013) *Playing the Text, Performing the Future: Future Narratives in Print and Digiture* (Berlin/New York: de Gruyter); vol. 3 – S. Schenk (2013) *Running and Clicking: Future Narratives in Film* (Berlin/New York: de Gruyter); vol. 4 – S. Domsch (2013) *Storyplaying: Agency and Narrative in Video Games* (Berlin/New York: de Gruyter); vol. 5 – K. Singles (2013) *Alternate History: Playing with Contingency and Necessity* (Berlin/New York: de Gruyter). This article is based on the theoretical outline given in volume 1.
2. D. Gilbert (2006, 2007) *Stumbling on Happiness* (London/New York: Harper Perennial), p. 15.
3. Quoted from D. Dennett (1996) *Kinds of Minds: Toward an Understanding of Consciousness* (New York: Basic Books), in: D. Gilbert (2006, 2007) *Stumbling on Happiness* (London/New York: Harper Perennial), p. 5.
4. Cf. C. Bode and R. Dietrich (2013) *Future Narratives: Theory, Poetics, and Media-historical Moment* (Berlin/New York: de Gruyter), pp. 162–215.

About the Author

Christoph Bode – Chair of Modern English Literature at LMU Munich, Visiting Professor at UCLA in 1997 and at UC Berkeley in 2012 – has published 24 books and some 80 articles. Former president of the German Society for English Romanticism, co-editor of three book series, Fellow of LMU's Centre for Advanced Studies and of the Academia Europaea, Bode is also the recipient of various research grants, among them two fellowships from Oxford and an Advanced Investigator Grant from the ERC. He received the Order of Merit of the Federal Republic of Germany in 2013.