Chapter 13

DECONSTRUCTING EXPERIENCE

Pulling Crackers Apart

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- Abstract: This chapter explores deconstruction and reconstruction as a technique for understanding interactive experience and then applying it to the redesign and recreation of experience on new media. It begins by looking at literary analysis where it is normal to dissect texts to understand the techniques they use to achieve aesthetic technique. This is re-enforced by considering an example of graphic design before approaching a more extensive deconstruction of the experience of real Christmas crackers and the reconstruction of that in a web version – virtual crackers. Understanding the facets of deep experience allows a recreation in a new medium.
- Key words: deconstruction and reconstruction, literary analysis, aesthetic experience, design principles



1. WORDS

the cursed animosity of inanimate objects (Ruskin)

I recently was shown the above quotation. It was quoted in a book by Madeleine L'Engle [[E80, p. 11]]. She does not just quote this, but says "What I remember from Ruskin is ...". It is not just a quote from Ruskin, but for her it is THE quote. The significance was not only personal for her, the reason it was shown me was because it made an impression on my wife and the reason I quote it here was because it also made an instant impression on me. What about you?

So why is it such a powerful phrase?

First it is something instantly recognisable with which we can all resonate. L'Engle talks about tangled coat hangers, but I am sure we all



have stories about doors that won't lock or unlock, drawers that get stuck, cars that start every morning except the morning of that job interview.

But if it were just the sentiment L'Engle probably would have not remembered the exact words.

Let's look closer.

I think it is instantly obvious that the phrase turns on the two words "animosity" and "inanimate". Structurally in the sentence they sit opposite one another, but furthermore the two words have a similar look "...anim..." and sound¹. Resonance in speech brings the words together in our minds – a frequent 'trick' of poets and orators.

But then the words tease us. They sound very similar, but one has the prefix "in". So the sentence appears to say: "the X of non-X". There is a dissonance, an apparent contradiction within the surface form of the utterance. Digging a little deeper, as soon as one thinks about the meaning of the individual words, this dissonance evaporates. The word "animosity" is about enmity whereas "animate" is about life. So at a semantic level there is no contradiction. However think yet deeper and again we are struck by the dissonance of ideas – "animosity" presupposes intent and personality, attributes of the living not the inanimate. Dissonance resurfaces in pragmatics.

Yet the sentence, however paradoxical, is also familiar. Resonance and dissonance in form and meaning.

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The idea of "deconstructing experience" can sound alien – somehow wanting to take apart something integral and personal. By understanding and rationalising experience don't we devalue it? However, the process of analysing and deconstructing² aesthetic experience is well established in literary, graphic and musical art.

This analysis and deconstruction is not just an academic exercise for the critic or interested observer. Instead the artist is aware and using this knowledge of form and technique to guide and support the creative process.³

Let's look again at some of the things we have learnt from Ruskin's quote:

- a) the use of similar sounds to bring words in contrast
- b) the use of sentence form to do the same
- c) the use of parallels between surface form and deep meaning
- d) the use of paradox (also seen in oxymoron)

Understanding these it is possible to start to use them oneself. Let's take the second and try to make something using them:

she fans the glowing embers while ice gathers on the sill

Not great poetry, but note by pivoting the sentence on the conjunction "while", the two words "embers" and "ice" are in some way

brought together, and in their contrast focus the contrast of the two clauses.

And even in writing this section I've deliberately used the rest of the techniques. Notice the repeated use of the words "resonance" and "dissonance". The words sound similar (they rhyme!) and hence call themselves together, yet they are opposites. But furthermore as words they are opposites at two levels. We use them for ideas and concepts – hence we could say that the idea of enmity of a non-living thing is in some way dissonant and yet that the idea itself somehow resonates with our personal experiences.. However, the words can also be used about sound – the surface form – and indeed that is their origin: things that sound good together and those that don't. So opposites have been brought together by sound and meaning - the surface reflects the deeper meaning.

This is the power of analytic deconstruction - it gives us tools for thought and the means for construction of something new.

2. PICTURES

So we have seen how deconstructing a paradigmatic example can allow the techniques to be used to construct new things. This deconstruction to understand is the very stuff of science and academic enquiry giving rise to theory, the language of generalisation. The application of this theory to guide the construction of new things is of course the essence of design.

Note that when the topic of deconstruction is human experience and aesthetics, we do not expect a theory that, like physical theory, completely explains and allows us to predict the exact form of future things. Instead, these humane theories are potential pathways, more like worn tracks on grass land than signposts on roads.

In the example we have seen the techniques are ones that can be taken away and applied again and again.

However, this process of deconstruction and reconstruction can be applied in a more situated and contextual fashion in order to understand a particular artefact and redesign it for a slightly different setting or for a different medium. It is the latter – the changing of medium – that will be the main focus of the rest of this chapter.

Graphic designers have faced a rapid change in their discipline over recent years. After a century or more of growing understanding of print media in magazines, books and posters, the computer has completely upturned patterns of work. For many the drawing board has all but been replaced with the workstation and tablet. Effects such as feathering of images, morphing and layering, that would have in the past required great expertise in draughtsmanship, painting and photographic manipulation, have become possible in a few clicks in Photoshop. But as well as changing the tools to produce images on traditional media, they have increasingly been called upon to design for new electronic and often interactive media – initially CD-ROM delivered content and increasingly the web.

It took cinema more than a generation to move from a filming of theatre to a creative discipline in its own right with its own vocabulary, reference works, and rich genres. Graphic design has been expected to make a greater transition largely within the last 10 years.

There are two major ways in which we, as humans, make old experience available to new situations. One we have already discussed – theory and abstraction. The other is perhaps more grounded – examples and analogy. The latter is probably the major way in which a lot of visual design works, allowing incremental progress through reapplication of the familiar. But analogy does not promote more fundamental leaps.

This has been a problem especially with web pages, where designs that look good on paper or even on screen fail when transferred to the web. Sometimes the only way in which the design could be rendered was as a single large bitmap, or collection of bitmaps leading to slow download times and often strange alignment problems as formatting differed between web browsers.

The problem is that the web appears at first to be a medium just like a computer screen – after all that is where a web page appears. However, the internal structure of web pages and dynamics gives it different properties. To design for the web one needs to understand those properties.

the golden rule of design understand your materials

One example of this are images rather like those in figure 13-1.i. A strong frame (the box) with some element, usually a curve or angles line crossing the frame. Although this is drawn more iconically, this may be the design for the page as a whole with text and further graphics within and around the frame.

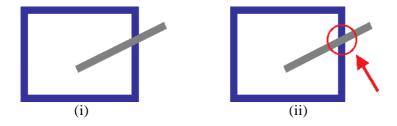


Figure 13-1. breaking boundaries

This sort of design is very common, but translates badly to the web environment. This is because of the crossing highlighted in figure 13-1.ii. This requires either that the whole image is a bitmap, or that different parts are very precisely aligned. However, the slightly different formatting on different browsers means that attempts to fragment the image lead to unexpected spaces or poor alignment.

This has got better recently as more recent versions of browsers have allowed more precise positioning, but the difficulty of achieving this type of effect (and others) is one reason why designers often turn to Flash splash screens even for fairly static content.

However, if we dig more closely and ask *why* the image is the way it is more solutions become apparent. The use of a strong element breaking a boundary is used because it gives a sense of dynamism. We know that web pages can render rectangular frames very easily. We also know that precise positioning is possible, but we would like to convey the idea of the string image crossing the boundary.

Look at figure 13-2.i. Although the lines do not actually cross the boundary, our visual gestalt 'fills in' the gap and the lines still appear to cross. Note the use of several smaller lines rather than one big one, this means that precise alignment is not critical.



Figure 13-2. gestalt flow

Note here we are deconstructing and reconstructing in two sense. First we are taking surface elements: the box, the angled lines, and re-placing in the new image. However, more important we are also looking at the underlying effects of those visual elements: the breaking of boundaries, the dynamism, and the how to achieve these experienced effects in a different medium. Some of the precise visual features are lost in the redesign: the actual crossing, the single line is changed to several lines, but the underlying feelings are reproduced (table 13-1).

Table 13-1.	deconstruction	and reco	nstruction	of th	e image
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Tuble 15-1. deconstruction and reconstruction of the image						
original image (figure 13-1.i)	new image (figure 13-2.i)					
surface elements						
strong box	strong box					
single thick diagonal	several thin diagonals					
actual crossing	not present					
experienced effects						
breaking boundaries	gestalt feeling of boundary crossing					
dynamism by crossing	dynamism by gestalt crossing plus					
	multiple lines suggest movement					

Of course this does not create a solution, these are just sketches, a particular design would require more detailed work, but the deconstruction and reconstruction opens up the design space. If the constraints were different we would need to look for different solutions. If the image were in fact a company logo that we needed to preserve in appearance we could not take the liberties we did in figure 13-2.i. Instead we might use a toned down version as a background image, or perhaps use a small version with large elements that emphasise key visual features as in figure 13-2.ii.

The general lesson is that as we move between medium we need to deconstruct the effects that make the experienced image and reconstruct those not the surface image. This will typically include preserving certain surface features, especially if these are themselves evocative, but we can move away from reproduction to reconstruction.

3. CRACKERS

Now those of you who do not come from Britain or Anglicised parts of the world probably do not know what a cracker is. Cracker's are tubes of paper pinched in near each end to make a tubular 'package' in the middle (see below). Two people pull the cracker, one holding each end. Inside the cracker is a tiny amount of gunpowder so that when the cracker eventually pulls apart it also makes a loud bang. Then, from inside usually falls three things: a motto or joke (usually a very bad joke), a paper hat and a small plastic toy.



It was nearing Christmas 1999 and aQtive, a start-up I was involved with, wanted something to send to friends and contacts ... and perhaps spread a little the brand name! There were numerous electronic card sites, this was passé – couldn't a hi-tech company do better. Then, one day whilst driving on the motorway the idea came – why not an electronic cracker?

Of course, it is not as easy as that. Real greetings cards are flat, largely printed, arrive in the post. Although different in electronic form than on cardboard, there is not a great gulf. In contrast, real crackers are solid (well not flat), are used together with someone else, not just looked at, but pulled and things found inside. It is not clear that any electronic version could work – because the experience would be too different and too impoverished.

In fact, Virtual Christmas Crackers were a great success and many of those who received them from aQtive sent them on to others. Sadly their life time is short (about 3 weeks leading up to Christmas), so they are not a major year-round product, but each year since they have been equally successful and attract frequent 'fan mail' to TorQil the cracker elf.

I love this site!!!!! Thank you, thank you, thank you!!! And Merry Christmas to everyone involved!! cracker feedback

Virtual Crackers were successful because they did not simply try to emulate real crackers, but in some way captured aspects of the essence of the experience – deconstructing the experience of real crackers made of paper and gunpowder and reconstructing it in the very different medium of the web.

We'll look briefly at how virtual crackers work for the sender and receiver and then examine more deeply this process of deconstruction and reconstruction.

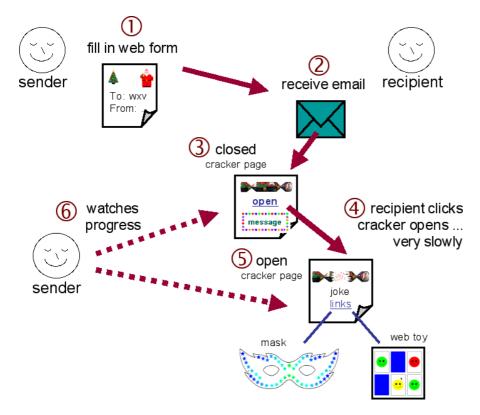


Figure 13-3. the process of sending a virtual cracker

The sender's interface starts off very much like an electronic greeting cards. There is a web page where you fill in your email address and name, the recipient's email and name and a short message to be delivered with the cracker (figure 13-3, step \mathbb{O}). Again, rather like an electronic

greeting card, you get to choose a general cracker theme (Christmas, Valentines, New Year) and a design for the outside of the cracker.

When the sender is satisfied the form is submitted and an email is sent to the recipient (step @). The email contains a URL where the cracker can be found, again like most electronic greetings cards. However, clicking the email does not lead to the full cracker contents, but instead to a "closed cracker" page with the outside of the cracker and button to press (step @). When this button is clicked the cracker pulls apart, but very very slowly – almost painfully so (step @). When the cracker image has pulled apart the web page is replaced with an "open cracker" page and a 'bang' sound (step @). Only then can the recipient see the joke and links to further pages with a 'web toy' (an animated GIF or applet game) and a mask. The mask is on a page of its own and is big enough that if you print it out you could cut it out the mask and wear it.

The sender also has a URL both on a confirmation web page and in an email sent at the same time as the recipient's email. The sender's web page only shows the outside of the cracker until the recipient has opened it (step 6). So the sender can't peek ahead of the recipient!

I think your crackers are fantastic !! These are very cool! Well done!

cracker feedback

4. **EXPERIENCE**

The operation of the virtual crackers sounds a bit like a mixture of electronic greetings cards, a direct translation of some aspects of physical crackers, and some ad hoc additions. In fact, looking more closely we can see that the virtual crackers are a reconstruction of a deconstruction of the real cracker 'experience'. Virtual crackers succeed not because they replicate real crackers, but because they capture the essence of the experience: an experience that is interactive and multi-party.

We'll look at some of the facets of this deconstructed experience in turn (summary in table 13-2). The table classifies these facets into surface features and experienced effects as in table 13-1. However, this distinction is a little arbitrary; for example, it was not clear how to classify 'surprise' (due to bang). This is natural as the surface features of course give rise to the experienced effects.

Design: Although there are expensive crackers for high class dinners, on the whole crackers are a cheap and cheerful part of Christmas celebrations – crepe paper, simple designs, plastic toys, looking good for a while and then torn apart. The web pages reflect this, simple bold graphics and page design. Furthermore, the cheap materials of crackers

Table 13-2. the crackers experience	e
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	real cracker		virtual cracker	
surface elements				
design	cheap and cheerful		simple page/graphics	
play	plastic toy and joke		web toy and joke	
dressing up	paper hat		mask to cut out	
experienced effects				
shared	offered to another		sent by email, message	
		ſ	sender can't	
co-experience	pulled together	{	see content until	
		l	opened by recipient	
excitement	cultural connotations		recruited expectation	
hiddenness	contents inside		first page - no contents	
suspense	pulling cracker		slow page change	
surprise	bang (when it works)		WAV file (when it works)	

means that sometimes the 'bang' doesn't work, etc. The virtual crackers use dynamic effects that tend to be flaky and browser dependent. Even with great care in construction dynamic web material tends to be less than perfect. This becomes 'forgivable' because it merely picks up existing qualities of the real crackers! If instead one wanted a virtual Fabergé egg things would be different. The experience would be one of opulence and would require meticulous design – quirky, unreliable, even minutely imperfect web pages would be unacceptable.

Play: Real crackers contain a joke (usually a very bad joke) and some sort of toy: plastic ring or figure, tiny game, etc. This was the easiest aspect to translate to the virtual experience except that the toy becomes an electronic toy: either an animated image or a small web game.

Dressing up: The other thing inside a real cracker is a paper hat. The first thought for this was to show a 'smilie' face with a hat on it. this would have been fun and pretty, but hardly captured the essence of a paper hat. A paper hat is something you can put on – dress up in. The next thought was to have a separate page with a hat that you could print out and cut out. However, this would need at least one glued joint and some quick measuring of head circumferences showed it would need to be in two parts. The solution eventually adopted was a cut out mask. This fits on an A4 or US letter paper and is a different way to 'dress up'. Often people do not put on the hats from the crackers, but would be upset if the hat was not there. With virtual crackers we do not expect that many people actually print and cut out the masks, but the fact that you could leads to an apparent tangible experience.



Shared: With real crackers, each place setting typically has a cracker and the person will offer their cracker to pull together. It is a shared

experience. Because the virtual crackers are offered, albeit by email and not in person, they also have aspects of this sharedness. The mail to the recipient and the cracker web pages all emphasise who the cracker has come from, so the sharedness is re-enforced throughout.

> your virtual crackers are the bomb! they are too cool to be kept to myself cracker feedback

Co-experience: A harder aspect of the cracker experience is the physical pulling. This is clearly very tactile, and pressing a mouse button hardly compares! The fact that the sender cannot see the inside of the cracker until the recipient has opened it does add a little to this sense of co-experience, but it is perhaps one of the weaker aspects. If combined with an instant messaging technology, perhaps it would be stronger.

Excitement: Real crackers are pulled in the middle of a party or celebration meal. Although they are just made of paper and plastic there is a real excitement about pulling them. This is partly because of the situation, but partly because of the cultural connotations that go with them: childhood Christmases, family celebration. Virtual crackers are able to recruit some of this excitement, because people associate them with the real thing. Often feedback to TorQil has mentioned this sense of nostalgia. Although the focus is on the deeper aspects of experience, it is the surface visual characteristics that give the instant familiarity. Recall the Ruskin quote. It is often the nature of aesthetic experiences that they rely on a confluence of surface attributes and deeper meaning.

Thank you for putting a smile on my face and bringing back some funny memories! My mother is from England and I grew up pulling the "real" crackers during the holidays.

cracker feedback

This is such a great idea! As an ex-pat Brit' I have missed Christmas crackers all the years that I have lived in the USA

cracker feedback

Hiddenness: the contents of a real cracker are hidden until the cracker is pulled apart. Similarly with virtual crackers, the first page the recipient sees when the cracker URL is followed does not show the joke etc. Only when the cracker is 'opened' does the recipient (or sender) see inside.

Suspense: Although crackers are made out of paper they are surprisingly difficult to pull apart. There is a sense of growing suspense as

you start to pull and pull. Sometimes even frustration when the paper never seems as if it is going to break In fact, for children I've occasionally had to make a small tear in the paper to make it break for them at all. Virtual crackers are, of course, not physically pulled, but the slow (painfully slow) movement of the halves of the cracker when the 'pull' button is pressed and the long wait until the contents are revealed adds to the sense of suspense.

Surprise: The pulling of the real cracker ends in the explosion as the cracker bursts open with a bang! Well, usually with a bang, sometimes they just come apart and the bang never comes. The opened virtual cracker also produces a 'bang' albeit simply a .wav file, and just like real crackers this 'bang' sometimes fails depending on browser capabilities!

Before moving on, I guess I should note that this analysis of the deconstruction and reconstruction of the crackers experience is itself partly a rational reconstruction itself of the process we went through in producing the final design. Virtual crackers succeeded partly because when faced with problems we explicitly tried to look for the underlying issues and aspects of real crackers in order to be able to recreate a similar experience in virtual crackers. But also there were times when we did not do this explicitly, but looking back we can see that virtual crackers succeeded because we unconsciously or perhaps even accidentally reproduced aspects of the deeper essence of the experience.

The above analysis should be read therefore rather like the analysis of the Ruskin quote. It may be that Ruskin was explicitly aware of the techniques he was using, as he was clearly reflective on the nature of art. But he was also a very practised, skilled and inspired writer, so it may be that these techniques were unconscious and unplanned. Or it may even be an accident and the fact that this quote is remembered was because it just happened to embody the right features. Whichever is true about that quote it is certainly the case that, for those of us without Ruskin's genius, more structured methods and heuristics can help us achieve more robust and effective prose.

Similarly, we know that the virtual crackers in some way 'worked' and in unpacking this we can perhaps move towards 'designing in' that success.

5. **REFLECTION**

Rather than starting with a 'method' and then applying it to examples to demonstrate utility, this chapter has progressed by successive revelation as we examined increasingly more complex examples of deconstruction and reconstruction of experience. As previously noted, the process of deconstruction lies at the heart of science and academic study. The main use is to allow us to unpack the generic issues that underlie a particular instance in order to understand related phenomena elsewhere. All the points (a)-(d) we uncovered in section 1 are of this form. Generic properties or facets of the Ruskin quote that we could use in other literary works. This is the sort of thinking that is common in detailed low-level literary analysis.

In fact, several of these points can clearly be generalised across media. For example, point (c) parallels between surface form and deep meaning can be seen as a version of Louis Sullivan's "form follows function" [[**ref**]]. Also point (a) says that things with similar surface characteristics are somehow 'brought' together by that. This is also a principle of visual perception used frequently in information visualisation, graphic design and fine art.

In other chapters of this book we can also see this process at work, for example, **** see if I can get a few, perhaps pete's stuff ****.

In the normal course of academic process these are all attempts to produce generic universal principles and heuristics that can be applied to new problems and situations.

However, the graphic design example and even more the deconstruction of the crackers experience point to a more situated use of deconstruction that enables the reconstruction of the *same* experience in a different medium. Of course, I am using the word 'same' here cautiously – it is by no means an identical experience either encountering virtual crackers after real ones, or even the variants of the simple line and rectangle graphic. However, the essence of the experience is in some way captured.

In the case of the graphic design there are also general lessons like those from the literary analysis. For example, the principle of breaking boundaries to give dynamism can be deliberately used where a sense of dynamic is required. This is the sort of generic heuristic that can be found in more analytic discussions about design. This synthesis of new designs from a 'bag' of heuristics and guidelines that have been distilled from previous experience, this construction of the new based on the deconstruction of the old, this is the heart of more systematic design and engineering.

However, the new graphics in figures 13-2.i and ii are not synthesised from scratch but instead borrow the precise set of deep characteristics found in the original graphic (figure 13-1.i) and do so by embodying it in features that follow as closely as possible the surface features of the original. So, figure 13-2.i is not just a different graphic that expresses dynamism, it does so by using the more particular technique of breaking boundaries. Not only this, but it uses a rectangle and an angled line. So, the final graphic is in some way recognisably consonant with the original and recognisable as being 'the same' in a different way.

Similarly with virtual crackers, if we had dug to the deepest level of the experience and then *only* asked "can we reproduce these", then we might have produced a totally new (and possibly successful) 'fun' and 'party-like' artefact, but it would not have deserved the name 'virtual cracker'. Blindly recreating surface features (like the image of the hat) in a different medium may NOT recreate the same experienced emotions and effects. So reconstruction in a new medium is not reproduction in that medium. However, equally we try to stay close to the original surface form in order to be 'the same' as the original.

It is interesting to note that the excitement of the virtual crackers borrows from the cultural nuances of the original, which are themselves evoked by similarity in surface features.

Looking at the deconstructed crackers experience, we could go on to abstract these to find some general principles to aid the design of experience in other domains. However, the most important lesson from this is not the particular deconstructed facets, but the process of deconstruction and reconstruction itself.

6. **DISTILLATION**

Deconstruction of instances and analysis to form abstractions is the essence of science. Construction of new artefacts by the synthesis of these abstractions in new contexts is the essence of design. These can be applied to experience as in other domains. of course, as we are dealing with human emotions the abstractions, like those in literature and art, are guidance and heuristics, not hard rules.

However, in the successive examples in this chapter, leading to the rich crackers experience, we have seen a movement from general principles to a more situated use of deconstruction and reconstruction as a process of analysing a particular experience in order to translate it to a new medium.

In Janson's History of Art [[J77, p. 14]], he shows how Manet's famous painting *Le Déjeuner sur l'Herbe* reproduces aspects of a previous engraving after Raphael and that engraving itself is based on older Roman sculptures. This process of inspiration across media clearly occurs naturally over time. However, the rate of change of digital media exceeds any previous times when reconceptualisation occurred between media. A more systematic approach to dealing with this transition is not just an academic luxury, but essential if design is to keep up with technical change.

This chapter offers one part of a systematic armoury for the design and re-mediating of experience.

ACKNOWLEDGEMENTS

Virtual crackers are an online product of vfridge limited and can be seen (and experienced!) at: http://www.vfridge.com/crackers/

The first version of virtual crackers was produced by aQtive limited in conjunction with Birmingham University Telematics Centre. Thanks especially to Ben Stone who produced the first cracker implementation. Since then they have evolved through comments from numerous people.

An early version of the analysis in this chapter was presented at the 2001 Computers and Fun conference, where I received many helpful comments.

This is part of a wider study of the nature of technological creativity and innovation (see http://www.hcibook.com/alan/topics/creativity/) and this has benefited from discussions and input from many people and especially recent support from the EPSRC funded EQUATOR and CASCO projects.

NOTES

- 1. In fact the two words "animosity" and "inanimate" come from a group of related Latin words derived from "anima" breath, soul or life and "animus" spirit or mind.
- 2. Note I am not using "deconstruction" here in the recent traditions of post-modern criticism, but in a broader looser sense of just taking apart, teasing out the strands that make something what it is ... and, in this context, especially those that make something 'work' as an experience or as a designed artefact.
- 3. The vocabulary of literary and other artistic criticism is large and rich. For example, the Penguin Dictionary of Literary Terms and Literary Theory [[C98]] contains over 4500 terms. Poets and artists are amongst those expanding and using this language. For example, Gerard Manley Hopkins coined the term "sprung rhythm" to describe a metrical form of his own verse, which was also found in far earlier writing, and in so doing both re-enforced his own style and influenced later poets [[H18]].

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