Chapter 9
Using Poetry to Actively Target the Incubation Period

Sam Illingworth

Introduction

Poetry has previously been shown to be an effective way of both communicating research and engaging various publics [1]. From disseminating information [2], through to encouraging dialogue [3] and enriching science education [4], poetry provides a unique medium through which to help reconsider the way in which researchers interact with their discipline. Another role that poetry can play in helping to develop teaching, research, innovation, and public engagement is in actively targeting the incubation period.

In creativity research, the incubation period is defined as the process whereby initial conscious thought is followed by a period of the sustained suppression of task-related conscious thought [5]. Or to put it more simply, it relates to that period in which you step away from the task that you are working on and turn your mind to something else instead. This period of incubation has been shown to help facilitate creativity [6], which in turn can lead to unique solutions for tasks that need completing or problems that need solving.

However, this approach is somewhat passive and relies upon the would-be-problem-solver to have both the patience and presence of mind to step away from their laptop/lab bench/field site, safe in the knowledge that the answers they seek will leap into their heads when they go for a walk/cook their dinner/jump in the shower. Instead of this passive approach to engaging the incubation period for creativity, might we actively try to target it instead?

Previous studies have shown how this might be done either through the completion of adjacent tasks [7], through the utilisation of technology [8], or via engagement with an artistic process [9]. Poetry has also been suggested as a unique way of

S. Illingworth (✉)
Edinburgh Napier University, Edinburgh, UK
e-mail: S.Illingworth@napier.ac.uk

actively targeting the incubation period [10], and the purpose of this chapter is to develop strategies that will aid the reader to become more familiar with poetry. In doing so I will also outline a framework for how you might go about using poetry to target the incubation period for creative solutions to your own tasks and problems.

Embracing Poetry

The first step in using poetry to try and actively target the incubation period is to become more familiar with poetry. One of the best ways to do this is to read poetry, but in order to do this you first need to find some poetry that you might enjoy.

There are many different poetry journals that you could engage with, and which exist either in print, online, or both. The trick is in finding a journal that has a selection of poems (and an underlying ethos) that appeals to you, in terms of writing style and topic. I do not want to explicitly recommend any one journal over another, as the ones that I enjoy reading might be very different from the ones that appeal to you. However, The National Poetry Library (UK) has a fairly comprehensive list of poetry journals, including a brief summary of each one, that is a great place for you to get started [11].

Exercise 2.1 **Find some poetry journals. Visit the list of poetry journals provided by The National Poetry Library [11] and pick two or three journals that you would like to find out more about. Read about their topics of interest, their editorial boards, their inclusivity statements, etc. until you are satisfied that this is a journal whose poetry is likely to appeal to you.**

In reading and engaging with poetry, it is of course perfectly fine for you to not like some of the poems that you read. However, if there is a poem that you do not like, then ask yourself what it is about the poem that does not appeal to you. Do you dislike the style? The content? The imagery that the poet has utilised? Similarly, for those poems that you do like, what is it about them that grabs your attention? Is it the way in which the poet has given voice to the subject? A particular turn of phrase? The fact that it reminds you of a pleasant memory or experience?

When you read a poem, you bring all of your personal lived experiences to the reading. That is why a single poem can captivate one person whilst simultaneously repulsing another. When the poet wrote their poem, they could not possibly have had in mind the experiences that you would be bringing to your reading of it. This is why everyone's reading of a poem is valid, and why (in my opinion at least) there is no 'correct' way of interpreting a poem.

However, whenever you have a strong reaction to a poem (positive or otherwise), you should take the time to consider what it is about this poem that elicits such a response. Doing so will help you to become more comfortable in selecting and engaging with poetry. It will also help you to better understand the styles and attitudes that you might adopt when writing your own poetry, as we will be doing later in this chapter.

For now though, read the following poem, which was written by me; inspired by research which has found that almost all children have tobacco smoke toxicants on their hands, even in non-smoking homes [12]. As you read this poem, take note of anything that you enjoy or dislike, and try to contextualise why this might be the case. Is it because the poem is aesthetically unappealing, or is it because of some other reason that is related to your accompanying experiences when you engage with the poem as an individual?

<u>Lingering Smoke</u>
Stubborn stains
swirl across the room,
as yellowed rugs
and mottled drapes
swish callously
in stifling drafts
of vice.
Surfaces soaked
forever in the
selfish wisps of
memories long
since lost.
Children crawl
through our exhaust,
faultless little fingers
casting filthy shadows
in the sticky remnants
of abandoned haze;
smoke on their hands
to match the blood
on ours.

I have purposefully chosen my own poems for you to engage with in this chapter, as I am thick-skinned enough for you to dislike them. Indeed, I actively encourage readers to pull apart my poems, as in doing so you can become more confident and familiar in identifying what type of poetry does and does not work for you, and how this might hone your own writing in the process.

With that in mind, what do you think about the following poem? This poem was inspired by research, which has found that head lice can help researchers to analyse the remains of our ancestors [13]. As you read the poem, think again about what it is that you enjoy (or not) about the poem, and why this might be the case.

<u>Scratched into the Past</u>
Greying apparitions
scurry silently
down hirsute paths,
nestled amongst
the cloying warmth
of flaking skin.

Their crude cement
seeps
across the contours
of our ancient scalps,
fixing oval shells
between seams
of folded flesh
and swaying stalks.
In search of lives
once lived
we comb through
fraying manes,
our past preserved
in bonds more fierce
than bone
or tooth
or claw.
Tenderly we run
fingers through hair,
tracing histories
to the withered stem
of every root.

Exercise 2.2 **Read some poems. Select one of the poetry journals that you iden-
tified in Exercise 2.1 and pick two poems from each to read. Either pick them
at random or because they have a title that appeals to you. As you read them,
make a note of what it is that you like and dislike about these poems. In doing
so, do you get a better idea of the kind of poems that you might like to read or
even write?**

Reading poetry regularly is a little like engaging with the latest peer-reviewed
research. Doing so helps you to become more familiar with the various topics,
forms, and voices that are on offer. It also helps you to develop your own unique
voice and writing style, which we will now go on to explore further.

Writing Poetry

Writing a poem can be quite a daunting experience, especially if it is not something
with which you have a lot of experience. In fact, asking someone to 'write a poem'
is a little bit like asking them to 'do some science' or 'provide some healthcare', i.e.
it is perhaps too broad an instruction as to be useful.

There are, however, a number of strategies that we can employ in order to help
make this task more manageable. Picking a specific topic, writing for a particular
audience, or even copying the style of a poet that we enjoy are all ways to help focus

the poetic creative process. Another tactic that can be adopted, and which we will now employ, is to use a poetic form to help guide our writing.

As I have argued elsewhere [1], poetry does *not* have stick to any specific form any more than it has to rhyme. However, in many instances such forms can really aid a poet, providing the scaffolding on which to build their creativity. Furthermore, understanding these forms and how they (do and do not) work can help to develop your own innate sense of rhythm, and with it the confidence that is needed to write poetry more freely and more frequently.

I am now going to introduce you to two forms of poetry that you might want to use in your own writing journeys, providing examples to demonstrate what these look (and sound) like in practice. To begin with, the 'heroic rispetto'.

The heroic rispetto is an Italian form of poetry made up of two quatrains, i.e. two verses, each of which is four lines long. The rhyming scheme of the poem follows a pattern of abab ccdd, i.e. the last syllable of the first- and third-lines rhyme, whilst those of the second- and fourth-, fifth- and sixth-, and seventh- and eighth- lines also provide rhyming pairs. The metre (or basic rhythmic structure) of a heroic rispetto is iambic pentameter, which means that each line consists of five pairs of first unstressed and second stressed syllables. Here 'iambic' means that each pair of syllables has an unstressed/stressed pattern, while 'pentameter' means that there are five of these pairs in each line, for a total of ten syllables per line.

To illustrate this form, consider the following poem, which was written about research into bombing raids by Allied forces during the Second World War, and how they produced shockwaves that were strong enough to weaken the Earth's upper atmosphere [14]:

A Blemish in Our Atmosphere
Between the curves where space and sky entwine,
The air is stripped by violent, solar flow;
A savagery inherently benign,
When matched with what arises from below.
The shockwaves of our past can still be felt,
Revealing every blow as it was dealt;
As ripples found in time unveil each scar,
The atmosphere cannot hide what we are.

Exercise 3.1 **Write a heroic rispetto. Using the structure that is outlined above write a heroic rispetto for a topic of your choice. This might be in relation to something that you are currently researching or inspired by a recent article that you have read. Pay attention to the metre and be cognisant of the final syllable in each line.**

Another poetic form that you might consider is the 'terza rima'. This is another form of poetry that originated in Italy (terza rima translates into English as 'third rhyme', for reasons that will become apparent), invented in the early fourteenth century by the Italian poet Dante Alighieri to structure his three-part epic poem, *The Divine Comedy*. This type of poem has four verses and the following rhyming scheme, with each line consisting of exactly eleven syllables: aba bcb cdc dd. Again,

to illustrate this in practice, consider the following poem, inspired by research which found that allowing sunlight in through windows can kill bacteria that live in dust [15].

A Dusty Eviction
Within the grimy creases of our home,
Lurk microbes poised and floating in the dust;
A sullied sign that we are not alone.
We treat these scrounging tenants with disgust,
Yet most of them just want to co-exist;
To which our incensed manners seem unjust.
By letting sunlight stream into their midst,
We banish tiny lodgers from our sight;
And wash away all traces they exist.
Like stranded vampires in the dying night,
Our unseen guests cannot survive the light.

Exercise 3.2 **Write a terza rima. Using the same topic that you wrote your heroic rispetto about in Exercise 3.1, write a new poem but this time using the poetic form of the terza rima. How do the two poems differ in both structure and meaning? Which of them do you prefer? Which did you find the easiest to write?**

There are many different forms of poetry that you can use to help structure your creativity. The website 'Shadow Poetry' [16] provides a comprehensive list of many different forms, including worked examples. If you are writing in a language other than English, then there are potentially even more forms available to you, many of which also have anglicised versions for you to try. As you experiment with these different forms, you might decide that you want to bend some of the rules, or else break them completely and develop your own poetic form. Whatever approach you decide to adopt, try out several different forms until you find a couple that you enjoy, as we will now be using these in our framework for targeting the incubation period.

Developing a Framework

Having engaged with reading and writing poetry, it is now time to introduce a framework to actively target the incubation period for problem solving. This framework is presented in Fig. 9.1, followed by a description for each of these steps.

Fig. 9.1 A framework to help actively target the incubation period using poetry

Identify the Problem

Begin by identifying the problem or task that you wish to address. Try to make this as specific as possible. For example, 'why are there discrepancies between the amount of carbon monoxide emitted from fires, when I compare my satellite data to a well-known emission inventory' would be preferable to 'why does my stupid computer keep returning unintelligible results' and is likely to result in a more manageable and actionable solution as a result. Incidentally, this is an actual problem that emerged from my PhD thesis [17].

Create a List Poem

List poems are poems in which you list everything that you associate with a particular topic. They can be physical objects, but also sights, sounds, ideas, memories, or anything else that pops into your head when you think about that topic. When you are writing your list poem, set yourself a time limit of 60 s, and list all the things that you associate with the problem that you have addressed in Identify the Problem section. For example, taking the problem identified above, I wrote the following 60-s list poem:

Satellites, pixels, fires, observations, sense of unease, lack of scope, scale, direction, colours, maps, imagery, dots, ambiguity, temporal management, distance, errors, understanding, databases, code.

As well as serving as a warm-up exercise to get your creative juices flowing, this list poem will also provide you with a word / ideas bank to help you in the next stage of the framework.

Write a Poem

The next stage in the framework is to write a poem about the problem that you are trying to solve. Rather than trying to recreate the problem didactically, instead think about how you might use the medium to re-frame or reconsider the issue. Pick a form that you enjoy working with, perhaps taking inspiration from one of the poems that feature in this chapter. The list poem that you have created in Create a List Poem section can act as both a source of inspiration and also a potential word bank; for example, when you are searching for a particular rhyme or syllable count to match the metre of your selected poetic form.

Continuing with my example, I have decided to write a nonet. This is a nine-line poem, in which each line (n) consists of (10-n) syllables.

Viewed from above you blister with rage,
pixels protruding from the screen

in rainbow colours of doubt.
Looking up you smoulder,
like beacons of heat
that dissipate
over time
I can't
see.

Read Your Poem

Having written your poem, try reading it out loud. Think about the cadence, the rhythm, the flow. Whilst the aesthetics of the poem are not the most essential part of this framework, is there anything that you might change to better explore or represent the problem that you are trying to address? Reading, editing, and re-reading your poem in this manner affords you the opportunity to continue to actively target the creativity incubation period.

In my nonet I was trying to convey the following concept: that using satellites to observe the amount of carbon monoxide emitted by fires in sub-Saharan Africa, produced a value that was much higher than the amount that was recorded in an emissions inventory. The line 'in rainbow colours of doubt' does not really get at the problem that I am trying to address, nor does it read particularly well, or indeed make any kind of sense. As such I reworked the nonet to read as follows, the 'unease' in the new line reflecting the inherent uncertainty in the satellite observations:

Viewed from above you blister with rage,
pixels protruding from the screen
in colours laced with unease.
Looking up you smoulder,
like beacons of heat
that dissipate
over time
I can't
see.

Revisit the Problem

Having written, edited, and read your poem, revisit your problem. Has the process revealed any new potential solutions, highlighted a new route for investigation, or exposed a mistake in your thinking? Approach the problem again, with your poem in hand, and see what you find. Even if you don't manage to directly solve the problem as a result of writing your poem, there are likely to be many additional learning opportunities that this process has presented, as will be discussed in the final stage of this framework (Consolidate Additional Learnings section).

As a commitment to the cause, I revisited my PhD thesis for the first time in over a decade to see if this nonet revealed any new potential solutions to the problem that I had posed. At the time of writing my thesis, I had observed that the discrepancies between the top-down (satellite) and bottom-up (emissions inventory) estimates of fire-emitted carbon monoxide were likely due to an underestimate by the emissions inventory. This was evidenced by comparing the observations to an in-situ fire map for an isolated fire event in Western South Africa on 6 February 2009. Doing so revealed that the emission inventory did indeed rely on data that dramatically underestimated the extent of the fire, but that further work was needed to confirm the reliability of my satellite observations. Unfortunately, in writing this nonet, I was unable to shed any new light on this issue, although as will be discussed in Consolidate Additional Learnings section, writing this poem presented me with several additional opportunities for learning.

Consolidate Additional Learnings

Even if your poem did not lead to a direct solution to the problem that you were trying to address, by actively targeting the creative incubation period you have opened up several additional learning opportunities for you to reflect on. For example, you might have identified an area for future research, drawn attention to a specific theory or concept that you need to brush up on, or corrected a misunderstanding that you had previously held. In writing your poem, you have also potentially created a medium through which to engage others with your work. At the very least, in writing, editing, and reading your poem you have continued to develop your poetic voice.

With regard to writing my own nonet, it enabled me to engage with a body of work that I have largely neglected; my own research interests having long since moved on from using satellites to observe the emissions of greenhouse gases. Doing so helped me to reflect on my own research journey over the past decade, which in turn prompted me to set aside time to plan what this might look like over the next 3–5 years. I also genuinely enjoyed revisiting my thesis, but that is perhaps because I was safe in the knowledge that it had long since been defended…

Exercise 4.1 **Follow the framework. Using** Fig. 9.1 **as a guide work your way through the framework and reflect on the extent to which this process helps to either solve a problem and/or lead to additional learning opportunities.**

Conclusions

This chapter has presented a framework for problem solving, exploring how poetry can be used to actively target the incubation period for creativity. In doing so it has also introduced several ways in which to engage with poetry, and why this might be

beneficial to you as both a researcher and a practitioner. I have also provided a set of exercises that will help you to put into practice what has been discussed, and I hope that these have helped to convince you that poetry is a powerful tool to develop teaching, research, innovation, and public engagement. Thank you for engaging with this work with an open and creative mind, and it is in this spirit that I would like to end with three requests:

1. **Read more poems.** Begin with the poems that you read in Exercise 2.2. Which of these did you really enjoy? Seek out more work by these poets and start your journey down the poetry rabbit hole—you won't look back.
2. **Share your work.** Having started to develop your poetic voice, why not share it with a wider audience? Start with the poetry journals that you identified in Exercise 2.1. If you like to read their poetry, then surely you might like to write for them too? You might also consider submitting your poetry to *Consilience* [18], a science poetry journal that I help to run and which offers free peer-review and support to all submitting poets.
3. **Get in touch.** If you have any questions or comments about this Chapter, or about the intersections of research and poetry more generally then please get in touch. My inbox and Twitter account (@samillingworth) are always open, and I welcome the opportunity to both collaborate and further develop my own knowledge and understanding.

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