
Creativity for readers in digital poetry

Noel Williams

Faculty of ACES, City Campus,
Sheffield Hallam University,
Sheffield, S Yorks, S1 1WB UK
n.r.williams@shu.ac.uk

Chris Roast

Faculty of ACES, City Campus,
Sheffield Hallam University,
Sheffield, S Yorks, S1 1WB UK
c.r.roast@shu.ac.uk

Abstract

In this paper we characterize an approach to digital poems which gives some writerly control of creativity to the reader, developed from Koestler's notion of bisociation. We aim to assess the value of the approach in terms of writers' perceptions, readers' perceptions and what such an approach offers to the creative process.

Keywords

Bisociation, creativity, poetry, literary studies, editing tools

ACM Classification Keywords

J.5 [Arts And Humanities]: Literature

Introduction

We are interested in how computer tools can be used to serve the needs of creative artists, in this case, a poet, and the relationship between artistic practice and the opportunities digital text offers for that practice. In particular, in this context we characterise poetic creativity as "bisociation" (a term coined by Arthur Koestler), and use the digital poem as a means of interrogating the creative process and its perceived value(s) for writers and readers.

Background thinking: Bisociation

A common notion of simple creativity is the linking of two hitherto unconnected items to produce some new association previously unrecognized: analogical or metaphoric thinking. Arguably, this is the heart of poetic thought.

For such connection to happen, two separate "planes of thought" must exist, each possessing a potential point of contact which can become the actual point of linkage, if it's apprehended as such. Analogies provide the clearest example: a computer is like a brain, a brain is like a computer.

In 1964 Arthur Koestler expanded this notion into a theory of creativity. His account of "bisociation" (i.e. bi-association, apprehending a two-way connection between previously distinct planes of thought) suggested that a train of thought typically stayed within one plane (which we might characterize as "conventional" thought or the "defined discourse" or a single "semantic frame") until such a point of contact was perceived, and then the same thought process could travel perpendicularly to its original plane, traveling now in a different discourse mode or framework. His work, "The Act of Creation" [1] generalized this into a theory of creativity operating across Art, Science and Humour; the distinction between the three being made by Koestler largely in terms of the human impact of the creative act, rather than the nature of the connection itself.

So, for example, the phrase "tired light" might be a theory of red-shift (which, in fact, it is); might be a poetic metaphor for the failing of knowledge, let's say; or might be a joke about feeble energy-saving light-

bulbs. The key point is that the phrase is formed as a valid creative act by virtue of seeing "loss of energy" as a point of connection between exhausted human beings and imperfections in light energy.

Of course, Koestler's theory is itself metaphoric: the notion of a "plane of thought" and "trains of thought" which "travel perpendicular to their original direction" is clearly not neurological nor computational, and only psychological insofar as it maps onto subjective accounts of processes. Nevertheless, it has the strength that, if it's a fair theory, then such expression of that theory becomes valid enough (whilst the converse, fortunately, does not follow – destroying the metaphor does not necessarily damage the theory, so we might as well let it stand, for the time being).

How useful is bisociation as an approach to creative practice?

It's not too difficult to write computer tools which generate "creative ideas" using this simple notion. In the early days of micro-computing Williams [2], amongst many others, produced several simple, unremarkable algorithms to do so, primarily as exercises in exploring the outcomes, rather than as serious computer models.

However, what is difficult, as with much literary analysis of metaphor, is representing the plane of thought brought into play within a given bisociation in any complete or tightly specifiable way. Indeed, literary analysis thrives on the very fluidity of the conceptual areas which given metaphors might activate. For such analytic work, the complexity of the task concerns understanding which features of potential planes are legitimately brought into play. For example, the

fairytale character's name, "Snow White" appears merely to trade on the relatively literal connection of colour; as, say, the colour of her skin. But, does this name also bring in connotations of paleness? And, if so, does that entail a certain literary beauty, typical of heroines, in consequence? Do we hear "purity" or "innocence" alongside? Do we get "softness" from the snow, too? Is there perhaps a suggestion of "coldness"? Do readers start to bring in a whole cultural tradition of colour signification and symbolism? (Semioticians, of course, would here leap up and down crying "Yes!") So where do the limits of the relevant plane of thought lie? And this is a simple example.

For the practitioner of the creative act itself, the difficulty is knowing how to operationalise potential planes of thought to yield the most fruitful connections which are also comprehensible. After all, any two pieces of thinking *could* be yoked together, so will they necessarily yield a creative act? Will they always bring a desirable creative connection? Is that connection always going to be novel, appropriate, stimulating?

This is the point at which, for literary scholars and, from a rather different perspective, literary editors (who have to judge "definitive" and "intended" text) issues of intention and interpretation arise. For example, if the poet doesn't intend a connection, but a reader finds it, is that a creative act? What if the author does intend it, but no reader sees it? What if the author has left two versions of a text: which of them represents the "truly creative" intent? And so on.

One might seek to characterize this within semantic field theory to underpin what is going on and provide tools to support it: frames, scripts, networks of

semantic connection which are potentially activated by any specific textual connection. And, indeed, such models have been explored for some while (e.g. in the discourse work of text linguists like Robert de Beaugrande [3] and Teun Van Dijk [4, 5], although the formalisation of text linguistics is not the prominent field it was in the 1980s and 1990s.)

Where such modeling gets complicated is in its sensitivities. At least three classes of issue have to be addressed for bisociation to be a workable concept for a practicing poet.

- 1) Across a pair of intersecting planes of thought, which of all potential nodes are activated, meaningfully, by virtue of the initial single point of connection? Can some notion of weighting or distance or likelihood be applied, so that particular connections are more likely, more meaningful, more readily seen, than others?
- 2) Simple analogical connection on the Koestler model links two separate modes of thinking. But why only two? Rich metaphors may offer several intersecting planes, perhaps with multiple points of connection. How are these found, and how can they be modeled usefully?
- 3) Koestler's metaphor of a plane is useful, as it limits the discussion to a two dimensional model of connectivity. But if we instead think of intersections between "fields", then we may need to consider depth, where a "deep field" contains meanings underlying the superficially connected features. We might, for example, be thinking about the design for a lightswitch, and

note that when up, we have light, and when down, its absence. This seems a relatively "thin" field of thinking, a plane. However, if we see that "absence of light" connects to "dark energy", by virtue of the word/concept "dark", suddenly we have a wealth of connotation and idea to deal with, on all sorts of conceptual levels, from astronomy through the dark side of "Star Wars" films to the "Call of Cthulu" (a demonic fantasy construct of the novelist H.P Lovecraft) and even human psychotic behaviour.

No systematic investigation of bisociation as a practical tool for artistic creativity seems to have taken place, although the EU-funded BISON project has recently begun a large scale investigation into what it would take to build bisociative systems by formalising and computerising the concept with potential application to such areas as data mining [6].

Our approach

We are taking a different tack, by working from the artistic objectives of a particular poet, and examining both the values of the concept when put into practice, and the viability of developing tools to enable that practice. These are not independent aims, of course, as the functionality of the tool offered both realises and limits artistic practice. So we expect an iterative process, which might formally be thought of as "generate-and-test", but in practice is rather looser, evolving as possibilities are seen. Interestingly enough, the process of considering what a computer tool offering a bisociative poem might do, and how such a poem might work from a poetic perspective, leads to its own creative connectivity: "if the tool could do this, then I could write that".

Williams is Resident Artist in Creative Writing at Bank Street Arts Centre in Sheffield, UK. He is exploring ways that poems can be built differently on different occasions, through reader interaction, yet still be meaningful and engaging [7]. The aim is to build a poetry environment with several components using this core approach which engages people more directly with poetry than the simple reading of a page might. Tools and objects which merely randomize text, such as dice poems and cut-up texts are too haphazard to serve this purpose, as they are generally felt to be meaningless or absurd by typical readers, or requiring too much work from a readership to justify the effort. So the poet needs to give the reader a partial design for a poem, allowing the reader to define the remainder, within meaningful boundaries.

By *poetry environment* is meant a space which offers poems to audiences through interactive activities and objects rather than books, both in partly structured ways, (e.g. through workshops, readings or performative encounters), and also in casual encounters, by accidental discovery. Experimental elements being constructed for such encounters include:

- handheld poetry objects which can be manipulated into meaning, like a phrase-filled snow-globe, and pages with gaps and overlays;
- an audio installation which uses randomised MP3 playlists of spoken poetry fragments in competing dialogues between speakers arrayed in pairs, through which a listener can wander;
- digital collaborative poems.

All three of these face similar issues of creativity if they are to give readerly poetry, i.e. poems in which the reader has some direct engagement with the text and with meaning-making. Here creativity can be formulated as an offer from the author of potential texts, or potential experiences of a text, which a reader then discovers, or navigates (e.g. as in hyperfictions) or appropriates, to the extent, and with the engagement, that the reader desires.

Arguably, of course, this is always the case. Readers are active. They may always misread, interpret, misinterpret, interpolate, skip-read, browse etc and thereby actively construct a particular creative dialogue with the text. However, it's rare for a poet to provide tools to support a reader in doing this. Poetry, in contemporary contexts at least, is generally presented as expressiveness; often, in fact as "self-expression", as particular, focused on the unique image, the precise and personal, in which the author has the absolute right to produce whatsoever she or he wishes, and the reader either must accept or reject it, being given few other choices.

However, if the writer recognises the possibilities of readerly variation in attention, desire, motivation and interest, and responds by stepping back from "authority" towards instead offering "possibility", then considerations for what works, creatively, become more open. What limits can then be legitimately placed on creativity and what openings become available for creativity in the readers? Too many options, too many potential bifurcations across too many possible planes of thought and the reader flounders in meaninglessness. Too few, and what is offered is merely the novelty ride of multiple-choice texts, multi-route adventure games.

In the case of handheld poetry objects, the poet is essentially allowing a number of possible constructions, but the number, though potentially large, will be finite, and the meanings allowed carefully constructed to maximise points of connection (potential meaningfulness) in the reader's mind. Digital poems offer both more potential and simultaneously more control.

The digital poem

Roast, with others, has constructed such a digital prototype. He responded to the literary editor's needs for a tool that explored the creative possibilities of multiple variant texts by offering an XML implementation of "They Flee From Me", a sonnet by the sixteenth century English poet Sir Thomas Wyatt, which exists in several variants. The tool allows a reader to toggle between all the variants of the text, at each of the decision points where known variants exist [8]. This means that a reader/editor can display the different variant manuscripts in a convenient way readily but, much more importantly, can also explore the implications of simultaneously selecting choices from different variants at different points in the text. In other words, the tool allows the reader to construct many variants of Wyatt's complete poem which the author had not written and no editor had, to date, published, simply by (for example) choosing Line 1 from variant manuscript A and Line 2 from variant manuscript B.

As an exploratory editorial tool, this offers many possibilities. As a tool for theoretical questioning, it raises various issues about authenticity, intentionality and ownership which are well worth pursuing, for a while – though not here. However, what interests

Williams most in Roast's digital poem is the creative possibilities such a tool provides for making bisociative links which could be many and varied, yet within a framework which could also be as limited as desired. For, with a rich enough set of variants, a very large number of choices can be offered to a reader, within a relatively tightly controlled poetic framework.

For example, in principle, the noun phrase slot in the first line of such a poem could be filled by *any* noun phrase that the author offers as possibly carrying relevant meaning (which, in some cases, might even be any noun phrase possible in the language). Here, then, the poet can set up a series of planes of thought – ways of thinking about the topic or theme of the poem, and construct variants which separately deliver each of these alternatives. The tool then allows any reader to select options from any of the multiple planes on offer to create an actual text which could be a uniquely personal instantiation of that theme.

Briefly to make this more concrete: suppose the poet wishes to set up relationships between cityscapes (one plane of thought), human love (a second) and astronomy (a third). Here is the first line of each of three variants of this poem, each representing the different plane of thought. (Note that we do not make any claims for literary value in this example):

1. Beyond the horizon, city lights fade to night
2. Beyond the doorway, your eyes close on our dreams
3. Beyond the edge of heaven, stars collapse to darkness

These are syntactically equivalent with a tightly constrained grammatical structure that can be represented as:

"Beyond" + noun phrase1 + noun phrase2 + verb + prepositional phrase

Phrases or lexical items in a given slot in this structure are intersubstitutable, so with three choices in each of four decision-points, a reader can construct eighty-one different possible opening lines, such as:

Beyond the doorway city lights collapse on our dreams

A sonnet of fourteen lines can be built on such a basis with each line given four variable slots, each slot fillable by any of three bisociative choices. If the "whole sonnet" is seen as the cumulation of all these choices then 3^{56} variant texts are possible, which is a very large number; for all practical purposes sufficient poems for every reader to choose a different text.

At present, a test poem of this nature is being constructed on the broad theme of "women and warfare", a core theme within Williams's "Poetry off the page" project. The process of developing the poem and delivering it digitally is being documented as a log of the creative process itself so the poet can record the difficulties, constraints and possibilities of using an explicit approach to creativity and a clearly defined tool for delivering the poem itself.

It is already apparent that taking such an approach yields a different way of thinking, for this poet at least, which on the one hand offers new possibilities and on

the other heavily restricts what is possible. Arguably, however, this combination of constraints and enablers is of the same order of any poetic attempt to deliver in a particular form, whilst producing three (or more) variants within different and distinct planes of thought is not too far from the task of creating multiple parallel stanzas.

Moreover, the poet is creating a text whose bisociative richness is out of her or his control, even as she or he is determining where the possible connections come from and limiting them in each case to relatively simple subsets of all possibilities. We can see also that the poet has the opportunity here to avoid definitive decisions, where desired. Dylan Thomas famously wrote and rewrote some poems thirty or more times across his lifetime, never settling for any given version. With such a digital text, he could allow all his possible choices to stand, and moreover yield more versions than he had contemplated, without having to prefer any given version.

Judging creative value

Currently we are building a network of local writers, who are also critical readers of course, to elicit their views on the tool and what it offers to them both as writers and as readers. Our intent is to collate their views as a summative critique of the creative

Acknowledgements

We thank Bank Street Arts Centre who are supporting this work, and the Arts Council England, whose funding contributes to the "Poetry off the Page" project.

possibilities of the tool and, by implication, the bisociative model it represents.

However, it is clear from our own early assessment of the possibilities, that to satisfy the dual goals of offering flexibility to the poet and meaningful choices to the reader-as-writer, it is likely that such a tool or poem will benefit from possessing some knowledge within the bisociated planes, beyond mere lexical forms, so enriching the tool with semantics to connect choices may be useful. This would give richer and more meaningful potential and go some way to addressing the three issues with bisociation noted above.

It is also clear that the poet is reluctant to relinquish control of choices in some cases, for fear of allowing "nonsensical" versions of the text. This is on the one hand an issue of how the author relates to the text and readers, and also a representational issue. For example, the poet can achieve more assurance of coherent networks of choices if there is an underlying semanticity of choices which switches some possibilities on or off according to previous choices. This suggests areas for future exploration. More significantly, it raises the issue of what constitutes a "plane of thought" as poetic coherence between or across separate bisociated planes may well depend on the integrity within each of them.

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