Exploding the Creativity Myth: The Computational Foundations of Linguistic Creativity by Tony Veale

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BOOK REVIEW

Exploding the Creativity Myth: The Computational Foundations of Linguistic Creativity.
Tony Veale. London, UK; New Delhi, India; New York, NY; Sydney, Australia: Bloomsbury,
2012. 184 pages, $32.95 (paperback), ISBN 978-1-4411-8172-5

This book is all of: engaging, entertaining, thought-provoking, theoretically important, and inspirational for hands-on technological work on creativity. Veale is a major mover in the area of "computational creativity." This field is, for one thing, is concerned with making computer programs behave creatively, but is also concerned with the nature of human creativity—whether by drawing lessons from computer program development or by directly developing computational psychological models. Thus, the book should be of interest to anyone interested in the nature of creativity in people and/or machines. The computational content is kept light and high level, making the book accessible not only to a broad, multidisciplinary academic audience but also to interested laypeople.

I do not know whether Veale playfully intends us to use our creative imagination in understanding the phrase "the creativity myth" in the title. But I can assure prospective readers that the book's point is definitely not that creativity *is* a myth. Far from it: the book is clearly a hymn to creativity, while seeking to debunk certain myths *about* it. As well as extensive general discussion on this matter the book also has the positive program of illuminating the cognitive processing needed for creativity and of contributing to, and inspiring the development of, computational models of creativity. As part of this Veale sketches various computer programs he has developed that exhibit at least the beginnings of certain forms of creativity (see below).

So why not say "myths" instead of "myth" in the title? Perhaps because there's one overarching myth attacked; namely, that creativity is something magical and mysterious that by its very nature cannot be produced in a systematic, analyzable way. This myth is often attended by the idea that machines are in principle and for evermore inferior to humans in lacking creative potential, an idea that is encapsulated in the glib thought that computers (or rather programs) can only do what they are told to do. But lest anyone think that Veale himself seeks to devalue humans, it is clear that he is exquisitely sensitive to the amazing fluency and subtlety involved in human creativity.

The book is largely confined to the language area, although there are clear possibilities for generalization to other types of creativity. Within language, Veale talks mainly about variation of previous phraseology and utterances. This focus on variation reflects one of his main themes, namely that even hackneyed bits of language such as clichés and stock metaphorical phraseology provide a rich supply of ingredients with which to be linguistically creative. While Veale certainly allows that overuse of such devices betrays a writer's or speaker's laziness and as such can be criticized, much linguistic creativity is obtained by imaginatively and appositely exploiting clichés and formulaic metaphorical language, through varying their wording, combining them or alluding to them. Veale makes clear that in repudiating the repudiation of clichés and the like he is following in the footsteps of others (e.g., William Empson and Christopher Ricks, p. 85). But Veale makes the case in a most illuminating and rich way, with a wealth of examples, instructive bits of cultural history, extensive exposure of the linkages and similarities between different cases, and pointers to the computational processing needed to produce the variations.

In chapter 1, Veale starts by briefly mentioning some "elementary myths." Veale's main target at this point is the idea that creativity is based on intuition as construed as a capacity that is divorced from reason. Rather, according to Veale, creativity may indeed be based on intuition, but (much) intuition is a matter of complex chains of small systematic (e.g., logical) steps, where the ability to guide the process in fruitful directions through a thicket of possible alternatives at every step is crucial. This is therefore a matter of intelligent search as studied in artificial intelligence (AI). The

chapter also proceeds with the major theme mentioned above by agreeing (with George Orwell) that lazy writers overuse fashionable metaphors and ready-made phrases, but asserts that "[t]he most effective means of communicating a complex idea may be the repurposing of familiar metaphors and tired figures of speech … rather than the novel construction of entirely new metaphors and conceits" (p. 9).

Chapter 2 and later ones develop in detail the idea that familiar bits of language, and, more abstractly, script-based knowledge and stereotypes about the world, can be exploited to creative ends. For instance, under the heading of simple variations, Veale discusses (pp. 29–31) variants of the expression "sleight of hand" that have appeared in various sources, such as "sleight of foot" and "sleight of mind" and playful combinations of familiar expressions such as "sleight of hand-to-hand" (concerning the disarming of attackers). Under the heading of more enigmatic variation (pp. 31–34) he discusses examples such as "paint-bubbling hangover" (from the novelist Martin Amis), which Veale explains as exploiting the familiar expression "blistering headache" via the notion of bubbles/blisters in paint.

Chapter 3 considers, among other things, the type of searching through spaces of possibilities that could account for surprising yet appropriate variation of language, building on the work of prior creativity researchers in AI and cognitive science. Veale links search to the theory of humor, concentrating mainly on how a joke appears to be developing a story that conforms to one script or stereotype but then surprisingly switches to a different script/stereotype that also fits the given facts. The main link to search is that joke-tellers lead hearers in a misleading direction in a space of possibilities while themselves actually heading in a different direction.

Chapter 4 argues that commonly used simile types in a language, such as "as solemn as a funeral," constitute a copious source of stereotypical bits of information about entities in the world; here the information that funerals are typically and notably solemn. This observation about similes is an old one (Veale cites Charles Dickens in particular) but Veale gives it technological clothing by demonstrating that the stereotypical information can readily be harvested by web search engines. Thus a computer can fairly easily be programmed to discover that a funeral is (stereo)typically sad, orderly, solemn, and so on and conversely that funerals are one good exemplar of each of these properties. The chapter goes on to explain how this harvesting forms the basis of a simple but effective metaphor-generation system called *Aristotle* that can be accessed online. The type of metaphor produced is illustrated by "Paris Hilton is a matchstick" when used to convey the skinniness of that personage.

Chapter 5 provides illuminating comments on the involvement of analogy and conceptual blending in (linguistic) creativity (creative metaphor, for example), showing for instance a complex, multiple involvement of blending in a reported creative likening of the physical appearance of the director Sam Mendes to "the painting in George Clooney's attic." Roughly speaking, Veale analyzes this as involving a blend of Clooney with Dorian Grey (as in the Oscar Wilde story featuring a painting in the attic) and then a blending of this blend with Sam Mendes. The chapter ends with a description of another of Veale's online systems, called *Metaphorize*, which is able to some extent to analyze metaphors such as "hackers are hobbyists" posed to it, through considering potential phrases such as "hacker club" that are amenable to analysis in terms of conceptual blending. The system again exploits knowledge web-harvested from similes and in other ways.

Chapter 6 is mostly an analysis, supported by web evidence, of the way similes can be ironic, partly through using ridiculous vehicles, as a notable case of the creative use of the ridiculous to effectively and efficiently communicate meaning and affect. Irony theorists are familiar with this general point, but Veale's empirical study of the precise way similes can be ironic is an illuminating contribution. An example of an ironic simile is "It's about as useful as a fish on a bicycle." One main linguistic point here is the way hedges such as "about" are heavily used in simile to signal irony, although the positivity of the property mentioned (e.g., usefulness) is also important: "It's about as useless as a fish on a bicycle" is not ironic.

Chapter 7 ends the book by exploring a claimed analogy between the search for the creative potential of familiar linguistic expressions and the search for monetary value in a business environment, following in the footsteps of Sternberg and Lubart's "investment theory of creativity." Veale mainly concentrates on the investment practice called short-selling, but the analogy seems to me rather forced and unilluminating. I found more value [sic] in a likening of an aspect of linguistic creativity to the use of ready-mades in art, as typified by Marcel Duchamp's urinal, and this likening seems to me divorceable from the investment metaphor. Veale here describes yet another of his intriguing online systems, *The Jigsaw Bard*. Consider that the phrase "a robotic fish" is common on the web. While largely used literally to mean a robot in the form of a fish, it can also be treated much as a ready-made and be re-purposed by The Jigsaw Bard as a creative way of conveying coldness, because robots and fish are separate ways in which coldness is conveyed on the web.

This review cannot, for length reasons, do justice to the great wealth of examples, observations, and analyses that Veale provides in the book. He does it all in a deftly economical and indeed creative way, with lots of appositely creative metaphorical description of creativity. Also, I should mention that Veale has gone on since the book's publication with further, more advanced work on automated creativity, notably on a metaphor-analyzing system called *Metaphor Magnet* that is also used by a twitterbot to create and inject a novel, cunningly worked-out metaphor once an hour into the twittersphere. This bot can fairly be said to be one of the more interesting and insightful contributors to that sphere.

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