

The Magic of Storytelling: How Curiosity and Aesthetic Preferences Work

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Abstract

Why do we love stories? That this is not an idle question is shown by the fact that we spend an enormous amount of time in our lives following stories: telling and listening to them; reading them; watching them on television or in films or on stage. Despite their recurrent similarity and even predictability, we continue to enjoy them. The paper brings to bear on this question two different strands of current literature in experimental psychology: the literature on aesthetic preferences, and the literature on curiosity and interest. The paper discusses how, in the case of storytelling in particular, though also of creative activities in general, there are two types of curiosity at work: explorative curiosity – associated with investigating new ideas for the simple joy of it and regardless of source – and specific curiosity, corresponding to focused exploration and aimed at solving problems for which the accuracy and relevance of information is of importance. In both cases curiosity is felt as an intensely pleasant experience, which is affected not only by external, but also by the internal stimuli of novelty and challenge. But how does interest/curiosity solidify into preferences that have stability enough to guarantee guidance yet sufficient flexibility to allow for change? The answer explored here highlights the distinction between comfort goods and activities and creative goods and activities. The latter, which allow for complexity, variety and multiplicity of dimensions have a transformative power that allows also for sustained stimulation and interest. The broader aim is to analyze the “behavior” of individual preferences – how they form, how they stabilize, how they change – in the consumption not only of art, the usual focus in discussion of aesthetic preferences, but also of all those goods and activities that can be called creative.

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1 Introduction

In 1944 Edmund Wilson published an article in *The New Yorker* entitled “Why do people read detective stories?” In answering his own question Wilson charged the mystery genre with being dull, badly written, and utterly formulaic, a “department of imaginative writing” that was “completely dead” (p. 84). To his great surprise, readers rebelled. He received so many passionate letters in defense of mystery stories and authors – more than those he had received in answer to his famous criticisms of the Soviet Union – that he went back to the topic in two articles that appeared in the first two months of the following year. By then, he had done his homework and read many of the contemporary writers his readers had suggested. But he was unrepentant. Reading detective stories, he concluded, “is simply a kind of vice that, for silliness and minor harmfulness, ranks somewhere between crossword puzzles and smoking” (1945a: 65).¹

Arthur Krystal, in a recent issue of the same magazine (May 2012), revisited the same issues. In “Easy writers. Guilty pleasures without guilt,” Krystal gives us an account of Wilson’s position as well as a current follow-up. The debate between literary fiction and genre fiction – the one, Krystal notes, supposedly good for you while the other merely tastes good – clearly did not cease in 1944. In the interim, and despite still numerous detractors of the mystery genre, many had also come to its defense. Some of these had simply declared that mystery was art, but there were also those who noted that mystery had come a long way from the simple and crude artificiality of its origins. Today, not only has the genre gained literary status, but any claim for the superiority of one genre over the other does not go unquestioned. Indeed, Krystal reminds us, the guilt might “peel off” from the pleasure if only one recalls that the novel itself, today perfectly acceptable, was, on its first appearance in the eighteenth century, the target of criticism by self-appointed guardians of morality and propriety who denounced it for being basically unproductive and sought after solely for the idle pleasure it provided. By Victorian times, of course, fiction had become the leading literary genre (Bianchi 2008).

¹ Wilson however not only exempted Arthur Conan Doyle from the same charges, but in his third article on the topic he gave a sympathetic and precise analysis of Holmes’ adventures (1945b).

Guilty or innocent expenditure of time, literary or not literary fiction, we are left with a larger question: what makes storytelling in all its forms so very a resistant source of pleasure?

I shall try to answer this question by bringing together two different strands of current literature in experimental psychology, one dealing with aesthetic preferences, the other examining curiosity and interest. In both the aim is to analyze the “behavior” of individual preferences when dealing with the consumption, not only of that which is usually taken to be the object of aesthetic preferences, art, but also of all those goods and activities that might be called creative. By this last designation, as will be clarified further below, I intend all those goods and activities that are enjoyed in themselves and not for extrinsic reasons, as a means to something else.

After first having explored the possible variables that trigger aesthetic responses to creative goods and activities, I will discuss the underlying motivations. It will emerge that, in the case of storytelling and of creative activities in general, there are two types of curiosity at work. The first, explorative curiosity, is associated with investigating new ideas for the simple joy of it and regardless of source, while the second, specific curiosity, corresponds to focused exploration directed toward solving problems for which the accuracy and relevance of information is important.

In both cases, however, curiosity is felt as an intensely pleasant experience, affected by both the external and the internal stimulus of novelty and challenge.

The question then becomes: how does interest/curiosity solidify into preferences that have stability enough to guarantee guidance, yet sufficient flexibility to allow for novelty and change? The answer that I shall explore turns on the distinction between comfort goods and activities and creative goods and activities. The latter, which allow for complexity, variety and multiplicity of dimensions, have a transformative power that allows for sustained stimulation and interest. This distinction, first introduced and discussed by Tibor Scitovsky, has larger analytical implications in the way we represent consumer behavior in economics, both in its individual and social dimension, as well as in our conception of individual and social well-being. On these analytical implications Scitovsky's contribution has been decisive and has often anticipated or complemented later developments in economic theory. The aim of this paper

however is to focus on the working of individual preferences, and on what can help us understand how they form, how they stabilize and how they change.

In this regard the case of storytelling represents, in all its variety of forms and media, the perfect example of a creative activity whose structure, constantly playing on variety, unexpectedness, and novelty, can be enduringly stimulating.

2 Storytelling and universal plots

It was in the eighteenth century that, thanks to the growth of literacy and the increasing diffusion and diversification of books, both in Europe and in North America, there arose a new and expanding public of readers. Within these new readerships, an equally new, but more revolutionary form of literature gathered followers, the novel, which, surprisingly quickly, supplanted the old volumes urging piety, and the more serious history and biographical books. This public preference was both feared and opposed. Yet, despite vociferous criticism and open condemnation, novels did not lose their power to attract.² Why?

The question is not an idle one. We have only to remember that reading for pleasure shares its power to entrance and to captivate with many other forms of narrative: storytelling and listening, including the following of TV serials, songs, folk tales, memories, legends, myths, jokes, movies and videogames. Indeed, a large amount of each day is spent in one or another form of narrative activity (Nell 1988: 47).

What is also remarkable is that all these forms of narrative seem to draw systematically on a very few recurrent themes. Christopher Booker, who has sifted centuries of literature in all its variety and forms, identifies just seven basic plots: Overcoming the monster; From rags to riches; The quest; Voyage and return; Comedy (mishapprehensions and disclosures); Tragedy (the dark side of comedy) and Rebirth. These plots appear to be the recognizable anchorage of storytelling and they repeat themselves across quite different times and places (Booker 2004).

² “That’s what has thrilled me most about the Jurassic Park phenomenon. It’s not ‘domination’ by American cinema. It’s just *the magic of storytelling, and it unites the world*. And that is truly gratifying.” Quote from Steven Spielberg, *Variety* 1994, in Hiltunen (2002: xii) (emphasis added). See also Woodside et al. (2008).

Not only that, but, importantly, these apparently universal plots conform to a narrative structure that follows recognizable patterns of obstacles and resolutions. After initial difficulties, Booker writes, heroes and heroines face a Call, which sends them out into a wider world. There they enjoy initial rewards and successes, only to see these destroyed by a central Crisis, in which suddenly everything seems to go wrong, until they finally gain Independence and the Fulfilment of all their wishes (Booker 2004: 65). These patterns can be made more complex and multiplied, subdivided or truncated, but they continue to punctuate and give rhythm to the unfolding of the plot.

Yet, and paradoxically, despite this recurrent similarity and even predictability of content and structure that narratives seem to share, we continue to enjoy them. Why is it so? What is their power of attraction? And, what are the specific ingredients that pull us towards this or that story, and that selectively make us like one more than another?

In formulating some tentative responses to this question I shall start by drawing on some of the findings of a relatively recent but rapidly growing psychological literature on aesthetic preferences. In this new research field the object of inquiry is an analysis of the emotional responses elicited mostly by visual art, though its insights are germane to fields such as media, design, fashion, advertising and, most immediately pertinent, narrative.

3 Aesthetic preferences: Berlyne's collative variables

A pioneering figure in studies of aesthetic preferences in the 1960s and 1970s was the psycho-physicist Daniel Berlyne, whose development of a “new experimental aesthetics” (1960, 1971, Berlyne and Madsen 1973) involving laboratory research based on behavioral-science methods, still represents the reference point of much contemporary research on art (see Silvia 2005).

Berlyne introduced a specific group of variables that he posited were responsible for our emotional responses to art. These were all viewed as different components of the stimulus or “arousal potential” of an event – a piece of music, a drawing, a poem. Berlyne organized them into three distinct sets. The first were the “intensive variables,” or, as he later called them, the “psychophysical variables.” They involved the sensory intensity of a stimulus, such as the loudness

of sound, the brightness of light, size, chromatic colors, and so on. A second set, the “ecological variables,” referred instead to those external conditions that biologically were either noxious or beneficial. In art, and especially in literature, paintings and sculpture, these variables do not act directly – other than in the case of real physical pain inflicted – but through association. Depictions of situations that evoke fear, anxiety, or sexual tension tap the stimulus potential of these variables, and a higher degree of intensity in the promptings generates increased stimulus potential.

However, the most important set in Berlyne’s eyes was the third, the one comprising what he called the “collative variables”, those related to the complexity, novelty, uncertainty, surprise, ambiguity, and conflict inhering in an event. The term collative indicates that in order to judge whether a work of art is new, surprising, or complex one has to compare or collate two or more sources of stimulus or events. More precisely, in the case of novelty, variety, and change the comparison is between the actual and the previously *experienced* event, while in the case of surprise the contrast is between the actual and the *anticipated* event. Conflict and uncertainty arise in the presence either of *simultaneous responses* to an event, or when there are *simultaneous expectations* of an event. Complexity instead is the result of a contrast between one element of an organized set and other elements that accompany it (1960: 44).

The introduction of this new set of variables and the way they connect to pleasurable feelings represented a breakthrough in the study of aesthetic preferences. By means of them Berlyne supplied a new empirical basis for previous, but intuitional, analyses of aesthetic responses,³ while redefining the findings of earlier experimental researchers. The names most often invoked here are those of Fechner (1966 [1860]) and Wundt (1969 [1896]). Fechner had shown that the pleasantness of a sensation was monotonically correlated to the level of its stimulus properties: i.e. that higher the level of stimulus the higher the pleasure (up to a point of saturation). Wundt, for his part, in his “psychical analysis”, had tried to analyze, and experimentally measure, the relation between sensations, the

³ See for example Montesquieu’s *Essai sur le gout* (1993 [1757]), where he discusses curiosity and the different effects that symmetry, order, variety, contrast and surprise have on pleasure. See also Hogarth’s *The analysis of beauty* (1955 [1753]) and the discussion of his contribution in Bianchi (1998a).

physical responses to stimuli such as light, sound, taste, smell, heat, color, and the subjective feelings of the experiencing subject. The intriguing finding that emerged from these early studies was that if physical sensations vary according to their intensity, feelings vary according to dimensions that incorporate opposition: pleasant-unpleasant, excitement-depression, tension-relief.

According to Berlyne's own experimental findings, collative variables were associated with feelings of pleasure-displeasure that could be represented as an inverted-U curve, in which both highly new, complex and surprising events and very well known, simple, anticipated events can be either threatening or boring, and thus felt as unpleasant. Pleasure instead is maximal for intermediate measures of collative variables. This pattern seemed to confirm what Wundt had found, namely that optimal pleasure corresponds to levels of stimuli that are not too high or too low. Yet this similarity is only in appearance since in Berlyne's model pleasure responds not to the *levels* but to the *changes* in arousal. This means that there are two strategies for increasing the pleasantness and/or the interestingness of, say, an artwork. If the work is perceived as too challenging or new and complex, any device that increases the familiarity and the ability to appropriate it also increases pleasure. On the contrary, if the artwork is perceived as so familiar as to be redundant, an increase in pleasure can be obtained through an increase of complexity, surprise, novelty, or ambiguity.

How does this model help us to understand the dynamic of storytelling and its ability to attract?

The more obvious and perhaps the easiest way of increasing the power of attraction of an artwork is simply to increase the intensity or amount – the *levels* – of either the ecological or the psychophysical variables it contains. In the case of a novel for example, this can be obtained through the increase of its fear, violence, sex, or romance content. It is true that these means are often used. There are however objective limits to the manipulation of these variables because, once they have been used to saturation point there is no next move. Suppose, for example, that in order to capture attention, a writer adds to the perceptual strength of a text by writing in CAPITAL LETTERS. This might work for a few phrases, but quickly exhausts its appeal.

Collative variables instead can be manipulated at will (Martindale 1990), through operations that involve – as noted – increasing or decreasing the complexity, variety, novelty, or ambiguity of an artwork. Within this framework,

then, we can understand that Booker's universal plots provide the basic ingredients of attraction through their recurrent emotional invocation of fear, love, danger, anger, jealousy, etc. But it is the infinitely many and subtly different ways in which these ecological variables are treated that makes a single piece of literature enjoyable or not. It is the way in which suspense is played against its relief, in which complexity is created and then mastered, in which paths of discovery are opened up and then reduced in number, in which conflicting responses are aroused and our interest and pleasure piqued.

In other words stories are stories because they adhere to a specific narrative structure where conflict can be played against its resolution and vice-versa, and where collative variability can be manipulated at will.⁴

This brings us back to my introductory observations on mysteries. The best are those that go beyond the formulaic exploitation of the basic plot, but meticulously wind and rewind threads of collative variables, each both familiar and new in its own way.

To press the point, what we find in mysteries is that all the markers of storytelling are laid bare. The plots and subplots are dominant with all the universal ingredients that attract: love, death, fear, revenge, the fight between the good and the bad, often (though not necessarily) with the final triumph of the good. Yet these basic familiar ingredients are knit together loosely enough to play on false certainties and expectations, reversals of innocence and guilt, frustrated anticipations and partial resolutions. No other goals are involved nor special skills required in order to enjoy them. The story is an end in itself. This is the reason why mysteries are easily liked (and easily criticized). Yet with their free play with suspense, anticipation and surprise, they represent a sort of template for all forms of storytelling and their power to entrance and captivate.

The poet and writer W.H. Auden 1949, in confessing his addiction to detective stories, well describes its symptoms. These consist in the intensity of the craving engendered: once started, one cannot stop reading; its specificity: the story must

⁴ This inescapable structure of stories has been called the dramatic arc (after Freytag's original analysis of Shakespearean drama." See Freytag 1900). It is a configuration, as we have seen in Booker, that runs through a sequence from introduction, expansion, climax, and reduction of action to resolution.

conform to recognizable formulae; and its immediacy: once read, the story is forgotten and not read again.

4 Aesthetic preferences: More recent findings

Berlyne's impact on the study of aesthetic preferences continued to be felt after his premature death in 1976, well into the 'eighties and early 'nineties, yet his legacy suffered from the progressive abandonment in psychological studies of the concept of arousal and in particular the mistaken identification of his theory with theories of optimal arousal (Silvia 2006, Litman 2005, Petri and Govern 2004).⁵ This phase too passed, and the core of his research, the discovery of collative variables and their relation to aesthetic preferences, has again become a central reference point in recent research. Indeed, in the past fifteen years there has been a resurgence of empirical studies in the psychology of aesthetic preference that tends to support his original findings.

Much of this new literature appropriately underscores that novelty, variety, and complexity are strictly subjective variables, relative to the cognitive, contextual processes that are involved in an aesthetic experience. Berlyne's view that novelty is pleasant within boundaries – neither too familiar, nor too new – is clearly context-dependent, though context was not fully explored by him.

It is the merit of recent appraisal theories, then, to have stressed that responses to art require specific cognitive appraisals without which the presence of collative features would not elicit aesthetic responses. Appraisals are the cognitive component of an emotion that evaluates how events relate to one's specific values, experience, and abilities (Silvia 2010). Yet, when appraisal research has been applied to the evaluation of the pleasantness/interestingness of an event, two appraisals have emerged as relevant, both very similar to Berlyne's collative variables. They are a novelty/complexity check – appraising how new information conforms to what is already known and expected – and a coping-potential check –

⁵ For a discussion of the legacy of Berlyne, with particular reference to the topic of aesthetics, see Konecni (1996).

whether the new, unfamiliar, complex thing identified by the first appraisal is understandable (Scherer 2001, Silvia 2005 and 2010).⁶

The relevance of these two dimensions of an aesthetic experience – understanding and collative variability – is iterated in a number of recent experimental studies that tend to stress the working of either the novelty appraisal, or of the coping-potential appraisal as well as their interaction with the other ecological, content-related variables (Martindale 1984).

Several of these studies have indeed shown that the hedonic value of an event depends on the ability of a subject to decode and understand its meaningfulness. In Russell 2003, for example, when images of paintings were shown to subjects accompanied by a title, as opposed to being without, the meaningfulness of the viewing increased but not the pleasure. This result showed that additional factors, besides meaningfulness, affect the hedonic value of a painting, among them a painting's subject matter, style and color, in other words, factors that could include other collative and psychophysical variables. Instead, both meaning and pleasure increased when, in addition to the title and the artist's name, a brief explanatory description accompanied the painting.

Similarly, in (Reber et al. 2004) aesthetic pleasure was shown to be a function of what they call the perceiver's processing fluency, where fluency is both perceptual, the ease with which the objective features of a particular stimulus can be recognized, and conceptual, the mental ability to decode the meaning of a stimulus. In this research, objectively identical visual stimuli were evaluated more positively when the processing was facilitated. This was obtained by enhancing symmetry, figure/ground contrast, and clarity, and also by increasing the duration and repetition of the presentation. In addition, fluency was positively scored, that is to say, it was pleasurable in itself.

The role of previous exposure and expertise is iterated also in a recent class of experiments where both typicality – familiarity – and novelty tend to predict

⁶ Along these lines, Leder et al. (2004) propose a model of the different processing stages that are involved in an aesthetic experience. In their model cognitive and affective experiences are reciprocally linked so that the successful mastery of an artwork provides the intrinsic motivation to look for additional exposure to art in the future.

aesthetic preferences, though these are also dependent on subjects' individual differences in expertise (Hekkert et al. 2003).⁷

Confirmatory findings come, interestingly, from the field of evolutionary psychology, and in particular from those studies that have focused on the formation of landscape preferences. I refer here to the contributions of Kaplan and Kaplan (1989), and Kaplan (1992) but also Orians and Heerwagen (1992).

Their studies showed that, when presented with sets of images of different natural settings, subjects tended systematically to prefer environments that provided for both understanding (through coherence and legibility) and exploration (through complexity and mystery). Settings, by contrast, which presented uniform and unmarked configurations such as desert-type environments (highly legible but poor in mystery), and intricate, dense and impenetrable settings such as forests (high in mystery but low in legibility) were ranked low in preference orderings. The most consistently liked were savannah-type environments, wooded and protected, but having paths with ends unknown, open to be explored and holding the potential of new discoveries were one able to enter the actual scene (Bianchi 2008).

What these studies show then is that aesthetic pleasure resides in a shifting balance between the known and the unknown, the expected and the surprising, the certain and the uncertain. How, and how quickly, this balance shifts towards the unsatisfactoriness, either of the repetitive or the obscure, depends both on a person's accumulated knowledge and experience, and on the potential new knowledge an event can produce. The findings on landscape preferences seem to reveal that it is precisely the potential richness of explorable new paths that draws people towards one form of landscape rather than another.

These observations on openness to exploration lead to my next theme. If novelty and familiarity are the possible variables that trigger aesthetic responses to creative goods and activities, what is the motivation that drives the exploration of the new? This question brings us to the studies that have analyzed the relationship between curiosity and interest.

⁷ They show in particular that experts were able to discriminate more finely between typicality and novelty, and were better able to recognize novelty in typicality (see also Hekkert et al. 2003). See also Kozbelt and Serafin (2009), where it is shown that, in rating the creativity of an artwork, experts tend to give more weight to originality than non-experts. See also Leder et al. (2014).

5 Diverse and specific curiosity

Berlyne's approach to the psychology of art was an extension of his earlier studies of curiosity and exploration (Berlyne, 1960, 1965). It is with reference to his model of arousal and collative variability that he introduced the distinction, later to become the reference point of all studies on curiosity, between diverse and specific investigation.

Diverse exploration is a response to situations of low stimulus potential, those perceived as presenting low levels of novelty, variety, and complexity, and it corresponds to looking for entertainment and diversion, to opening up to new experiences whatever their source (1960: 80). Specific exploration, by contrast, corresponds to situations of relatively high arousal potential, those perceived as complex and uncertain. Curiosity, for Berlyne, belongs to this second kind of situation, one that requires the specific, focused and interested exploration that might reduce an unpleasant state of uncertainty (Berlyne 1978: 143–44).⁸

Hy. I. Day (1971, 1981, 1982), who developed several tests to measure both trait and state curiosity, translated Berlyne's framework of arousal potential into a model of specific exploration where curiosity is the response to environmental uncertainty and to the desire to reduce it. This view of curiosity as the exploratory response to unsettling uncertainty, as the need to close a knowledge gap, was maintained also in subsequent research (see in particular Loewenstein's (1994) seminal overview of curiosity studies).

More recently, however, several authors have begun to emphasize that curiosity cannot be limited to the reduction of the tension associated with as yet unknown and uncertain activities and to stress more strongly its positive hedonic dimension.

Following Berlyne's distinction between diverse and specific exploration, some experimental researchers distinguish between a diverse curiosity that is directed towards exploring situations that are novel and challenging regardless of source (Kashdan et al. 2004: 293), and absorption, which corresponds to specific, focused curiosity. The latter involves the use of skills and generates flow-like feelings. Contrary to the need-reduction theory, both these types of curiosity are

⁸ Additionally, Berlyne distinguished between extrinsic exploration, the aim of which is instrumental to some other goal, and intrinsic exploration that is sufficient in itself, independently of its practical value (1960: 79).

felt as an intensely pleasant experience, supplying a sense of mastery and self-growing that is affected not only by external, but also by the internal stimuli of novelty and challenge (ibid.302). On the other hand, both types of curiosity were found to be negatively related to anxiety, boredom, and apathy, all of which seem to thwart exploration and learning (Kashdan 2009).

Litman's interest/deprivation (I/D) model of curiosity tries to integrate both views of curiosity, arguing that curiosity can involve pleasurable feelings as well as experiences of tension associated with lack of knowledge. Developing scales for measuring curiosity that try to identify and distinguish between different types of curiosity, Litman (2003, 2005, 2008) and (Litman and Spielberger 2003) have suggested that exploration induced by interest is associated with exploring new ideas for the simple joy of it, and is what motivates diversive exploration. Exploration induced by the elimination of a knowledge gap on the other hand, reflects specific exploration aimed at solving problems for which the accuracy and relevance of information is of the utmost importance (2008: 1594).

The upshot of these studies show, then, that curiosity, whatever its type, is strictly connected to exploration and knowledge, and the uncertainty that surrounds the search for new knowledge. Yet that we voluntarily expose ourselves to this type of uncertainty tells us also that both types of curiosity – specific and diversive, problem solving and problem creating – represents a self-rewarding activity enjoyable in itself. In the felicitous phrase of Averill et al. (1998), exploration is not only creative but re-creative.⁹

There is, however, an element of curiosity that makes it problematic: the interest aroused by curiosity can be only a passing interest that does not persist over time. Curiosity indeed is often represented as a flickering emotion, one that vanishes as soon as the situation that caused it vanishes (Loewenstein 1994). The question then arises: what provides for sustainable curiosity? This question is not

⁹ Recent research on text-based curiosity and learning provides confirmatory findings. Three elements seem to converge in making a text engaging and interesting (Wade 1992). The first is the inherent interestingness of the content, whose basic ingredients revolve around fear, death, destruction, power, money, romance and sex (Berlyne's ecological variables). The second is unexpectedness, the ability of the text to provide unusual and novel twists to the component of interest (Berlyne's collative variables; see Scherer et al. 2001). The third is personal relatedness, the ability of the text to involve one, through the creative combination of the first two elements, both emotionally and cognitively. From children's stories to more sophisticated adult plots, stories are tales of the transformative power of exploration (Rigol 1994).

easy to answer and it is connected to the problem of the formation and development of interests. The implications of this problem – how a transient interest triggered by a specific situation grows into a more enduring personal interest – go beyond the scope of this paper and call into question aspects that are both normative – harmful versus beneficial interests – and practical, such as the influence of interest on learning and in different educational settings.¹⁰ Yet my discussion of aesthetic preferences allows us to advance some conjectures on how to escape the flickering stage of curiosity.

6 Enduring interests

Suggestions toward answering the question of whence enduring interests arise, come from what we have learned with reference to the formation of landscape preferences. Here we have seen that it is the potential richness of explorable new paths that becomes the dominant criterion of selection among different forms of landscape. This means that not only actual exploration but also the promise of, or the openness to, further exploration, is at the basis of motivations and preferences. Goods, experiences and activities whose characteristics help keep this promise, and allow for novelty to re-generate, and for knowledge to grow, are the natural candidates for sustained curiosity.

It is not difficult, then, to understand why art and artworks have been the main objects of study in the research on aesthetics and preferences on which I have drawn. Art, in all its various forms, provides the ever-changing challenges that invite additional exploration. Because of the internal complexity and mutual relatedness of art forms, art exposure begets further exposure and helps in establishing and stabilizing preferences. Indeed, Berlyne himself (1974), noted how complexity sustains interest far beyond the mere pleasingness of less complex forms.

Yet there are many other goods and activities that partake of this characteristic of artworks; indeed, all goods and activities that we enjoy primarily for the

¹⁰ See Krapp (2002). The educational implications of the development of interests have been particularly stressed in the literature on intrinsic motivation, where interest and enjoyment sustain each other: the interest that a challenging activity creates is also the source of the enjoyment that prompts one to continue the activity. See Deci and Flaste (1996).

challenges they provide in terms of novelty and complexity hold the potential to sustain curiosity.

Following Scitovsky (1992), I call these goods and activities creative, in the sense that they are created and used for the positive pleasure they deliver (Bianchi 1998b, 2003). They comprise all those goods that, as Scitovsky (1985, 1992) says, do not require an antecedent pain (and its possible reduction) in order to be consumed.¹¹ In this respect they differ from so-called comfort goods, whose consumption is a means to something else, such as the pleasure of avoiding or eliminating a discomfort or a pain (e.g., taking a pill to get rid of a headache). Though this distinction can never be made very sharp – we will always be able to find goods that partake of both qualities or characteristics – nonetheless it has great explicative value for assessing the motivations and preferences that lie behind the choices we make between different sets of goods.¹²

From conversation to art, from reading to walking, from listening to music to watching a movie, from intellectual activities to sports, it is through the active engagement with such goods and activities that interests emerge and develop into new interests (Krapp 1994: 90).¹³ Thanks to their complexity, flexibility, and associative characteristics, creative goods are open to a variety of operations that provide both the cognitive and affective qualities conducive to new interests and exploration (Krapp 2002). These operations can happen at different levels: when, for example, specific sets of interests, such as the distinctive genres of music, or design styles, or cooking traditions are mixed or separated, expanded or reduced, giving rise to new, stimulating and explorable opportunities. Or this can happen when entire domains of interest – such as literature or architecture or psychology

¹¹ They are, for Scitovsky, a source of enjoyable stimulation and correspond to Marshall's activities sought for their own sake, Keynes' animal spirits, Hawtrey's creative goods, and Plato's desire for knowledge. Plato in particular defined these activities as the *pure pleasures, which require no antecedent of pain*, see Bianchi (2012).

¹² In Bianchi (2014a) I have analyzed the economic consequences in terms of the greater uncertainty that surrounds more complex, and novelty-based creative goods. In Bianchi (2014b) I have shown how creative experience goods, creative goods are not simply risk-intensive, as are financial assets, but they require trust-based market relationships.

¹³ Because of their reliance on novelty and complexity, creative goods could be assimilated to experience goods, since one never knows before consumption their real effect on utility/pleasure. Yet, contrary to experience goods, even post-experience knowledge will never be exhaustive, since they must continue to rely on change.

– subdivide and migrate from one domain to another (as when art migrates into clothing, or architecture into tableware, or psychology into economics), and/or when they change meaning or recombine their internal order (see Bianchi 1998a).

All these combinatory possibilities exploit the cumulative dimension of creative activities, whose many complementary uses can be transferred advantageously from one employment to another, thus producing innovation and change. This might explain why in the case of these activities repetition and exposure do not erode pleasure but, by playing on collative variability through operations that require both diversive and specific curiosity, they allow for new interests to arise and to persist over time.

Thanks to this dynamic, transformative quality creative goods and activities help us to understand how preferences can form, stabilize in interest and at the same time evolve and change.

Tibor Scitovsky, in his attempt to bring joy back into economics, was the first to draw economists' attention to the relevance of this type of activities for economics and to discover how they might contribute to both individual and social wellbeing. He did so by trying to disentangle the reward structure of creative goods and to utilize creatively in economics the works of experimental psychologists of his time, Berlyne prominent among them. Thanks to this new understanding, Scitovsky could analyze afresh the entrapment potential of boredom and the addictive power of those activities that give comfort, that are easy to learn but difficult to abandon once they have revealed themselves to be less conducive of stimulation and interest than initially seemed to be the case. For Scitovsky, crucial in this regard became the role played by education and knowledge in the formation of those skills that enable consumers to access the enjoyable, but harmless, stimulation that art and creative activities generate. The beneficial effects of skillful consumption, however, go beyond the individual.¹⁴ Not only in terms of a more efficient functioning of the market – more skillful consumers undermine the monopoly of knowledge that might otherwise accrue to producers – but also in terms of social wellbeing, since, according to Scitovsky, the more creative activities develop and diffuse in society, the more they represent a valid substitute for more pernicious and socially dangerous forms of excitement.

¹⁴ On this point, and on the specific relevance of Scitovsky for our understanding of individual and social well-being, see Pugno (2012).

7 Why stories?

Interestingly, the recent literature on the adaptive value of aesthetic preferences has also addressed the role for the individual and society that art in general and stories in particular can play. This literature, issuing from cognitive and evolutionary psychology (and, in the case of stories, from the literary world), has increased enormously in recent years.

In the specific case of stories the question is: How did interest and curiosity for narratives evolve? This problem is nicely framed by Gotschall as the riddle of fiction, which is part of a larger biological riddle, the riddle of art. Evolution, he notes, is ruthlessly utilitarian. How, then, has the seeming luxury of fiction not been eliminated from human life? (Gottschall 2012: 24). Several explanations have been advanced.

According to the social-improvement hypothesis, narrative strengthens human abilities such as empathy and other social skills, since it provides a model of the world of people's intentions and their interactions (Mar et al. 2008, Oatley 2012; Dunbar et al. 2010). According to the self-improvement hypothesis, on the other hand, the simulated world of fiction allows us to identify with characters in situations that we do not experience in everyday life and for this reason they can promote personal change (Oatley 2011: 23). But there is also a specific cognitive function that gives stories a particular biological advantage. Stories equip us with workable templates for problem solving (Pinker 2009), create patterns and meaning that reduce disorder (Gazzaniga 2014; Bruner 1986; Gottschall 2012) or, as Boyd 2009 says: "Art prepares minds for open-ended learning and creativity": 209.¹⁵

Similarly, since stories are part of a larger discourse on the role of art and aesthetic preferences, a welter of new studies addresses the problem of how the reward structure of aesthetic experiences might have evolved and whether art

¹⁵ Earl and Potts (2013) alert us also to an additional role that storytelling can perform, that of keeping attention alive in the acquisition of knowledge. They agree with Kelly (1955), who showed that decoding sensory information involves the creation of ordering and classificatory patterns. Yet human attention and processing abilities can be kept alive only if incoming sensory inputs continue to pose a challenge, otherwise we turn off Earl and Potts (2013). Similarly, Heath and Heath (2007) have convincingly argued that stories, acting on the creation of a "curiosity gap", represent powerful means for making "ideas... stick". Stories then, structured as they are to engender surprise, become a sort of template for the growth of knowledge.

might confer adaptive advantages (Dutton 2009, Dissanayake 2000). These studies often blur the boundaries between aesthetics and neuroscience, evolutionary psychology, biology, art history and philosophy (Chatterjee 2014, Shimamura 2013, Zaidel et al. 2013).¹⁶

This is not the place to discuss the merits and demerits of the different explanations of the evolutionary role of aesthetics, though they open up interesting lines of enquiry as to the positive externalities, in terms of learning and social abilities, that narratives, art and creative goods in general, can create.¹⁷

I remain convinced, however, that we are attracted to stories not because of their adaptive role but because of the way they are deliberately constructed. This point is clearly made by the psychologist Jerome Bruner. For him human beings make sense of the world by telling stories about it – by using the narrative mode to construct reality (1996:130; 1990: 76–77). Tales are instruments of the mind for meaning making (1996: 41). Yet it is not just the content of these stories that grips us, but their narrative artifice (1996 40). And narrative artifice is generated by creating some canonical expectation as to how a particular action will play out in the world, in the face of setbacks or obstacles (2001: 211).¹⁸

Narrative, in other words, is different from other forms of communication and other ways of meaning making, because it plays on conflicts between the expected and the realized, the known and the experienced, and it is precisely this specific structure that captivates us.¹⁹

¹⁶ Zaidel et al.'s work (2013), for example, has focused on the neural correlates of art and aesthetics and on seeking archaeological and neurobiological evidence that might account for the evolution of aesthetic appreciation. For Orians and Heerwagen (1992) aesthetic preferences provide a sort of cognitive guide that enables individuals to explore, learn, and exploit better those features that have higher survival success (see Bianchi 2008).

¹⁷ Indeed narrative is now used in a number of fields: in medicine for therapeutic reasons, in teaching of course and, as we might expect, in advertising.

¹⁸ The neuro-economist Paul Zak in his *How stories change the brain* (2013) http://greatergood.berkeley.edu/article/item/how_stories_change_brain offers experimental evidence showing that the emotional response of an audience, in his case the willingness to donate to an unknown person, is affected by the way information is communicated. If communication is structured in the form of narrative, a narrative that follows the dramatic arc of tension, climax and resolution, it is much more effective than neutral information in eliciting a positive responses.

¹⁹ For Gopnik (2012), who takes a critical stance toward theses such as Gottschall's, the real problem is not about what can account for a universal taste for stories, it is about what makes good

This emotional dimension of stories and its effect on choices has not escaped economists. Thomas Schelling, for example, in trying to understand how choice can be affected by the working of the mind – especially the consuming mind, the mind that is the “generator of direct consumer satisfaction” – referred specifically to the emotions that storytelling might elicit (1984: 355). He does it by telling a personal story. When he and his wife had seen the Hitchcock movie *Psycho*, they were so affected that they decided to return home in the same car, though they had used two to go to the movie theater. Yet for Schelling the sensations of risk, surprise and suspense excited by stories differ from the feelings that other states of mind, such as daydreaming or fantasizing, generate, because in stories these feelings are strictly controlled. Even the self-deception to which we voluntarily expose ourselves in stories is disciplined and only limited. For Schelling, stories in all their forms, illustrate that we as consumers live in our minds; and often they capture our minds, engage them, occupying and preoccupying us (1984: 328). This view that stories that engage our mind with their disciplined fantasy and controlled suspense makes Schelling seem very close to the insights of the recent (and not so recent) psychological literature that I have discussed above.

But Schelling was not alone among economists.²⁰ Two others, Akerlof and Shiller, have also recognized and come to stress the value of stories in shaping our beliefs (2009). For them, stories form a part of our animal spirits, taking their place alongside confidence, fairness, corruption and money illusion. As Akerlof and Shiller see it, humans think in terms of narratives, and can form their identities through the stories of their lives. Movements in the economy too, and importantly the recent financial and economic crisis, are also partly due to the changing of shared stories about the nature of the economy.

At this might suggest, the power of stories is not always benign. Thanks to their potential of being emotionally engaging, stories can be fabricated and

stories so different from those that are not. Good stories for Gopnik, whether literary or scientific, are startling. They shock our expectations, “they intrigue us by their originality, and end by rewarding us with the truth, after an effort.”

²⁰ Earl (2011), for example, discusses how texts from literature and other creative arts (anecdotes, vignettes and above all novels) tend to show, at the core of their narratives, just how decision-making is of a complex and gripping nature. This complexity, which goes far beyond the pure calculus-based dimension of traditional economic theory, is a feature that economists might address and, in consequence, learn from stories.

become deceptive and manipulative (see also Gottschall 2013). In periods of economic unrest and change this power can be particularly dangerous. According to some (see Tuckett 2012), in the last financial crises, it was the diffusion of positive cover stories that contributed strongly to reduce the sense of reality of agents, nourishing their wishful thinking. This mechanism had already been lucidly described by Elster (1999): agents alleviate the conflicts between desires and beliefs, bypassing the stage of information gathering and instead shaping reality in the form of their desires (see further Bianchi 2001).

In economic theory, the interest in emotions and the role they play in shaping behavior and in their interaction with other motivations is gaining increasing influence thanks to the contributions of behavioral economics. Emotions such as shame, guilt, regret and envy, affect rational choices as well as the parameters of rewards (Elster 1998). They do this sometimes in a beneficial way, sometimes in ways that may be contrary to people's interest (Rick and Loewenstein 2003). Though the analysis of the way emotions enter decision making is beyond the scope of this paper, still those contributions explored here, uncovering as they do how novelty and knowledge may trigger our aesthetic responses, may be considered an important complementary component of the literature on emotions.

8 Conclusions

I began with storytelling because it is the perfect example of a creative activity, an activity that, thanks to its internal variety, unexpectedness, and novelty, can be enduringly stimulating. Stories are the landscapes of imagination and knowledge.

Stories can have secondary aims, moral or educational, or informative, yet the aesthetic pleasure we derive from reading, telling, viewing stories is linked to the intrinsic rewards generated by both the diversive and the specific exploration they excite. Through stories we voluntarily discover and enter into new worlds of events connected together by paths as yet unknown. Once inside a story, exploration becomes specific. The ups and downs of the unfolding of new events, with their apparent resolutions and climaxes, all so well described by Booker, provide the complexity mixed with novelty that keeps our attention and specific curiosity alive.

The growth and pervasiveness of today's social media provide ever more novel means for telling stories. Stories can now use words, sounds, and above all images and videos that change and multiply the forms in which they are embodied, thus formed, and received. They operate within an increasingly interactive dimension – blogs, social networks, webpages, visual narratives, collaborative stories – and this sharedness enables new genres and subgenres to proliferate.

Social media, in other words, make visible what we have seen operating in my discussion of our fascination with stories and storytelling. Stories not only remain the most pervasive genre people use in communicating, whether online (thus publicly) or in semi-public domains (Page 2011 and 2012, and Lundby 2009), but they are also interactive. The receiver is part of the construction of the ongoing story. This aspect was hidden in the traditional forms of storytelling, written or visual, where the receiver might seem to be just a passive actor. We are learning, however, that even in their classical forms, narratives, because of their complexity and variety, have an open-endedness that is left to the reader to explore and interact with.

What are the implications that this world of stories has for economics?

The first implication is theoretical. Our discussion of storytelling and aesthetic preferences contributes to our understanding of how preferences form, stabilize, and change again... and yet again. There is much still to be learned about the working of preferences. Yet, what experimental research on aesthetic preferences and curiosity has taught us is that individual preferences, though never entirely predictable (because exploration and change is what keeps them alive) are nevertheless understandable and analysable, because the change that appeals is never random, but occurs within the recognizable boundaries of one's own accumulated knowledge and experience.

This new approach to preferences has analytical implications that go beyond the still important problem of individual consumer choice and behaviour. In particular, this approach brings into focus the social dimension of consumption, where the love of novelty is expressed in cycles of fashion, in the way work can be organized in order to be more engaging, in the distribution of work and leisure over a life time, and, not least, in the production and consumption of the arts.

The second implication is methodological. Our new understanding of preferences, motivations and novelty, strongly relies on the combined contribution of different social disciplines. It has been the great merit of Tibor Scitovsky to

have brought to the fore in modern economics the analysis of motivations that have “no antecedent of pain” and to have spelled out the consequences of this new approach in terms of individual and social well-being. He could do so also because he used an approach that was strongly interdisciplinary, one that combined with ingenuity the findings of economics with those of other social disciplines, in particular psychology. Since then great progress has been achieved, thanks especially to behavioral economics, in breaking down some of the boundaries between economics and psychology. My discussion is a further step in this direction, one that contaminates different “psychologies”, as well different fields of research, for a better understanding of human behavior and choice.

The third implication is practical. In an economy where the fastest growing sector after the service sector is the creative economy, it behooves economists to try to understand why creative goods and activities are produced and consumed. What I have been saying about storytelling and aesthetic preferences extends to all creative goods – that is to say, goods that have, over and above their functional and instrumental properties, in different degree, some formal characteristics that are enjoyed per se. It is thanks to these self-rewarding features that curiosity is excited, inducing learning and setting in motion an ongoing process of discovery, to our multi-facetted enjoyment.

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