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ART, AESTHETICS, and EVOLUTION

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Foreword

Gregory F. Tague

Studies of human evolution are paramount in terms of answering why we have culture and make art. Without doubt, research into our prehistoric ancestors, their habits, minds, and manners brings us closer to understanding ourselves, our cultural diversity, our social relations, and our group identities. This issue of ASEBL features a paper by Anthony Lock, who digs into that past to help explain our artistic behaviors and their possible origins. Following his paper are illuminating comments by experts in the field, concluding with a response by Lock.

We have now, which was not available in Darwin's day, a tree of our hominid and hominin ancestors. In terms of the continuities with our ape relations, primate researchers and ethologists have explained patterns of chimpanzee and bonobo politics and social behavior. From as early as the beginning of the twentieth century, some researchers posited basic correspondences between ape and human mentality and ideation. Other primatologists have explained the cohesive family groups of mountain gorillas or the more solitary orangutans. Our human life is on an ever-branching continuum with other species, but we are clearly different having made our own evolutionary niche with an ever-increasing art culture reaching back prehistorically.

Evolutionary psychologists have stressed the importance of understanding these early roots and fundamental behaviors during the Pleistocene in terms of our current culture and conduct. Even archaeologists have charted the prehistory of the mind up to our cognitive fluidity over the Neanderthals. Others have rightfully named us the symbolic species or dubbed us the cultural animal.

While Lock does not necessarily pursue continuities between us and other primates, he indeed delves into our prehistoric and more recent past to tackle the big questions of why we make art and some of the debatable adaptive cognitive and social functions art serves. The editors of the journal are grateful to Anthony Lock and all of the commentators for contributing their time and effort to this important discussion about how our prehistory impacts our present cultural practices. Thanks also to our intern.

Because of copyright considerations and restrictions, we could not include artworks in the journal. Readers are referred to the following sites which contain samples of the artists' work; Lock references specific works (including websites) in his paper.

Works by artist **Rita Angus** can be found here:

<http://www.ritaangus.com/>
<http://collections.tepapa.govt.nz/exhibitions/ritaangus/artworks.aspx?irn=586>

Works by artist **Colin McCahon** can be found here:

<http://www.mccahon.co.nz/>

New Zealand TV on Colin McCahon:

<http://www.nzonscreen.com/title/colin-mccahon-i-am-2004>

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Evolutionary Aesthetics, the Interrelationship Between Viewer and Artist, and New Zealandism

Anthony Lock

Abstract

With the rise of evolutionary aesthetics in the last few decades, Ellen Dissanayake and Denis Dutton have both suggested interpersonal relationships that evolved during late hominid development played an important role in the first practice of making art, and still do today because of our inherited psychology. I support an increasing role for evolutionary aesthetics in art theory by applying their ideas specifically to art from Dutton's home, New Zealand. In particular, to see how evolutionary aesthetics can enhance Kiwi critic Hamish Keith's concept of "New Zealandism", the work of two of the country's most famous painters, Rita Angus and Colin McCahon, and Roy Forward's and Rex Butler's claims about why McCahon has risen to the status of New Zealand's most prominent modern artist. I propose that both Dissanayake's and Dutton's accounts of relationships that first helped create aesthetic tastes, beginning roughly 1.7 to 1.4 million years ago, and the adaptation of theory of mind, demand that a subconscious interrelationship between artist and viewer is an essential foundation in any artistic experience. Dutton used the evolved interrelationship between artist and viewer to reinterpret the problem of artistic forgery, and in a similar manner I show this evolved interrelationship provides new elucidation of New Zealandism.

Introduction

Evolutionary aesthetics is a youthful field, and so far has only begun to come of age with increased interest in consilience between the sciences and humanities and increasing information about hominid evolution. Although the field is frothing with activity, main questions in the study – why the desire to make art evolved, either as adaptation, spandrel, separate arts as separate adaptations or different adaptations for different purposes within arts, or technology; how art was first practiced, and what uses it served to our forebears – are far from settled, and might be for some time. As such, Davies (2012), the most comprehensive account of the evolutionary aesthetics at present from the field's beginnings to current research, does not argue for one position on art's evolutionary origins over others, but explains the positives and negatives of each case. Nevertheless, over the past two decades, the number of voices arguing that the arts and story-telling originated in some form as an adaptation have been growing (just a small selection includes Dissanayake (1995) (2000) (2009) (2011), Turner (1996), Mithen (1996) (as a tool for information storage) (2005), Miller (2000) (2001), Ralevski (2000), Tooby and Cosmides (2001), Scalise Sugiyama (2001) (2005), Coe (2003), Voland (2003), Carroll (2006) (2012), Zunshine (2006) (2009) (2012), Cross (2007), Dutton (2009), Boyd (2009) (2012) and Tague (2014)), with additional support that the

only other artistic practice, or proto-art practice, seen in nature to a level of an art culture is employed as an adaptation by bowerbirds, creating bowers with art displays for mating (for more, see Rothenberg 2011). These arguments all differ, sometimes competing, though many do not exclude the possibility others are correct to varying degrees. Adaptationist theory is most exciting when adaptation allows for new ideas and powerful insight into artistic problems: for example, Boyd's argument that literature evolved as a more complicated form of imaginative play and Dutton's argument that artification began from sexual selection around 1.4 million years ago with *Homo ergaster* and *Homo erectus* both provide interesting interpretations respectively about how literature can help people learn about the world, particularly how to act in social settings, why cross-cultural artistic appreciation exists and the problem of why artistic forgery is nearly always abhorred. Theories about the origins of artification are at their strongest when they have strong empirical support and can also provide new theoretical insight.

Aside from adaptationist arguments that attempt to illuminate whole subjects, either art generally or a particular art or aspect of art, adaptationist arguments can provide new ways to explore and support art theory. Here, I advance another argument in support of the adaptationist theory by exploring how Dissanayake's and Dutton's theories on adaptationary origins of the arts can provide provocative insight into a particular subject within art theory, Hamish Keith's concept of "New Zealandism" in painting (Keith and Brown 1969) (Keith 2007). Although the area is far from settled, and scholarship only really just beginning in what is a juvenile field, I regard Dissanayake's and Dutton's as more powerful in the following way than other adaptationist arguments. Discussion of the origins of artification usually travels to "the Human Revolution", around 100,000 to 40,000 years ago, when sewn clothing, ceremonial burial, imaginative art and decorations first appeared (e.g. Mithen (1996), Carroll (2012)). However, Dissanayake's and Dutton's arguments are especially interesting and unique because they establish a deep, essential part of the evolution of aesthetic tastes to relationship behaviors between humans that started to evolve in our ancestors roughly 1.4 to 1.7 million years ago. As Dissanayake writes, Dissanayake and Dutton's arguments suggest artification has evolved in many ways since, but this ancient psychological disposition is the first floor on which our evolved aesthetic and artifying tendency is built, and this must continue to play a significant role in some way in our approaches to art. This is remarkable because Dutton's argument has provided a fresh and compelling insight into the debate on taboo regarding art forgery (2009) with some scholars considering it the strongest explanation about the art forgery taboo (e.g. Knight 2014). Dissanayake's ideas suggest reasons why similar rhythms and modes are found throughout various artforms globally, and even has ramifications about the best environments for psychological comfort and well-being (e.g. 2000, chapter 6). Here, I will expand the ideas in Dutton's argument on evolution's impact on forgery theory to include, more generally, the response to originality in painters' works that has created "New Zealandism" more than most others', as well as evolutionary study generally, suggesting concepts in art theory, such as New Zealandism, can be analyzed and enhanced by understanding the origin of art in evolved interrelationships as championed by Dissanayake and Dutton and knowledge from the natural sciences.

Art as Adaptation

If artification is an adaptation and not a spandrel, then it needs to have served an evolutionarily beneficial purpose. For artifying to be an adaptation, its existence must have provided, or still provide, some benefit that we did not get from something else. The primary objection that must hold if art is not an adaptation, or technology, like mathematics, tools and the wheel, are claims that artifying is an expression of creativity and the general traits that evolved to form our inherited intelligence. Although Stephen Davies is critical of all possibilities, at the end of *The Artful Species* he writes:

If I had to bet, I would say that the adaptations that give rise to art behaviors are intelligence, imagination, humor, sociality, emotionality, inventiveness, curiosity...art...gives direct and immediate expression to these traits and dispositions, I would identify it as a by-product rather than as a technology (2012, 185).

The standard suggestions for art as a spandrel are Pinker's: that artification stimulates bodily systems that encourage motivation when we see signals that align with evolutionary interest; is generated from a greater production of the pleasure produced by stimulating these interests; or, alternatively, from "the hunger for status, the aesthetic pleasure of experiencing adaptive objects and environments, and the ability to design artifacts to achieve desired ends" (2002, 405). Aside from arguments like those that follow, the counter-argument to the spandrel theory is that even if artifying was a by-product of other adaptations, artification has properties that would have had evolutionary competitive value and hence adaptations in their own right. Such as, in literature, the ability to not only imagine scenarios that would help develop social skills by practicing them in a kind of social simulator, or teach a group's cultural etiquette and taboos, but also make such teaching and learning more enjoyable and hence more effective (e.g., arguments in Boyd 2009). I do not have the space to discuss the adaptation / spandrel / technology debate here, but I think that the adaptations of intelligence, imagination, humor, sociality, emotionality, inventiveness, curiosity are rather vague on which to claim art as a spandrel. For example, when adolescent otters play, they may softly bite each other's necks and wrestle to gain a stronger fighting position. This play may emerge from sociality, inventiveness and curiosity, but acts such as play neck biting that attack the most vulnerable area for most enemies, and how to overpower a rival for potential resources, are surely adaptations in their own right, because they are vastly more evolutionarily competitive than play that would not foster such useful skills. This is similar to the reasons why Tooby and Cosmides changed their views from "routinely...[using] various artistic behaviors unproblematically as examples of evolutionary byproducts in our lectures" to arguing "that the human mind is permeated by an additional layer of adaptations that were selected to involve humans in aesthetic experiences and imagined worlds, even though these activities superficially appear to be nonfunctional and even extravagantly nonutilitarian" (2001, 11). The hypothesis I present here does not necessarily require the arts to have arisen as either a single adaptation or multiply through many adaptations, though it assumes that if Dissanayake and Dutton are correct about two aesthetic origins pre-*Homo sapiens*, then the basis of interrelationship between people that

nurtured early aesthetic acquisition is likely still strong today. It is this psychological disposition that Dutton uses to provide a new interpretation for why forgeries are jettisoned after being discovered to be forgeries.

Ellen Dissanayake's path-breaking work over many decades (in, among many others, (1974), (1988), (1995), (2001), (2009), (2011), particularly well summarized in (2013)) has been not only to legitimize evolutionary thought about aesthetics, but to provide terminology in which to better describe the phenomenon of art-making. Her main argument is that the universal phenomenon of making art has emerged from a tendency to artify, to "make special", which she also calls artification. She contends aesthetic preferences for what ethologists call rhythms and modes stem from proto-aesthetic sensibilities that are taught in parent-baby interaction in earlier hominids. These aesthetic sensibilities for sequencing and rhythms were then used in original adaptations to artify later in hominid evolution (2001) (2009). Artification helped intensify group experiences and rituals that arose with the advent of religious ideas and practice. The primary benefit of artification appears to have been that it lowers stress, making daily life easier, for example, reducing anxiety over food procurement or dangers in the immediate environment, as is seen in controlled release of the stress-inducing chemical cortisol during artification and performance, and solidifying group solidarity, making bands stronger and more likely to reap the benefits of living in a group (1988) (1995) (2009). Artification helped bond early *Homo sapiens* together when preparing for hunts, travels, religious ceremonies and general social cohesion, with artification signalling these bonding moments and enhancing the experience by producing more chemicals like oxytocin, which helps people bond while relieving stress. As she writes in Dissanayake (2014a), "in this sense, ceremonial/arts behaviour – compared to doing nothing – is adaptive (Kaptchuk, Kerr and Zanger 2009)" (53). Secondly, artification of ceremonies, like chanting and collective singing when feasting and celebrating, or dressing in ritualistic paints or symbolic attire when performing an activity important to a group's spiritual worldview, additionally aids in supporting group cohesion and creating elevated feelings of unity. "Not only are brain chemicals like cortisol suppressed by participating with others in formalized and rhythmically repeated activities, oxytocin and other endorphinic substances are secreted, creating pleasurable feelings of unity with others, strengthening their commitment to each other" (54). I wish to stress that Dissanayake sees the evolution of proto-aesthetic sensibilities through mother-infant bonding as producing aesthetic tastes for rhythms and modes found in artification worldwide, but not an evolved relationship between a maker of aesthetics and a viewer. I propose that the evolution of aesthetic sensibilities through a relationship between two individuals suggests a historical example of aesthetic experience between people in an interrelationship between a performer and viewer that has probably contributed to an underlying psychological interaction with an artist whenever people look at art. Such a relationship is not always important to either artist or viewer, but in cases of forgery and influential artwork, this relationship comes to the fore. As art is created by people, the relationship between artist and viewer is always present to some extent. The more examples of development of aesthetic tastes through relationships between a performer and viewer, the likelier the disposition to a performer / viewer relationship when beholding artworks.

Mother-infant interaction, including baby talk, operates very differently from adult communication. Mothers, as well as any adult interacting with a baby, pull faces at babies, talk in higher pitch, even though they know the baby will not understand the words, and verbalize baby-talk patterns to encourage an enjoyable emotional response from baby and mother. An example Dissanayake uses is “Mommy loves you. Yes. Yes. Did you know Mommy loves you? Yes she does. She does. She loves you” (2001, 30). Such play-talk is structured like poetry or songs, with recognizable stanzas and motifs that repeat with slight variation along a particular rhythm. The fossil evidence (described in Leaky 1994) suggests that mother-infant interaction through proto-aesthetics developed at least 1.7 million years ago, practised by both *Homo ergaster* and *Homo erectus* (Dissanayake 2009). Because such interaction solidifies and develops the first and most important relationship a child has in the world, Dissanayake speculates that mother-infant proto-aesthetic interaction is an adaptation in its own right, one not often explored by evolutionary psychologists to probably its fullest importance. I agree.

The evidence from psychology about parent-child development is very strong, consisting highly of proto-aesthetic sensibilities and details about the development of babies minds and the necessity of proto-aesthetic interactions with babies in the healthy development of babies (Trevvarthen 1987), and rich in information about how babies are born with brain pathways that are readied for detecting and encouraging baby-talk and interaction from adults in rhythmic and modal manners (Aitken and Trevvarthen 1997) (Schore 1994) (for more, see Dissanayake 2000, chapter 1). Newborns can discern similarity between bright colours and loud sounds at the age of three weeks (Lewkowicz and Turkewitz 1980); mothers and babies follow regularities in improvised patterns of sounds, movements and facial play, adjusting responses to each other within fractions of seconds in order to stimulate, maximize enjoyment and freshness of their interaction (Beebe 1986), and strength of a mother’s vocalizations can frequently be matched with kicks from her baby corresponding to the volume of her singing (Stern 1985). Aitken, Trevvarthen and Schore claim that these rituals and patterns in baby-talk provide essential intellectual and linguistic practice and bonding, which is a crucial part of babies’ neural development. Segments of baby-talk usually exist in spoken utterances and playful movements of around three-and-a-half to five seconds, the same common temporal length of adult spoken phrases, poetic lines and musical phrases (Lynch et al. 1995) (Turner 1985). If this developed before artification first occurred, and, as evidence suggests, appears to have been a major, or the chief, factor in the development of such sensibilities, Dissanayake’s is a very solid argument.

The strength of Dissanayake’s claim about artification as an adaptation for relieving stress and helping social bonding is that most art in nation communities worldwide is collective, with the whole group partaking, occurring most frequently for group gatherings and events, and is often the group’s entertainment, providing distraction while in the safety of the group, and conveying important cultural significance along religious or worldview lines. For example, architectural designs, such as the creation of moai, the monolithic statues of Rapa Nui / Easter Island, requiring community effort to move and appreciate, often depicting deceased chiefs, preserving their mana – their spiritual power (Pelta 2001) (Lipo, Hunt and

Haoa 2013); ceremonies, such as Karelian itkuvirsi, laments sung by women during funerals or weddings to express sorrow at someone's departure (Tolbert 1990); medicinal and spiritual healing rituals, such as the False Face tradition among the Iroquois Six Nations, wearing masks that embody a spirit to aid in healing ceremonies (Fenton 1987) and information and entertainment, such as West African griots and griottes, story-tellers and musicians who impart knowledge about history, social occasions like births, weddings and deaths (Lott 2002) and sagas and tales imparted worldwide around campfires to whole villages. The biggest objection to Dissanayake's argument has been that "making special" is a vague notion, and her characterization of aesthetics into four criteria of aesthetic qualities, tangible relevance, evocative resonance, accessibility coupled with strikingness, and satisfying fullness, is insufficient. In these terms, as Davies writes, a video of our child's university graduation would count as an aesthetic experience, though many would not think of a graduation in aesthetic terms (Davies 2005, 2012). I am not completely convinced because one could imagine this experience as aesthetic for a parent because it could be a beautiful, comforting and sublime experience, making the parent think back happily on yesteryears and brim with pleasure awaiting to see the child's ventures in the future. The important point is that the definition of art, and jointly, aesthetics, is unsettled, and is sometimes a subjective matter in fringe cases. The main point about Dissanayake's argument is about artification as an adaptation, which is why she has reworded "making special" for artification (for more, see Dissanayake's defence against criticism (Dissanayake 2014b)). We can be certain that sculpture, literature, painting, body art and dance are art, and if empirical and theoretical evidence supports these first evolving as adaptations for group bonding, relaxation and psychological well-being, Dissanayake's characterizations of what count as aesthetic are largely irrelevant to the claim about artification as an adaptation. Because of the support from neuroscience, I find it difficult to disbelieve artification is not a series of adaptations, in which two of the most important were the two Dissanayake identifies for psychological health and social stability.

Denis Dutton's argument (developed over (2000) (2003) (2009) (2010)), following Miller (2000) (2001), is that artification originated chiefly from sexual selection because artworks are indicating phenomena. Sexual selection produces opposing characteristics to those natural selection produces because the salient factors which determine how sexual selection operates are different from the salient factors which determine natural selection (as Darwin used the term; good examples of different interpretations of what sexual selection produces are in Dawkins (2009) and Prum (2012) (2013), for an in-depth exploration, see Cronin (1993)). In sexual selection, an individual attempts to impress a mate or fight away rivals and does not merely attempt to survive against predators and the elements of nature. Subsequently, sexual selection produces indicating phenomena, such as colourful bird plumages, lion manes, and mating dances. From Zahavi (1975) and Zahavi and Zahavi (1997), the majority of indicators can be interpreted as characteristics which convey the suitability of a potential mating partner by acting as a form of handicap (Prum offers a differing view). Indicating characteristics, such as the ever-referenced peacock's tail, as popular to evolutionists as to peahens, act as a message to a mating partner by showing that a peacock has access to resources to

be able to grow and maintain a large tail and the pigments the tail requires, and the ability to survive despite the attention such a characteristic brings to potential predators. Indicating characteristics thus gain some of their merit from defying natural selection, and act as a method for showing the strength and health of an individual to potential rivals and mating partners. Artworks are extremely costly in effort, time, creativity and resources, and any individual that was concerned solely with her or his survival would be severely jeopardised in this pursuit if she or he wasted resources and exposed themselves to danger in the manner which artworks require. Furthermore, artworks convey reliable information about characteristics of their creator. Symmetrical shapes, fine craftsmanship and close attention to detail indicate fine motor control and skills, persistence, dedication and diligence. These characteristics indicated in artworks are those favoured in sexual selection: in selecting a mating partner who will produce half of the genes for any offspring produced, individuals select those genes they consider providing the most benefit to their offspring. As products of human endeavour that require craftsmanship, artworks are prime examples of an indicating phenomena that a sexually selecting species would produce and nurture. As a product of natural selection, artworks appear contradictory; but as sexually selected phenomena, the existence of an *instinct* for art can be understood historically and in wider context.

Following Kohn and Mithen (1999), Dutton suggested that the Acheulean hand axe tradition in *Homo erectus* and *Homo ergaster* emerged from sexual selection, in a manner like bowerbird displays have. This tradition produced basic aesthetic feelings of beauty that are now shared by all humans. For example, revulsion to rotting meats and pleasure at beautiful gardens full of edible herbs and fruits is explained by natural selection. More controversially, there is the infamous international poll conducted by Vitaly Komar and Alexander Melamid in 1993, first in the U.S. with 1001 people, and then in China, Russia, Kenya, Finland, France, Iceland, Denmark, Turkey and Ukraine, about what people would prefer in a painting. There was a universal preference in a particular landscape, with minor variations (see Komar and Melamid (1993). See Dissanayake (1998) for a critical view, and Davies (2012, chapter 6) for a thorough updated discussion). Overall, in every country polled, the favourite colour was blue, the second was green, and everywhere people wanted an outdoor landscape with water, trees and some animals and people. As this describes the easiest terrain for our ancestors to have lived in thousands of years ago, this preference is explained by an evolved sense of beauty from natural selection. The standard natural selection explanation for these results is that the landscape represents a savannah where hominids and *Homo sapiens* evolved. Erich Synek and Karl Grammer (1998) and Elizabeth Lyons (1983) have found these results repeated slightly, with the preference for savannah style trees, water and grass found in children, though they suggest the results show preference for parks children play in and a preference in children for pictures of low structural complexity. Nevertheless, this begs a question why children like to play in gardens and parks, why people like to spend time in parks, and why the larger international poll conducted by Komar and Melamid found such overwhelming preference. It may not suggest a savannah environment *per se*, as a general feeling of beauty felt towards natural areas that display easier conditions to survive in than others, which does not discount feeling beauty when looking at other terrains and landscapes.

More strongly, theory of mind in psychology explains why human presence is often desired in artworks. Theory of mind is the adapted sense of understanding about the desires and operations of the minds of others, and its development in a growing child is seen at around four years old, sometimes even as young as three, which two-year-olds lack, and is an ability humans have perfected to a unique degree (e.g. Wellman 1991) (the phrase was coined by Premack & Woodruff 1978). For a good introduction, see Baron-Cohen (1999). The ability to place oneself into someone else's position allows for the social complexity humans have developed, because it allows humans to reason with each other, to deceive and counter deception, and to form deep relationships with others that would be impossible otherwise. Theory of mind suggests story-telling has developed because dealing with characters and situations, helps practice and develop individuals' theories of minds, and consequently develops their ability for social interaction. Lisa Zunshine claims specifically that literature helps improve theory of mind because it allows people to read characters' inner thoughts and motives even when characters might try to disguise their mental feelings from others, occurrences that do not happen frequently in the real world (Zunshine 2006, 2012). If the inclusion of human presence does often increase the appeal and draw of artworks, it is likely because human presence stimulates adaptations for navigation in the world as a social being. It is also likely that artworks in general stimulate theory of mind adaptations whenever people look at art, because viewing artworks suggests human proximity and also an ability to understand another human, as all artworks show expression by their maker (e.g. Keskin (2009)).

The evidence against sexual selection as the origin of the arts looks pretty damaging. For example, despite the hypothesis that singing in humans evolved from initial courtship songs to woo mates, gibbons are the only primates that "sing", which sing together as a monogamous pair to communicate their shared territory to others (Dissanayake 2014c). However, there is good evidence to suggest that *Homo neanderthalensis* might have sung (Mithen 2005) (for Dissanayake's review of Mithen's book, see Dissanayake (2005)). The main criticisms against the sexual selection hypothesis are that the evidence Miller supported is fragile, and although many activities and traits are subject to sexual selection, this is not always their main purpose (e.g. Ball 2010, Dunbar 2005). Miller and Dutton argue the main sexual selection in early artification was performed, although not necessarily exclusively by females, mostly by females being attracted to males in respect to signals displayed in early artification. Artists, overall, do not appear to mother or father more children than other people (Fitch 2005) (Fukui 2001), and women practice art just as frequently and well as men in all arts throughout the world. Sexual selection can occur in any activity, ultimately, because anything humans execute displays fitness. Overall, the criticism appears to discount sexual selection as the main driving force behind artification evolution over all *Homo ergaster* and *Homo sapiens* evolution. But because fitness displays for sexual selection occur in any activity humans do, sexual selection is always there, selecting throughout generations, just like natural selection does. The evidence at present suggests sexual selection has not been the main driving force behind artification throughout hominid evolution, but because of its use as a social indicator as well as a Zahavian indicator, sexual selection must have played a major role jointly with memetic selection

in how artification evolved among hominids (for more on sexual selection as interwoven with the evolution of cultural practice, see Voland 2003). Once artification began, artefacts like necklaces, bracelets, headdresses, clothing from animal furs, skins and rare bird plumages, were all used to display social rank (e.g. Coolidge and Wynn (2009), Finlayson et al. (2012)). The social ability to acquire such resources was important, but not necessarily the skill in making them. Although, taste in what to acquire or wear would have been visible for everyone to judge.

However, Dutton's and Dissanayake's arguments do not exclude each other completely. Dutton's arguments are mainly concerned with beauty generally, rather than artification *per se* (for Dissanayake's arguments against sexual selection as the main reason for the origins of art, see Dissanayake 2014c). Sexual selection provides the best answer for the origin of the first proto-artification after the development of proto-aesthetic ethological rhythms and modes Dissanayake documents in mother-baby interaction. The best explanation for the symmetrical Acheulean hand axe tradition that began around 1.4 million years ago is Dutton's, Kohn's and Mithen's analysis from sexual selection. The hand axe has been called the early hominid Swiss army knife. It was a multi-purpose tool first developed around 2.5 million years ago by Australopithecines made from nodules of basalt, limestone or chert modelled into a dagger shape by strikes with a hammerstone, removing flakes. They were used for butchering carcasses, but also likely for activities such as cracking nuts or throwing at enemies or prey. These axes were not intentionally designed into this shape, as they resulted from the original shape of the module selected for craft (for a lengthy discussion on all aspects discussed here about Acheulean hand axes, see Mithen 2003). These continued in roughly the same production for around a million years until hominids began to create hand axes that are marked by a distinct attempt towards symmetry, expert craftship, special materials and uniqueness of product. The former are often called Oldowan tools, but also Oldowan hand axes. The latter are often called either hand axes or symmetrical hand axes. I will call them Acheulean hand axes, following Dutton (2014).

The difference with Acheulean hand axes are that they have been crafted with an intent purpose to create a symmetrical tear-drop shape in three dimensions, markedly different from those of Oldowan tools, even though such symmetry and shaping were unnecessary for butchering carcasses and activities like cutting bark from trees and extracting nut innards. The advent of these qualities can be explained as indicating phenomena in tools produced for use in social settings where others would have seen them (Kohn and Mithen 1999). "The ability to make a fine, symmetrical handaxe would have been a reliable indicator of those mental capacities required for their production; such capacities may have been of value in other domains of activity. Quite simply, classic handaxes were difficult to make, requiring a high degree of intelligence...Handaxes would have been a 'test of character', indicating behavioural disposition to potential mates" (Mithen 2003). Sexual selection is the best, in many ways only, explanation for the Acheulean hand axe tradition, which continued for roughly another million years until the rise of *Homo sapiens* and more complicated forms of artification, because of the abundance of aesthetic qualities and practices in these artefacts, qualities and practices that cannot be explained through natural selection or purposes of religious or social bonding

value that only occurred much later. Acheulean hand axes are far more numerous than their Oldowan counterparts, with such abundance having been a problem for explanation in archaeology previous to sexual selection analysis (e.g. Roe 1981, Wymer 1983). Further, many show little, or even no use of macroscopic damage, meaning Acheulean hand axes were produced in thousands without ever being used for practical purposes, probably with no intention of such use, and often being too large in size for practical purpose. One site at Boxgrove uncovered not a single Acheulean hand axe with signs of use (Roberts et al. 1997). Additionally, many hand axes have been found that intentionally use rare materials that give the hand axe a special, unique quality, the most famous of these being “Excalibur”, a dark red quartzite hand axe that looks like a large blood-red gemstone, a larger version of what one might find in any jeweller’s shop. Excalibur was made around 400,000 thousand years ago and is most likely the first grave offering, at least discovered to date, as it was the only product found in a tomb for a deceased hominid probably of high stature. Others include high quality flint, and on occasion, fossils intact in the hand axe, shaped so to preserve and make prominent the presence of the fossil. These qualities of the Acheulean hand axe tradition imply they were used to show status through aesthetic qualities, as well as an interest in aesthetic feeling. As Currie says, while “it may be too much to call” hand axes “an ‘early work of art,’ it is at least suggestive of an aesthetic sensibility” (2009, 1). Having personally held a few, I would say they show the cultivation of a strong aesthetic sensibility.

I will also note that Richard Prum’s recent approach describes the evolution of art as a cross-species phenomenon that has evolved through aesthetic selection (Prum 2012, 2013), supporting Darwin’s idea of many aesthetic phenomena in animals as evolving because of an aesthetic interest in a particular phenomenon, which, in turn, develops an aesthetic sense towards the world around. The benefit of this perspective is that although the Zahavian handicap viewpoint is very powerful theoretically and appears to have abundant examples of secondary sexual characteristics, particularly aesthetic ones, throughout countless animals, the examples could also be well explained by the co-evolution of a characteristic and an attraction to that characteristic. This is aided by numerous acts of singing in the animal kingdom that are not necessarily related to mating and appear to give the animals pleasure, such as whale songs, which are still not understood, and as David Rothenberg has shown, have remarkable similarity to bird songs and have responded creatively with Rothenberg in duets with his clarinet (for more, see Rothenberg 2011, 2013). Prum’s and Rothenberg’s ideas are invaluable for future research because they remind us that if a lot of aesthetics in the world deserves the name aesthetics, it probably is selected for on the basis of aesthetic appreciation: even if sexual selection or kin selection explained the beginnings of what have become artforms like music, they do not explain my personal preference for surrealist painting over other styles. However, Dutton’s and Dissanayake’s explanations command their clout because they explain well theoretically why the wastefulness of resources that art brings can emerge and not be erased from the ongoing natural theatre over time. Further, what their work shows is that between 1.4 to 1.7 million years ago relationships developed a taste of, and desire for, proto-aesthetic qualities in humans. Central to this development were the interpersonal relationships. I hypothesize that this must have formed a key fundamental part of our inherited

aesthetic sensibility in engaging with artworks, and must have influence today in how we engage with artworks. This is why Dutton's work provides a powerful new answer to the forgery paradox in art theory.

Originality and Conveying “New Zealandism”

So how can navigating evolutionary heritage back into pre-history and beyond bring home informational nuggets useful for art discussion today? Evolutionary theory and neuroscience can provide reasons behind trends in art appreciation, and when coupled with theory of mind, evolutionary aesthetics can supply a fresh way of interpreting artists' popularity.

Rita Angus was born in 1908, and, along with Toss Woollaston and Colin McCahon over the period of around half a century, became one of the principal architects of a distinctive branch of paintings that capture, as Keith writes, concepts that can be described loosely as “New Zealandism” (2007, 159). Keith's concept was introduced with Gordon H. Brown in *An Introduction to New Zealand Painting 1827–1967* (1969), one of the most influential and criticized works in New Zealand art history. Keith and Brown argued that New Zealand painting should be viewed as a quest for national identity adjacent to other nations' artistic identities, shaped especially in the middle-20th Century by the “big three” of Angus, Woollaston and McCahon. This narrative has been disputed strongly in subsequent years on the history of 19th-Century landscapes of Aotearoa (the name for New Zealand in *te reo Maori*, I will use both names throughout) (Pound 1983) and questions over the role certain artists should be seen as having played in creating a New Zealandism (e.g. Dunn and Vuletic (1972), Wilson (1976), Leech (1981), Panoho (1992) Mané-Wheoki (1995)). The latter will come in handy later in discussion about constructs shaping concepts like New Zealandism, but, for now, I will focus on Angus and McCahon, for reasons of space, and foremost because they were, and still are, leading figures in what the general public and critics consider New Zealandism in painting, regardless of the angle one analyzes New Zealandism from.

A large proportion of Angus's work consisted of self-portraits which reveal her feminist ideals and sympathies, most popularly her depiction of herself in *Rutu* under a traditional Christian form, resembling images of the Virgin Mary in Mariolatry. However, her depictions of Aotearoa landscapes, influenced by cubism and the English artist Christopher Perkins, are often seen as her greatest contribution. In her landscapes, Angus captures Aotearoa's harsh light, the pasteurized land of New Zealand after mass immigration, and the shades and colours of Aotearoa's landscapes under its harsh light. Keith describes the style of Angus's depictions as “a unique take on Surrealism” (2007, 161), and Anne Kirker describes this style as being “characterized by...individual ordering[s] of composition, with land forms treated as taut, rhythmic entities” (1986, 97). *Central Otago Landscape* and *Cass* are two of Angus's most praised landscape works, and they both express her surrealist images in different ways.

Central Otago Landscape depicts a hilly terrain adjacent to the Southern Alps in the characteristic browns, yellows, greens and reds of New Zealand fields, and the objects in the painting are built from cubist elements, but to a lighter degree than “standard” cubist paintings, such as Marcel Duchamp’s *Nude Descending a Staircase*, and in *Central Otago Landscape* this provides a cartoon-like effect to the image. In the bottom centre-left of the picture is situated a man in a black suit and trilby hat who is walking a black dog, surveying the scene he is about to walk across. The piece has some snow-topped mountains, a large tree, a red and white house and a river which provide colour contrasts built gradually from the choice of colours adjacent to these images. The clouds at the top of the picture are constructed by use of cubist squares, and the mountains immediately below are additionally, although the further down the scene the viewer looks, the more these cubist forms fade and change slightly to aid in constructing the “smoother” hills immediately underneath the mountains, and eventually the viewer reaches the river which possesses almost none of these strokes. The piece as a whole is an exercise in such gradual change juxtaposed with sharp contrasts. It is interesting to note that both *Central Otago Landscape* and *Cass* share the element of human presence in a landscape that the provoking Komar and Melamid study suggests increases interest in a landscape, potentially a reason why these paintings are among her more popular works. The inclusion of human character in the scene engages theory of mind by inviting the sense of, and interest in, another person’s presence, so it is likely that Angus’s inclusion of traits of human presence in these paintings stimulates tendencies for increased focus and curiosity. The inclusion of figures shows the loneliness and adventure in habituating to very isolated places, characterizing danger and intrepidity.

Cass neglects the use of cubism to create land forms, and rather creates land forms nevertheless as “rhythmic entities” through the use of carefully created lines which bend smoothly and, under Angus’s hands, have an effect of movement and “rhythm”. The scene is of a station at Cass in the South Island, and the black-suited man in a trilby hat is again featured, sitting down in a reflective manner. The contents of the picture are clear and distinct, with the horizontal and vertical lines of the buildings and objects in the foreground contrasting with the diagonals in the hills. Unlike *Central Otago Landscape*, the central themes in *Cass* are mundane artificial entities, and include randomly scattered planks of wood which are nevertheless carefully placed by the artist in relation to the other themes in the work. As a whole, the piece is bright, inviting and creates a sense of familiarity amidst a background of uninhabited land, and Angus wrote of her intent for the painting that “it expresses joy in living here”¹. The originalities of Angus’s paintings for which she is praised, captured prominently in these two works, are thus certain techniques unique in the history of New Zealand art to create her images, and an ability to use the landscape to create certain elements that can be claimed as part of New Zealandism, as in familiarity of human settlement in an otherwise largely uninhabited land and young country.

Colin McCahon was born in 1919, and like Angus, Keith writes, McCahon had his work “firmly grounded in the [New Zealand] landscape...[But] unlike [Angus], however, landscape was never the subject of his painting, but rather a device for

supporting a larger and different story”. Consequently, “landscape is not what McCahon was about” (2007, 167, 172); rather, it is how he combined landscapes with other themes and mixed them together. Two of McCahon’s most admired paintings are *The Marys at the Tomb* and *The Angel of the Annunciation*, which are surrealist scenes featuring biblical characters amid Aotearoa landscapes, and the praise given to many of his works is to the smooth merging of ostensibly polar themes and to the extremes he took such merging of themes. For example, *Storm Warning* consists of a pitch black background with red outlines. The centerpiece is joined handwriting in capitals, adjacent to wisps of smoky red and white in the bottom right corner. *Storm Warning*, Keith contends, “is not only a powerful vision but a powerful landscape too” (2007, 172), and as such is deeply imbedded with McCahon’s style used in nearly all of his works. Like Angus’s *Cass* and *Central Otago Landscape*, these landscapes of McCahon’s also show the presence of humans, both with human figures and handwriting written in attention-grabbing capitals, potentially suggesting importance to the writer.

The Marys at the Tomb depicts the biblical story of the tomb of Jesus visited by a collection of Marys, although the scene is set in the hills of the South Island of New Zealand. The faces in the picture are upset and low, and the one in the far right can only be seen from the back. The trees on the horizon look like silhouettes of sheep, and the whole scene is downcast and the choice of dark colours reflects this. Nevertheless, the tomb is open, and the character in the top left is indicating by a pointed finger to the Marys in the bottom of the picture, suggesting with a serious face that they move away from the tomb. The brightness of the stone objects at the tomb and the pointing figure’s hair, complexion and garments contrast with the darkness in the rest of the painting, and judging by McCahon’s comments on his work, the contrast resembles that of despair and hope. The piece as a whole uses the landscape to convey this contrast by choice of colours and positioning, and specifics such as how the hills are higher over the tomb and brighter figure, and lower over the unhappy figures and darker side of the picture.

The Angel of the Annunciation places an angel hovering over the clubhouse on the golf course at Takaka and a golden-hilled background. When first unveiled, it caused accusations of “vulgarity” and “incompetence” against McCahon. It was a first for New Zealand art, and McCahon was influenced in its creation by European artists like Munch, and is dominated by “deliberately thick black outlines, crude forms, ungainly figures, and expressive colour”². It is also one of the first works where McCahon uses the speech-bubble effect from comics to provide a voice to his characters, and in *The Angel* the title of the piece “becomes an integral part of the composition”³. The wings of the angel can be mistaken as a hill in the background, and even the angel’s skin colour is almost the same as that of the hills and golf ground. The piece is primarily bright in colour and theme, and as a whole, the piece can be viewed as providing a sense of rising and triumph in a scene otherwise rather monotonous or at the least not greatly noteworthy. In both paintings, McCahon’s originality is shown, like Angus’s, to be partly in capturing “New Zealandism”, and McCahon achieves this by using the New Zealand landscape in original ways and merging it with themes humans, and thus New Zealanders, relate to,

and additionally in taking themes known through the entire world and placing them into a distinctively New Zealand setting.

Through the Evolutionary Looking-Glass

Evolutionary aesthetics can illuminate both the creation of New Zealandism and the criticism of Keith's criteria for possession of the concept. First, I will consider what evolutionary reasons behind the creation of concepts and trends tells us about New Zealandism and Keith's praise of Angus and McCahon, then I will consider what the role of the evolved interrelationship between artist and viewer tells us.

Research from neuroscience and social studies is very detailed on how our attitudes are determined to an exceptional degree by the attitudes of those around us. This is adaptive evolutionarily for the same reasons as the adaptation of theory of mind. When early hominids and later *Homo sapiens* formed in small homogenous groups that provided greater protection for the group and its kin, social cohesion became of greater importance (e.g. Boehm (1999) (2012)). In an environment where fractions between key members of a hunting party could cause everyone to go hungry that evening, or refusal to work alongside a social foe could result in politics that splinter the entire band behind one individual or the other, affecting all matters of importance thereafter, minimizing large disagreements decreased the chance of social breakdown and increased solidarity. The phenomena, either adaptations or by-products which aided such cohesion, include the bandwagon effect and availability cascades, which are tendencies for people to feel warmly to a position if the position appears to be held by a majority of people (e.g. Kuran and Sunstein 1999). These phenomena work in tandem with benefit-cost reading on the resource of time, when people judge how much time to allocate to an entity respective to the entity's reputation, as an increased positive reputation with a majority of people suggests importance.

Looking at this allows us to contemplate that a good portion of what is determined as New Zealandism in paintings are not just what is in the work of the painters, but what popular views on the artworks become. New Zealandism in paintings is thus also a reflection on viewers and specific influences in social trends. Keith's account has been roundly criticized within New Zealand art, with one of the biggest complaints being that his ideas have influenced the general public in a narrative that is out of touch (Leonard 2006, 2009). In general, his argument is what caused a creation of a distinct post-colonial "New Zealandism" in paintings, and focuses primarily on New Zealand paintings as a search for a national identity in paintings. Some of the main criticisms are that Keith focuses on landscape too heavily and promotes a lack of international-influence as one of the highest virtues in the conception of New Zealandism in paintings (e.g. Pound (1983) strongly challenges Keith's account of 19th Century New Zealand landscapes); that original abstract Kiwi artists like Milan Mrkusich and Gordon Walters (Dunn and Vuletic (1972), Wilson (1976), Leech (1981)) and Maori artists are not credited fully (Panoho (1992) Mané-Wheoki (1995)), and Keith's and Brown's first formulation of New Zealandism (1967) soon became out of date with the work of a wider number of artists who have practiced. Keith provides the same argument in *The Big Picture*

(2007), including discussion of New Zealand art post-1967, although it has been criticized for not addressing adequately the range of contemporary New Zealand art since the 1960s. As Christina Barton writes, “the view of art in New Zealand has radically changed, and Keith does his best to canvass how...But in the end, the fact that Keith has not been intimately involved with art historical scholarship since he left the Auckland City Art Gallery in 1970, nor active in the contemporary art scene, takes its toll”⁴. One of the main problems with a term like New Zealandism is, of course, that it is very broad and tempts multiple interpretations, so there are many New Zealandisms from different angles. For example, Keith sees the influence of J.M.W. Turner on Kiwi artist William Mathew Hodgkins as a negative because Turner’s influence would limit home-grown New Zealand influence. Of course, in one sense of New Zealandism as crafted chiefly from New Zealand, yes. But in another sense of New Zealandism as original work of New Zealanders, no. The main problem between the Keith and his critics has been Keith’s use of the term New Zealandism, and the way he uses this term to express a search for national identity in paintings: as curator and critic Robert Leonard writes, top Aotearoa’s artists are increasingly international in influence and presence, suggesting viewing New Zealand art as art by Kiwis, shown in New Zealand galleries and about New Zealanders does “not have the traction it did in the 1960s”⁵.

Evolutionary study can give support to the criticisms of Keith’s account, and why the interpretation of concepts like New Zealandism is important to artists and critics, on the base of explanation for why influential narrative has such a strong impact. The best example of exposure influencing opinion on art is probably the infamous history of the *Mona Lisa* as widely regarded as the most famous painting in the world, and frequently as one of the best, if not often the best, by critics and public alike. Nevertheless, before its theft in 1911, making it the first painting to be published globally with the rise of newspapers, it was not considered in such regard outside of select critical circles, and after, it became symbolic of High Art (Sassoon 2001). Art that is given the most exposure, whether commercially, or through influential mediums in a sub-culture, becomes the most well-known art, giving it an edge over other art in competition for attention. Tens of thousands of self-published novels will never be read because so few people are willing to enter into this published slush-pile. Providing initial exposure comes from somewhere, average or bad art is nevertheless reviewed and given time by people, over what might be good art, but that does not gain such attention. And *vice-versa*.

There are two major reasons for this that evolutionary theory elucidates: benefit-cost evaluation and exposure as importance. Benefit-cost evaluation in evolutionary aesthetics and literary Darwinism is the consideration of the benefits to the viewer in relation to the costs, and this is pretty clear in the attention people give to art that already has exposure. Deciding to give time to unknown or lesser-attended art incurs potentially a great cost to your time in relation to the potential benefit. If an artist or artwork is already held in high esteem, or featured in the right place, then the balance changes. This explains why commercial works like the *Hunger Games* enjoy a runaway success after breaking past a certain exposure point: even if you were not interested in such a genre initially, the popular interest is likely to result in some exposure to the work (e.g. Boyd (2012), also well explained in Boyd

(forthcoming)). Exposure as importance is an evolutionary priming to give importance to what is around you. The selective reasons for such a disposition should be pretty clear. In large part, if something is of attention to everyone around you, you should pay attention to it. This has resulted in various psychological phenomena, including the bandwagon effect, availability cascades and the truth effect (Hasher, Goldstein, and Toppino 1977) (Weaver, Garcia and Schwarz 2007). The bandwagon effect is understandable from an evolutionary point of view because of the benefits of conforming socially in same groups during the Pleistocene against the dangers of irking one's group members. One of the most startling aspects of this development psychologically is how the brain sends the same signals to the body as it does when you think you have done something right, as when you conform to a strongly-formed social opinion even when you disagree. And, the brain undergoes the same chemistry as when you think you have done wrong, as when you go against the social majority with a negative consequence to yourself (Klucharev et al. 2009) (Izuma 2013). Cost and benefit socially are likely the strongest reasons for the formation of psychologies that produce availability cascades and the truth effect, where exposure to, and popularity of, certain claims makes them seem more plausible. The effects of the truth effect are enhanced by the ease by which the information can be processed and understood, which is called processing fluency. Reber, Schwarz, and Winkielman have suggested that the processing fluency of popular claims about artworks plays a huge cognitive role in aesthetic pleasure (2004). The easier it is to understand concepts in artworks, the more striking and outstanding themes in artworks, it is likelier people will enjoy the artworks. There may be literary reasons of originality and depth why connoisseurs prefer James Joyce to other writers, but the low, time-requiring processing fluency of his work is one of the main reasons why the majority of people don't finish reading his texts.

This is of interest in evaluating concepts like New Zealandism in art because it suggests first, that the prominence of Angus and McCahon as two of New Zealand's most famous painters was not because of their expression of New Zealandism, but both this and the belief that their work expresses New Zealandism. Second, that critical discussion of concepts like New Zealandism is influenced heavily by the impact that ideas and arguments have on general opinions and beliefs in society. Evolutionary aesthetics explains a strong element of social constructivism in art evaluation, but not as some social constructivists might like. What evolutionary aesthetics does is explain how art opinions are formulated by some degree of social influence and pressure from phenomena like the bandwagon and the truth effect. For example, if the processing fluency of the wording "New Zealandism" is high, with it being an easier concept for people to remember and have a notion about, then it is more likely to have become a popular notion. Additionally, because of cost-benefit analysis and the evolved tendency to view predominant ideas and phenomena as important, the impact of Keith's and Brown's argument in the 1969 *Introduction to New Zealand Painting*, as well as Keith's defense of his original take on New Zealandism in *The Big Picture* and a TV series in 2007 is likely to increase the reputation of the big three painters and the interpretation of New Zealandism post-colonially along the lines of a national identity

in respect to that of other country's paintings. The same applies to criticism of Keith's work in the art world.

These social effects on affecting people's positions and the effect they have on social opinions explains one of the reasons why discussion around concepts like New Zealandism can be very fierce, passionate and important. The major criticisms of Keith's historical narrative based around discovering national identity through landscape painting are that 1) this interpretation of what best expresses New Zealandism in paintings focuses on Pakeha art in the post-colonial period, not incorporating Maori art, the most original art in New Zealand history, 2) it does not credit New Zealand's first most original abstract artists Mrkusich and Walters and might devalue work that is unique in using themes from New Zealand but influenced in style from overseas, such as William Hodgkins's Turner-styled New Zealand scenes; and 3) it does not tackle contemporary New Zealand art well enough. The implication is that New Zealandism of a different ilk, dealing with different art-forms and themes is neglected or undervalued in art appreciation. Leonard expresses his concern about the broadcasting of *The Big Picture* on national television because he feels it will increase the influence of Keith's narrative that he thinks does not address contemporary New Zealand art well enough. "The pity is that, being such compelling and accessible television, *The Big Picture* will probably still be being used as a teaching aid in our schools in ten years' time".

The value of evolutionary study here is that it shows the battle for hearts and minds over a narrative is far deeper than merely people's response to argument and detail: it is conscious of how social opinion and framing affects our viewpoints in equal manner. Leonard's anxiety about the "compelling and accessible television" of *The Big Picture* is worry that the high processing fluency of Keith's narrative of New Zealandism will influence a majority of people at potential expense to other art in New Zealand history that is unique, but differs from the "idea of 'New Zealand art'" as "art made by New Zealand artists in New Zealand, shown in New Zealand galleries, purchased by New Zealand collectors and institutions, discussed by New Zealand critics in New Zealand journals, and about 'us'". The latter is an easy way to distinguish artworks as having more New Zealandism than others. In terms of influence solely from factors within New Zealand, it is a form of New Zealandism in art. But art created by artists outside New Zealand, yet nevertheless unique, such as Len Lye's pioneering film work, mostly conducted in England and the United States and having huge influence internationally amongst filmmakers (Horrocks 2001), is also a big part of New Zealand art history, a different New Zealandism in that it is work from a New Zealander in the international realm. The neglect of Maori art in *The Introduction* was a severe blow to the narrative of post-colonial New Zealand art history as a search for a national identity, but Keith's argument in *The Big Picture* incorporates Maori art alongside Pakeha art and bicultural art influenced by both cultures as supporting the take of New Zealandism as national distinctness. Leonard writes that nevertheless, this is "a reason to retain rather than reject a nationalistic bias", and justly questioning "Pakeha assumptions about nation, biculturalism can't see beyond nation". Criticisms of Brown's and Keith's arguments and Keith's qualifications are contests over ways to interpret post-colonial New Zealand art history, and the coherence of these interpretations. From

the point of social influence study, criticisms of Brown's and Keith's New Zealandism and Keith's defenses of his arguments (Keith 1983, 2007) are attempts to establish memes that concern different New Zealand art history narratives. They matter because if some memes are more readily distributed than others, then the former have more influence socially (Heylighen (1998), Blackmore (1999), Distin (2005)). Keith's incorporation of contemporary Maori art into a bicultural narrative with Pakeha art of nationally distinct art is not just furthering his argument and gaining a fuller, more accurate picture of New Zealand art history. It also lends support to his argument and thus influences how readily his arguments might be taken by the public and art world.

The evolutionary and neuroscientific understanding of psychological phenomena like the bandwagon effect and processing fluency can thus integrate with Francis Pound's (2009) latest argument about the historical development of New Zealandism in the New Zealand art world. During the 20th Century up to the 1970s, numerous artists, painters, poets and writers began creating a post-colonial identity of New Zealand art, what Keith calls New Zealandism. These artists worked in different genres, such as Maori modernist painters like Paratene Matchitt, abstract painters Walters and Mrkusich, cubists like Louise Henderson, landscape modernists like Angus and McCahon, writers like Katerina Mataira and Bill Pearson, and sculptors like Arnold Wilson. Throughout this time, many artists were concerned with creating a national identity in art and capturing the essence of New Zealand, culminating in Brown's and Keith's argument at the end of the 1960s that exalts landscape painting and "The Big Three". However, as Pound writes, from the 1970s, this nationalist framework was criticized and abandoned by the subsequent generations, with less interest in and consciousness about national identity in their artworks and what might constitute such artworks. This led to critics and curators like Petar Vuletic in the 1970s taking more interest in painters like Walters, who is subsequently now probably New Zealand's second most regarded painter (Leonard 2006). This historical trajectory makes sense because the idea of New Zealand essence, New Zealandism, in a young colonial country is an easy concept to grasp and feel, meaning that essence of New Zealandism has high processing fluency. Clearly, like all countries, especially countries with a history of colonialism like New Zealand, there are many different New Zealands to the many different people who have lived in Aotearoa, which can confuse what is more New Zealand than other narratives. The proposition of New Zealand landscapes sought to be entirely influenced from within Aotearoa in the immediate post-colonial country is one of the easiest ideas to hold regarding what would qualify as New Zealandism. Consequently, Brown's and Keith's argument and its importance historically in the development of post-colonial New Zealand art seems to be largely because their qualifications for what should define New Zealandism would have been the easiest to understand among people at the time, when the nation was still young. However, after a contemporary New Zealand art world had been established, the need and desire for seeking a New Zealand essence has softened, and New Zealand art is less insecure about requiring construction of a national identity. Pound's argument benefits from psychology because psychology can help provide reasons why trends were popular and have changed, and why the ideas behind those trends were formulated in the manner they were, and are, phrased in.

Underneath all the social selection pressures that exert on New Zealandism as a concept is the interrelationship that has evolved between viewer and artist. By furthering Dutton's application of this interrelationship to the artistic forgery problem, it can also be revealed as helping craft the concept of New Zealandism.

In *The Art Instinct*, Dutton applies the sexual selection hypothesis to forgery, claiming we dislike, often detest, forgery so much because it damages the conveyance of a person's characteristics that their art expresses to us. Dutton words the problem as follows:

the basic problem of forgery in the arts...[is the question]: if an aesthetic object has been widely admired, has given delight to thousands of art lovers, and is then revealed to be a forgery or a copy, why reject it? (2009, 178).

In Dutton's view, authenticity in the arts means, at its deepest levels, engagement with another personality, the soul that created the work upon which we see, so authenticity is something evolution has made us desire in all arts. Dutton concludes that artworks indicate characteristics and information about their creator, and so originality is prized in aesthetic creations as an effective medium for indicating these characteristics. In viewing an artwork, according to Dutton, the viewer undergoes some sort of communication with the artist that is the most instrumental aspect of many artworks and forms. Forgeries, such as those by Han van Meegeren, who successfully painted a number of pieces that for a time were believed to be newly found paintings by Johannes Vermeer, are thus abhorred, firstly, because forgeries destroy the communicative exchange between the supposed artist and viewer; and secondly, in a forgery, an individual thus attempts to use the original contributions of another individual, such as those features of a Vermeer, for his or her own means as expressive features for his or her own work. According to Dutton, one of the qualities most highly prized about a Vermeer is that it was created by a particular individual, Vermeer, whose artistic character is admired because of what is expressed about Vermeer in his work. So a work which attempts to deceive the viewer into believing that the work was created by a certain individual, such as Vermeer, when in reality it was not, is a work devoid of one of the central reasons why artworks are venerated.

The opposing view is that jettisoning a forgery that has fooled collectors and critics with initial acceptance and praise is a form of manifested snobbery. The aesthetic qualities intrinsic to the artwork remain, regardless of what the people goggling at or listening to the work know of its creation. The work was admired previously, not because of the qualities of the artwork, but because it was believed to be the work of an esteemed artist (e.g. Lessing (1965)). Evolutionary aesthetics challenges this theory because it can explain both the history behind the actions of curators and the public who feel cheated and why people feel cheated by forgery, and also why the work of some forgers, like Elmyr de Hory, is popular with a small number of buyers. As Dutton sees sexual selection as the origin of artification, he sees all art as a kind of performance in one sphere or another, following Francis Sparshott's argument that all art is, ultimately, a kind of performance (for more, see Dutton (1983) or Sparshott (1969)). However, I believe it is just as likely that the

general inquisitiveness into other peoples' minds that theory of mind instills in us is why all artification is in some way a performance, as the products of artification give us a window through which we can learn about another person.

The evolutionary beginnings of artification mean that as a performance, the forger is, as Knight puts it, "guilty of the artistic crime of *misrepresenting* an art performance" (2014, 46, emphasis original). The forger attempts to both gain credit from the reputation of a renowned artist, but also damages the ability to access the work of this renowned artist. If aesthetic attitudes towards artworks were first cultivated around 1.7 million years ago in the evolution of aesthetic tastes by mother-infant relationships, the Acheulean hand axe tradition and the roles in social order that the first body decorations and decorative carvings played, one of the key psychological bases for artification is in a communication between people. The forgery tampers with and deliberately attempts to undermine this communication. In so doing, a forger of an esteemed artist not only confuses our ability to connect with the esteemed artist in some deep and sublime way, but interferes with a psychological tendency that stretches back hundreds of thousands of years, where someone feigning evolving baby interactions could have been an enemy of a parent; an individual trying to gain credit for a hand axe or carving that was not his own creation would have been sending a dishonest indicating signal, or, if later with the first *Homo sapiens*, a trickster created art that would have had cultural and religious value to their group, but in reality lacked a characteristic they believed the art needed, the trickster would have been subverting the group bonding and stress-relieving reasons behind artification adaptations: if you needed to use ochre paint that everyone else is wearing to help protect the whole group on a scouting expedition, and you then discovered you have been supplied with different ochre, the stress-reducing quality based on your belief would disappear. The art forgery taboo is thus an evolved feeling that acts culturally as a taboo, just like the incest taboo is an evolved feeling that acts in a social etiquette and ramifications found culturally worldwide.

If Dissanayake and others are correct that artification took on its first more complicated forms in order to signal towards or express rituals and culturally important ceremonies, and to create worlds where one could learn from fictional scenarios and then apply this experience, gathered simulator-style, in the real world, then the taboo around forgeries is probably also because that forgery not only confuses an artist's body of work. Historically back in pre-history, the purpose of the artwork would have been weakened or destroyed completely by forgery. One might see a modern equivalent in indigenous art in tourist economies when carvers will keep their best art within their group for spiritual and cultural purposes, and only sell art to foreigners that would not meet certain needs of the art culturally (e.g. Dutton 2009). For example, in worshipping a deity, only a rare material like ruby would be considered effective inside a carving, so accidentally selling a carving with ruby inside and keeping a carving without ruby would pervert a purpose of the artwork culturally. Abhorrence at forgery is thus a form of evolved cheater detection that works around an honest signal, and is similar to other evolved cheater detection that psychologists have found in game theory (e.g. Trivers (1971), Alexander (1987), Tooby and Cosmides (2005), Barclay and Lalumière (2006), Boehm

(2012)). The reasons why the work of some forgers like Elmyr de Hory is coveted by some collectors, is simply fascination with someone who has been able to deceive, as well as probably a good artist in his own right. As artification has evolved around an interrelationship between performer and viewer, the same interrelationship exists when viewing a forger's work. Because of the problems forgery creates, a good forger like Elmyr de Hory is probably of interest because de Hory could deceive so well. Evolutionarily, being able to detect a cheater would have been important for survival, so cheater detection consists of a degree of interest in how a cheater operates. Hence, the reason for interest in forger's work is the same as fascination with those who cheat in other fields, such as Lance Armstrong, or the Wategate scandal.

What evolution tells us about artistic forgery can illuminate the concept of New Zealandism because it informs us of an importance of a frequent connection with the artist in appreciation of an artwork. An interest in other peoples is innate, for fairly obvious reasons. Evolutionarily, we possess a desire to learn about other people and cultures for the same reasons that theory of mind, the ability for people to appreciate the thoughts and interests of others, has evolved (e.g. Whiten 1991), or why around two thirds of our daily conversations are, on average, gossip that enables us to interact socially with our peers (Dunbar 1996). In art, this manifests in intense desires to know not only the art in artists we like best, but about the artist's life, what others have to say about the artist, and how we can square what we know about the character and life with what we see in the work. This is visible in the horror felt when discovering a Sher-Gil or Miró one owns is a forgery is not just anger at being duped out of money, but because people feel that owning such a piece from a master or mistress brings them closer to the artist in some way. This is also clear in that we do not just call it a forgery, but also that we call it a fake. This is also another reason why it makes sense to believe an evolved interrelationship is the critical psychological bedrock in art experience. Aside from forgery, the reputation of an artist's personal life is frequently used to attack people who like an artist's work, or for people who like an artist's work to distance themselves from it after disliking something they learn about the artist. For example, Wagner's music continues to be ever-popular, but Wagner's music itself is tainted because of his anti-Semitism (for more on this moral connectivity with the artist, see Tague 2001). If art were detracted from the artist in the evolution of art, then cases like the Wagner Question would not exist. However, it is important to a lot of people what the artist who creates artworks is like, and the artist's personal life is used frequently in judging whether one should like artworks or not. The main problems are that concerns of personal beliefs an artist has enter into works, for they do very often, and that veneration of an artist's work ultimately gives social prestige to the artist, which we are uncomfortable with when it is discovered that the artist holds or commits unpalatable views or practices (for more on Wagner, see Shields (2015) and the responses).

This can only be explained by the evolution of an interrelationship between viewer and artist. If a parent-figure or symmetrical axe-crafter could create brilliantly alluring aesthetics, but was a nasty, selfish person, there would have been good reason to be wary of such a person. As these traditions evolved over such a long time

and created the aesthetic laying for further artification in the Human Revolution, they would have produced a tendency to not be swayed by the art of someone whose art we might find attractive, but whom we would avoid if we met him personally. This would have been evolved further with artification for ritualistic and entertainment purposes. If certain songs or carvings were believed to help in a spiritual cleansing ritual or hunting exercise, but then the person who created them turned out to be a rogue, philanderer or some other unsavory character, it might give reason to believe his creations would distort the purpose of the art: for example, the sagas told to the group by a philanderer might come under suspicion as a way to con or play listeners. Stories that were meant to teach group etiquette would naturally be seen as ruined if their teller were discovered to be secretly breaking such etiquette. And, as teaching devices, the quality of the information conveyed.

This importance of reputation and integrity of artists for beholders is seen in global ethical and knowledge standards for story-telling. In indigenous literature, the relationship between the storyteller and audience is often just as important as the story itself (Rose 2015), and in both traditional African societies and American First Nation societies, storytellers commonly need to pass approval queries before performing in order that their tales be satisfactorily rich in the cultural knowledge they impart and any moral points their tales should make. For example, it is common that those who experience a situation firsthand “own” the story, and one must ask permission from the owner in order to tell the story, unless risking a form of plagiarism (Trafzer 1999). Storytellers in the Iñupiaq Nation in Alaska are often checked by a person in the audience who serves to confirm narratives and details with nods and affirmations (Schneider 1999). Further, the view of the artist by the viewer is important in both purpose of art worldwide and their reputation, deserved or undeserved. In many traditional African societies, such as the Congolese Chokwe, the standard of the storyteller is scrutinized in a different way, with the audience suggesting corrections or points about the tale if they think such alterations necessary with an inadequate storyteller. It is common for audience members to criticize storytellers positively or negatively during a performance, encouraging storytellers deemed wanting to finish early (Fretz 2004). This is also the case in the history of Griot practice in Africa: the first Griots and Griottes were commissioned by nobles to collect, retain and impart historical and cultural knowledge and teach titled families, resulting in the practice becoming a specific profession, often inherited (Niane 1989) (Tang 2007). As such, Griots and Griottes maintain culture and are afforded high status, sometimes resulting in state funerals, or being featured on postage stamps, such as Ban Zoumana Sissoko in Mali (Hale 1997), though tragically it has also resulted in fear of Griots in many parts of West Africa because of concern that a Griot’s words might portend disaster (Lott 2002). Griots’ performances in West Africa contain spiritual and ethical elements distinct to local areas. Where words are believed to hold magical powers and can affect the future, such as in Dakar, Bamako and Niamey, this has resulted in centuries of fear and isolation of Griots because of fear that a Griot’s performance might have unfortunate consequences for the listeners, with the worst cases resulting in people burying Griots in trees instead of the ground for “fear of polluting the Earth” (Hale 1997, 250) (for more on the history of the term and misunderstanding of Griots and Griottes, see Hale 1997).

In criticism worldwide generally, such as in China, Canada or the Cameroon, analysis of artists' work, often posthumously, is rare if it does not engage in some description of the artists themselves, to slake interest in what might have helped form the perspectives and ideas – the food of the mind – that is in the art, as well as what kind of persons they were. In New Zealand, in *te reo* there is a proverb concerning art and the artist: He toi whakairo, he mana tangata. Where there is artistic excellence, there is human dignity (Mané-Wheoki 1995). Haka, arguably Aotearoa's best known artform, though often poorly understood by non-Maori only as a war dance, also works essentially around interaction between performer and viewer. As Nathan Matthews writes, "is a posture dance accompanied by chanted or shouted song" (2004, 9). It comes under various classes of ceremonial performance, political expression, social expression, and war dance, and its main dimensions are interaction of the physical and spiritual aspects. Excellence in haka is judged from the wana (thrill, excitement) that a performance creates, which is the product of the performer's ihi, his or her psychic power that generates emotional response from the audience, and the audience's wehi, their reaction (Matthews 2004). The artist's interest in making ihi felt by a viewer, and the viewer's wehi that emerges from interest in the artist's ihi are essential. In all these cases, like many others worldwide, the perception of the artist that the viewers hold is a major factor in evaluation of the art itself. The reasons why differ in different circumstances: Iñupiaq confirmations of narratives matter for informational and cultural preservation, whereas the Wagner question concerns fear of influence in art used for entertainment. Nevertheless, evaluation of the artist matters for viewers.

Applying evolutionary knowledge specifically to elucidate art criticism, we can understand the popularity of artworks from the perspective of an evolved relationship between artist and viewer where the viewer is interested in the perspective in the art that comes from a mind that created the work. I will focus on what the evolutionary perspective from an artist / viewer relationship can tell us about impressions of McCahon's *Victory Over Death 2*, 1970, a painting that has invited many different interpretations, and about McCahon's status as the most celebrated modern New Zealand painter to date. Interpretation of the painting is frequently contained in wonder about what McCahon meant, which is in general an application of theory of mind, interested in the worldview behind the creation. This suggests how Rex Butler's claim that the ultimate power of McCahon's work lies in how it can be interpreted, can be understood in terms of interrelationship between the artist and viewer by phrasing the situation as one of the viewer, as Zunshine would describe it, "metarepresenting" the artist in order to understand the perspectives and ideas in the artwork.

The perspective of an evolved relationship between artist and viewer suggests theory of mind reasons for veneration of artists' originality. If art's roots are in aesthetics fostered in relationships between hominids, then later in signaling for religious and aesthetic purposes, and are influenced by theory of mind because art can give us a deep, personal and unique connection with the artist, we should be highly attracted to some worldview in a piece of artwork, regardless of whether we agree or not, because this is the hallmark of a person or group, and / or the reason, behind

an artwork. To name just a few examples: Ry Cooder's and Ali Farka Touri's interest in the cultural and geographic factors that make Malian pentatonic music different from Mississippian pentatonic blues, such as the different lyrics' subjects and inspiration to play (Obrecht 2011); the attempts to understand artists' works by understanding their lives and what influenced them, from Mary Shelley (Kostelanetz Mellor 1989) and Charlie Parker (Woideck 1998), to Hồ Xuân Hương (Balaban 2000) and Johannes Vermeer (Bailey 2001), and in ethnographic art, such as Ainu interest in how their fore-generations created artforms now being re-discovered (Miller 2014); discussion about what artworks mean, especially when their creators said there was no meaning, or did not discuss the meaning, like the composing of Bohemian Rhapsody (e.g. Whiteley 2006); and the mystery around why the first known paintings, from Maros, Indonesia (Aubert et al. 2014) to Chauvet and Coliboaia in Europe, were painted (Curtis 2007). These are all based on understanding the artist behind the work in order to understand the viewpoint or ideas or their formulation – products of the mind and useful for our minds to interact, play and develop with – or the perspectives and ideas themselves.

Colin McCahon's painting style is highly distinct, encompassing biblical themes, New Zealand landscapes and neat, schooldesk-style graffiti sentences throughout his life's works. His work is famously dark, with black and dark shades of other colours overwhelming the canvas. Many of his works, like *Victory Over Death 2*, are shades of only black and white, often in stark contrasts and subtle gradation. He was a self-taught painter and poet and said he fell in love with signwriting when he was a young boy after seeing a sign writer at work in a shop, sparking a lifelong use in his work (McCahon 1966). He is often quoted as saying about his painting that "I will need words", though he also complained that using words limited his works toward particular interpretation. "No one seems to know what I'm on about, it amazes me, no one seems to know that I am painting Christ" (quoted in Bail 2003). He once famously said when discussing a series of paintings called *The Wake*, based on poetry by John Caselberg, that "My painting is almost entirely autobiographical – it tells you where I am at any given point in time, where I am living and the direction I am pointing in," though adding "In this present time it is very difficult to paint for other people – to paint beyond your own ends and point directions as painters once did" (McCahon 1972). He never belonged to a religious denomination and avoided describing himself as a Christian, though he was raised in a strongly-influenced Christian society, and he spent much of his time pondering moral subjects through the Bible and Christian literature. Those who knew McCahon widely saw him as a person of extremes, "not a sitting-on-the-fence person. He was a black-and-white person, with no in-betweens". He later became an alcoholic, which created a violent, selfish and cruel side that continued with the decline of his health and became a misery for his wife. He was an emotional, simple and private person, but also possessed volatility and times of irrationality (Wood 1997, quoted 15). All of this explains the contrasting black and white style of his work, the clear-image modernism and predominance in his work of solitary landscapes, and presence of humanity mainly through written texts and religious imagery. As theory of mind suggests, as products of McCahon's personality, traits of his personality are inevitably in his work.

McCahon's *Victory Over Death 2*, 1970, is one of his most famous paintings in his characteristic "blackboard" style, and, along with *Practical religion: the resurrection of Lazarus showing Mount Martha*, 1970, the first of the two *Victory Over Death* paintings, is described by Gordon H. Brown as McCahon's best work (Brown 1984). In large letters over the right-side is written "I AM", a common biblical reference from Christ offering salvation. In a lighter shade of black on the left side is an "AM", only visible to the perceptive viewer, which creates a doubting "Am I?" before the asserting "I AM". Around the piece are various passages from the New Testament that concern doubt and salvation. They are so positioned that no reading of the statements along a direction or axis will allow someone to read the passages in their Biblical page order. There are no pictures, just the background, which contains illegible words amid patient shade changes, and words written in various shades of black, gray and white (for a detailed analysis, see Forward, 2004). Forward uses the painting to explain the validity of different interpretations of art among many lines. As he writes about showing *Victory* to a group of Christian teachers for the first time who were "one-hundred-percent-positive" that the image "shone with light from the Cross (even though no Cross was visible)", even though Forward was unsure, it is important to remember "how many valid ways there are of seeing a single work of art. That experience impressed on me the difficulties of knowing what we see, of working out what it means, of the relevance if any of the artist's life, and indeed the whole question of using words about art at all" (Forward, 2004).

The sexual selection hypothesis for art's origins describes artworks as indicating characteristics, though artworks are broadly indicative of an artist's personality, views and the surroundings that have shaped them. In this sense, whenever people look at artworks, they are looking at indicators of human presence and perspective generally. Artists do not have to possess the qualities that a character they create might have, but they have to possess some understanding or experience that can allow them to create such statements in artwork. Hamish Keith first reviewed *Victory* by praising the almost professional control in an amateur style of *Victory's* handwriting, which takes the painting "past the point where technical considerations have any real relevance" (Keith 1970). This is probably because McCahon was largely an autodidact. Jim and Mary Barr describe him as "more than anything else, a New Zealander. The sort of man you would expect to bump into at the pub with friends; not a man wrestling with images in the solitude of a studio" (Barr and Barr, 1980, 140). Imants Tillers, who, along with fellow painter Gordon Bennett, both independently borrowed the dominating "I AM" from *Victory* in order to create their own works, felt that the peaks and slides of the I, A and M are unshakably reminiscent of Aotearoa's alpine, craggy topography. The piece has been noted many times for its inclusion of only words when discussing the subject of personal struggle, expressed through Biblical doubt and resurrection. The effectiveness of this can only come from an artist who understands the material and how to best convey it. And as Forward's experience with the Christian teachers shows, the painting can be felt pro-Christian, anti-Christian, neutral, atheist, religious fellow-traveller and so on because all can be seen in the work, like views of a prism from different angles. "What this state of affairs highlights is that the intention of the

viewer can be just as important for the meaning of a work as the intention of the artist” (Forward, 2004).

Each of these readings of *Victory* is that of a viewer attributing mental positions and perspectives behind the artwork. Although writing about literature, Lisa Zunshine calls this metarepresentationality, the adaptive ability to “keep track of sources of our representations – to metarepresent them...a particularly cognitive endowment closely related to our mind-reading ability” (2006, 47) (for more, see Leslie 1987). The term applies well to painting, too: ultimately, each reading of the painting requires forming conclusions based on sources found in the painting, maybe even what we know about its construction. Though this works just the same the other way around if we attempt to picture the construction of the painting. As such, each reading is metarepresentation. The use of religious imagery by McCahon is possibly popular with atheists and non-theists, as well as his personal stance, just as it will be with Christians and others of other religious beliefs, because religious sentiments based on story and figures one can look up to, relate to and rely upon is a universal that works just like any other form of narrative for mental exercise. Matt Rossano’s recent proposal that religious impulse originally served to benefit mental health through the stress-reduction it can bring, similar to the advantages of Dissanayake’s adaptations of artification, suggest it is possible, as well, that the religious might hold some popularity universally because its roots could be adaptive (Rossano 2010). Regardless of one’s religious temperament, the story in *Victory* is one of struggle, dubiety, and a search for inner-peace and wonder, which all people experience throughout their lives: in fact, one could say that is the story of life’s experience.

From the perspective of the relationship between artist and viewer, this attraction to McCahon’s work is an interest in the source of this mind-food. The viewer may not always have an interest in the artist specifically when experiencing the work, but by experiencing the artist’s aesthetic creation, the viewer is always experiencing the artist epiphenomenally. The value of understanding forgery as misrepresenting an artist’s work is that it shows that the connection to the source of great aesthetic stimulation, an artist of great caliber, is important. In different cultures this might produce different situations, but in all cases where people take interest in a work, they concern themselves with a quality of the human production behind the work, which is indicative of the artist. Murray Bail writes about a McCahon piece he owns, *Small Landscape With a Hill*, that he says can “hardly” be described by the word “pleasure”, a dark gray handkerchief-sized work that he cannot hang with other paintings as it “is a selfish painting...It is hard to have another painting near it” as “Even a large one is diminished”. It is a person’s “idea of a hill, his idea of it. Often I have wondered what sort of a man it was who produced such an image; not so much a painting, an *insistence*” (Bail 2004, 272). To ask what is meant is to ask about its creation, to figure out how and maybe why it was created, in order to better understand perspectives contained within the art. This is same as Greenblatt’s argument that Shakespeare’s great tragedies are his best creations because he “cut out the motive that makes the initiating action make sense” (Greenblatt 2004, 328): it increases the enjoyment one can get from the work because the

exact intent behind it is left unknown, enhancing curiosity about why the central theme is like it is.

McCahon's work thus fully engages people because it stimulates the interest in a person's perspective about the world, and it maintains this interest at its fullest because it provides no direction to one particular reading over another. As a device for expressing viewpoints about the world and ideas by "making special" with the advent of group cultures and mytho-poetic explanations for the world around and as a window into another person's personality, emotional play and mind, art is something people are primed to engage in. Even knowing about McCahon's life, the mystery of how to interpret the work deepens further. Forward's claim that McCahon's work is amply available for different interpretations can be expanded to explain McCahon's work as engaging the evolved desire for a personality of some kind, and yet finding a morphable character. The history of our artification compels us to seek humanity within the painting, whether in the artist's life or in an idea of some kind existing somewhere between the paint and the conversation it begins between our neural-synapses, and the presence of a mind behind McCahon's work is both rich and flexible. It is not clear what McCahon's views toward religion are from *Victory Over Death 2*. But the suggestions of viewpoint and ideas flush with detail many ways. Art criticism discusses the impact of art on viewers in terms of ideas, themes and images and an artist's ability to express them convincingly and freshly, but knowing how and why people react to the world around them helps provide a historical understanding of why acclaimed art creates this reaction. Just as the old belief in art theory about forgeries is reframed by evolutionary aesthetics, so too can an artist's influence be reframed by evolution aesthetics. Dutton's application of the evolved interrelationship between artist and viewer shows that the old view about forgeries, that formerly cherished forgeries become discarded because the forgeries were believed the work of esteemed artists, misses the mark: more widely and exactly, the forgeries confuse the relationship between the great artist and the viewer. Similarly, the evolved interrelationship between artist and viewer shows that the quality of McCahon's work is not just the ability to attract many different viewers for many different reasons through richness of perspective, but, more widely, that this aspect of artistic experience is a crucial part of engaging with art.

This evolutionary standpoint elucidates from the wider phenomenon of consilience why McCahon has been so popular. Rex Butler argues recently that McCahon's brilliance is anchored upon his work's ability to influence other artists and viewers so well. This, McCahon's work achieves through wide appeal. As Butler writes, the common idea about why great artists are revered is that "they pass on some eternal truth, some abiding human value that we can turn to when all else changes around us", however, this is clearly not the case, as there is often no attribute or group of attributes of the artist that can be found in their influences: as Borges writes in "Kafka and his Precursors", all of the literature that claims Kafka as an influence is varied, and all interpret Kafka differently, leaving us with no, or few, particular qualities to say Kafka's work says. In this sense, McCahon's work simply has a wide appeal because the combination of his themes and how he uses them aesthetically is gripping and provoking for many people. Borges's insight is that

the best artists, “the ones who are truly influential, like Kafka, are so not because they pass on some set of identifiable characteristics but *because they do not*. In a paradoxical way, it is rather a certain nothing or emptiness that they represent, a space in which subsequent readers and interpreters can see themselves reflected” (Butler 2012, emphasis original).

McCahon’s work is the same. The perspective of an evolved interrelationship between artist and viewer deepens Butler’s and Kafka’s argument by explaining a history and psychology behind it: when experiencing artification that has evolved over millennia, preparing people to see the products of artists, leading people to ruminate on “what the artist meant” and how the work impresses others, art like Kafka’s or McCahon’s allows the viewer to formulate an image of the artist behind the work upon, as Butler calls it, “a certain nothing”. This formulation is all the more powerful if the work is important to someone for whatever personal reasons the image she creates of the artist behind the work and the perspective imparted. Just as remembering characters from art can help people in life by providing a scene they can think of, the ability to picture the artist in the way Butler describes allows for an understanding of how to view and use the artwork. Butler’s idea for why McCahon is lauded is thus the ability to create an artist behind an art largely as we see it, to metarepresent an artist behind the picture (although she does not use the term for painting, for more on Zunshine talking specifically about paintings, see Zunshine (2012)). And whatever New Zealandism McCahon typifies, this “certain nothing” allows the person, “more than anything else, a New Zealander” to be metarepresented in his work by viewers; Walters as an originally misunderstood “abstract pioneer”; Hodgkins as “Turner in New Zealand” and Angus as expressing “joy in living here”.

Conclusion

What I have argued here is but an iceberg-tip to the range that art theory could gather from increased connection with other disciplines. The arguments here allow the ideas of Brown, Keith, Leonard, Pound and Butler to all be understood in a far wider scope, from what happens in the neural circuits of artists’ and viewers’ brains, to the social settings that demand the socially active to feel, take positions and conclude, to times past when a group first sang together in the crepuscular light, individuals began to take care to craft a particular shape that induced pleasant feelings, and babies and their mothers began a conversation that enriches just as much today. I have tried to take a step that shows the potential of such dialogue for art criticism. Rather than subsuming or stripping away that special, ethereal feeling art provides, felt everywhere from the Newfoundland forest to Aotearoa’s Tail of the Fish, the sciences provide additional premises for art critics’ conclusions. I feel it is hard to put it better than as Zunshine writes, if “we are all in the business of figuring out how the mind works, then arriving at complementary conclusions while starting off from very different disciplinary perspectives is a good indication that we are really onto something” (2012, 147). Arts are not subsumed by information from sciences; they are the experience, while the science is part of the story. Just like artist and viewer, both are involved in a deep, linked interrelationship. If McCahon had painted them, maybe not “I AM”, but “WE ARE”.

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Notes

1. Rita Angus: Life and Ambition Exhibition, Collections at Te Papa, <http://collections.tepapa.govt.nz/exhibitions/ritaangus/artworks.aspx?irn=586>
2. Object: The Angel of the Annunciation, Collections at Te Papa, <http://collections.tepapa.govt.nz/objectdetails.aspx?oid=42318>
3. Object: The Angel of the Annunciation, Collections at Te Papa, <http://collections.tepapa.govt.nz/objectdetails.aspx?oid=42318>
4. Referenced from the online edition, hence no page numbers.
5. Referenced from the online edition, as with all following quotations.

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COMMENTARIES

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“Aesthetic Devices Promote Viewers’ Felt Emotional Connections with Artists”

In his essay, Anthony Lock uses several disparate theoretical ideas from “evolutionary aesthetics” (a wide-ranging and not-always-coherent field) to enhance the relevance of a twentieth-century art-historical concept like “New Zealandism.” Among these ideas, he emphasizes hypotheses about the development in early *Homo* species of “interpersonal relationships” as early as 1.4 to 1.7 million years ago in order to explain the sometimes “deep, personal and unique connection” sometimes felt by a viewer of a painting with the person who painted it. He bases his ideas primarily on the work of two authors, Denis Dutton and myself.

Although I commend studies in the humanities that are aware of evolutionary ideas, and believe that the humanities can benefit from knowledge of human behavioral evolution, it is difficult for me to fully endorse the application of *my* ideas to the conclusions described in the essay. My hypothesis is much more complex than presented by Lock and, as presented, I do not find that it supports the conclusions that are drawn from it. In this commentary, I will not discuss the particular use made of Denis Dutton’s ideas, which in any case vary considerably from mine (Dissanayake 2014).

My hypothesis about the evolution of intimate mother-infant interaction begins with two earlier anatomical adaptations that characterize species of our genus, *Homo* – namely, bipedality and a gradually enlarging brain. These characteristic traits required numerous other adaptive changes in physical characteristics, one of which was a reshaped pelvis that became narrower and shorter than birth canals of quadrupedal primates, thereby necessitating a reduced gestation period so that a large-headed infant could be successfully birthed. In spite of other anatomical adaptations that addressed this problem (e.g., the infant fontanelle, separability of the female pubic symphysis at childbirth, and extensive growth of the infant brain after birth), I posit that a behavioural/psychological adaptation was selected for as well. That is, affiliative maternal behaviors directed to the infant evolved that created an intimate personal bond between them, ensuring that mothers would be willing to care for helpless infants for the requisite weeks, months, and years that were made necessary by the baby’s altriciality (immaturity). We now know that the specific components of mothers’ unique behaviors to infants (unusual vocalizations, facial expressions, and head and body movements that are not used with adults or even older children) are presented in temporally organized ways that create emotional concord between the pair. A neurological adaptation promotes this concord: oxytocin and other opioids are released in the mother’s brain, as in other mammalian mothers when suckling and interacting with infants (Panksepp 1998).

At this point, and in mother-infant interactions that take place in the 21st century, this important “interpersonal relationship,” in my view, had or has nothing to do with art. My hypothesis has a “second tier,” which proposes that when human groups began to engage in ritual practices (related to the origin of religious behavior, which is a human universal), already-existing behavioural and emotional *components* of the mother-infant interaction were (inadvertently) found to create behavioral and emotional concord among members of a group who were engaged (as a group) in these components (vocal, visual, and movement behaviours that we today call song or chant, visual effects, and dance, presented in temporally organized ways). In this very different context, and with several or many (not just two) people, oxytocin is also released, promoting feelings of unity, confidence, and trust (Uvnäs-Moberg 1998). In addition, oxytocin itself reduces cortisol, a stress hormone, so that anxiety about the occasion for the ritual practice (e.g., success in hunting, healing illness, maintaining prosperity, fertility and other goods, etc.) was reduced. Hence practice of these art-like components in ritual/religious behaviours became itself adaptive. In this sense, “the arts” (as behaviours) are an adaptive by-product (“exaptation” or new beneficial effect) of the original mother-infant behaviour.

Essential to my scheme is *what is done* to the vocal, visual, and movement behaviours to make them art-like. Like “ritualized behaviours” in some other animals (Eibl-Eibesfeldt 1975), components of these behaviors are simplified (formalized), repeated, exaggerated, elaborated, and sometimes manipulated in ways that create expectation. These five “aesthetic devices” serve to attract attention, sustain interest, and create emotion – both between mothers and infants and, later, among individual humans as they participate in ritual practices (or arts).

This hypothesis is not easy to summarize and as it is has probably taken up more space than many readers will welcome. I include this truncated version to make the point that if *my* hypothesis about “interpersonal relationships” were to be used to understand New Zealandism or a viewer’s sense of connection with an artist, there should be a different focus. That is, the author would find examples of simplification/formalization, repetition, exaggeration, elaboration, and manipulation of expectation in the works of the painters that are discussed and propose that because humans find these devices pleasing, compelling, or affecting, they respond to the art work. This focus has in fact been used by music educators who observed and recorded children’s (ages 3-12) spontaneous vocalizations during unstructured play, and found that they made use of these aesthetic devices (Countryman et al. 2015).

Lock’s use of my work gets some things right, but often for the wrong reasons. Proto-aesthetic sensibilities are not “taught” to infants; on the contrary, infants “teach” adults to make the silly sounds and funny faces that they do by responding to them with appealing smiles, kicks, and coos. Because using these “rhythms and modes” (not a concept used by ethologists but a neologism invented by me in *Art and Intimacy*) inadvertently suffuses mothers’ brains with prosocial hormones, infants who stimulate and encourage such behaviours will survive better than infants who might prefer, say, inexpressive faces, averted gaze, and adult-directed speech.

“Making special” has indeed been called by some a vague (or fuzzy) notion. By specifying how specialness is achieved (the five aesthetic devices just mentioned), it is no longer vague or fuzzy. For more than a decade, I have replaced “making special” with the term “artification,” which implies use of these five aesthetic devices. Artification can be thought of as a “performance,” perhaps, although in many instances of visual art (say, paintings), the performance is usually over and the artwork is the residue of that performance.

My artification hypothesis (with its emphasis on aesthetic devices) is not intended to contribute to the evaluation of art works. After all, if three-year-olds use the devices when spontaneously vocalizing during play, it is clear that much complex cultural elaboration has taken place in the many worldwide art traditions in which these fundamental devices are still discernible.

I do not disagree that people often feel a strong interpersonal connection with certain art works and even with their creators. This is especially so in arts that take place in time, as in Lock’s example of Haka (with interaction between performer and viewer). Orators, storytellers (playwrights, filmmakers), and performers can mesmerize us, but I would say that they do so by using aesthetic devices, not only by a putative “interpersonal relationship.” I would also suggest that they can seduce or deceive us with these devices – and not always to our betterment. Outright forgery is quite another matter and Lock’s ideas about this aesthetic problem seem to me quite plausible.

I do not disagree with many of Lock’s ideas and recognize that he wishes to appreciate recent New Zealand artists and their work through a multifaceted evolutionary lens. The connections he draws are often stimulating and original. Other commentators will no doubt discuss other features of this ambitious and interesting article.

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“Blending in the evolution of art”

Conceptual blending operates widely in the evolution of art. We blend what we know of the nature of our own mind with our idea of another agent, and accordingly, in the

blend, develop a full notion of another mind (Fauconnier & Turner 2002, Turner 2014), including viewpoint. This allows us to conceive of joint attention, in which we imagine that we interact with others by attending jointly with them to something we can perceive. As Michael Tomasello writes, “Human beings are the only organisms on planet Earth who actively attempt to direct and share the attention of conspecifics to outside entities” (Tomasello 2010, 1092).

In “classic joint attention” (Thomas & Turner 2011), we also communicate about our joint attention and its object: “Look at that blackbird!” Classic joint attention is limited to what the immediate environment affords, but advanced blending can compress a mental network to create perceptible elements for attending to what is otherwise not in the environment. A “sketch” of a blackbird is understood as a prompt to blend what we perceive (marks on paper) with our idea of the blackbird, despite the absence of an actual blackbird. Now we can say, “Look at that blackbird!” in the absence of any blackbird.

Human thought is remarkable for its ability to stretch across time, space, causation, and agency. We are able to hold and work with large mental networks of conceptions that go far beyond local matters of perception, action, and interaction, because we can blend information from a vast conceptual integration network to make a compressed, human scale idea, something mentally graspable, which we can use as a basis for managing the vast and otherwise intractable network. For example, a sketch of 12 sailors on a 12-meter sailing ship in the America’s Cup race, with a New Zealand skipper, includes a sketch of “the 13th sailor,” whom we take to be a legendary New Zealand skipper, standing behind the actual skipper. We are not deluded by the blend, but now, in the blend, the two skippers – one the old master and teacher, the other the young master and former student – interact directly in their joint attention to the race, and in their support of each other’s lives and careers and traditions. The artwork prompts us to construct a compressed blended scene that helps us grasp the vast mental network, stretching over time, space, agency, and events. When one runner breaks the record for running the mile, the *New York Times* publishes a little sketch with 6 “runners” on the “track.” Five of them are the fastest milers from previous decades. They are placed on the track where they were in their own races at the end of the time span in which the new record-holder completed the mile. None of this is in the immediate environment, but now we have a case of blended classic joint attention, where the art provides something in the environment to which we can jointly attend, even though the concepts stretch over decades, connecting people directly who do not actually have such connections. Art provides percepts in the environment to support advanced blending, compression, and joint attention. A painting of an annunciation is something in our perceptual field that prompts us to construct a vast blending network that stretches over all eternity, including the entire life of Christ. The Parthenon provides something in the immediate environment that prompts for a blending network running over the entire history and future of Athens. Crucially, as Lock explains, we can blend our idea of the artist and of other viewers into the compressed concept of blended classic joint attention, where, conceptually, viewer and artist engage with each other in jointly attending to the artwork.

Art serves advanced blending, compression, and blended classic joint attention. It is not an independent mental capacity that evolved separate from language, advanced social cognition, advanced tool invention, theatricality, fashion, mathematical insight, scientific discovery, and so on. On the contrary, advanced blending made a suite of advanced capacities possible, and each of them scaffolds for the others. They labor together. Advanced blending helps to make them possible, and they help to make advanced blending so useful.

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Kathryn Coe, Justin R. Garcia, and Ryan O. Begley*

Anthony Lock's (2015) paper on evolutionary aesthetics draws on the concept of *consilience*, the term E. O. Wilson chose to refer to the merging of the sciences and humanities. As Lock recognizes, achieving consilience does not rest on a scientist's ability to probe into and find meaning in literary musings about visual art, drama, music, and dance – traits which, Wilson (1998: 229) writes, are characterized by "those qualities...we call the "true and beautiful". To build consilience, Wilson wrote, two questions had to be scientifically addressed: Where do the arts come from and "how are their essential qualities of truth and beauty to be described through ordinary language?" (p. 229).

Included among the scholars who attempt such a merging are Denis Dutton and Ellen Dissanayake, whose combined work is a primary focus of Lock's paper. Although differing in their theoretical approaches to art, both seem to accept Wilson's claim that the essential qualities of art are truth and beauty and attempt to address his questions by incorporating science (e.g., evolution through natural selection) into their approaches. Both see an origin of art in the very distant past and argue that its origin largely was in social interactions. The proof of the pudding, however, is not simply to introduce terms such as "science" or "natural selection" into the discussion, but rather to show the evolutionary function of art – how art can be converted into survival and/or descendants (Coe, 2015).

Natural selection is not a goal-directed process, it is not aimed at producing truth, beauty, or the art of two artists living during a particular time period in New Zealand. Rather it is a dynamic process that helps explain survival and persistence (or lack thereof). It logically will occur if there is variation of traits, if that variation is inheritable, and if the inherited traits are associated with differential fitness outcomes, with fitness measured in terms of numbers of viable descendants. To argue that art is an adaptation, and not, as Pinker (1997) claims, a mere by-product of selection for other

traits, one must evince that the trait promotes such differential success in a particular environment. For all of its merits, that was not done in this paper.

It is not strictly true that traits originate as adaptations (Lock, 2015: 1). Traits emerge through various processes (e.g., mutations, genetic drift) and then are subject to natural selection. Adaptations are traits that have been modified or produced by natural or sexual selection over generational time. Thus, to show that art, which is claimed to have originated about 1.7 million years ago, is an adaptation – it actually promotes long term descendant-leaving success in a variety of environments – one needs to focus on its cross-cultural utilization and to show (and not assume) an association with differential reproductive success. Further, an argument rooted in social interactions would putatively need to explain this timeframe in relation to much earlier proposed timeframes for the evolution of human pair-bonding and human cooperative breeding, again to explain the phylogenetic trajectory of the evolutionary process.

Unfortunately, while art may be assumed inevitably beautiful and truthful, we cannot ignore the fact that the association of art with truth or beauty is not a cultural universal, nor should we ignore the association of art with war and injury and death (not beauty) and with propaganda and mythology and fantasy (not truth). Darwin himself, in the brief discussions of art included in *The Descent of Man*, never referred to art in terms of truth and beauty nor did he claim it was an adaptation. He used “art” to refer implicitly to skill. He mentions, for example, the “art of making fire” (p. 132) and “the art of shooting with bows and arrows” (p. 224).

The answer to the question of evolutionary function may or may not foster the integration of the scientific and humanistic disciplines, but the direction of influence is clear. As facts are stubborn and reductive explanation is the enterprise of science, the onus of accepting this influence falls categorically on those practicing the humanities. Whatever the function of art, art production and appreciation are like any other behavior in their amenability to evolutionary explanation, just as humans are like any other any other animal in this respect. But like the practice of science, itself, communicating these ideas is a project for the willing. Scientific understanding, coupled with a desire to educate, will allow us to achieve both the letter and the spirit of consilience.

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“Art as Materialized and Embodied Ritual”

I am grateful to the editors for this opportunity to comment on Anthony Lock’s interesting and engaging article. While numerous and varied thoughts were provoked as I read, I believe most of them can be organized around the theme of the social origins and function of art as the materialization and embodiment of ritual.

Let me start with the Acheulean hand axe. As Lock points out, this artifact may represent humanity’s first primitive engagement with the plastic arts. There’s another aspect of the hand axe that deserves mention: its highly social nature. Ethnographic studies of traditional societies that make hand-axe-like implements (adzes), such as the Kim-Yal of New Guinea, show how the construction of these implements is a highly social activity. Groups of adze-makers spend hours working, talking, and critiquing each other’s creations. Furthermore, collective adze-making serves as a venue not only for learning the skill, but for the transmission of important cultural stories, norms, and traditions. True, the Kim-Yal people are not *Homo heidelbergensis*. However, as Lock discusses, the numerous unused hand axes compel us to look for explanations beyond the purely practical for their creation. The social world provides a reasonable explanation. Their creation was a social event and their “use” was as a social signal. The social event of hand axe making could easily have had important group-bonding effects and the social signal of the created hand axe could well have provided important information about the intelligence, skill, and resourcefulness of the creator. If the hand axe is the beginning of art, then from the start art was deeply, functionally entwined with the social.

Let me expand a moment on the social signaling function of art. Art emerges, I believe, from ritual. Ritualized signals (such as the famous canine “play bow”) have deep evolutionary roots as effective transmitters of unambiguous social messages. To ritualize a signal, a utilitarian gesture is typically exaggerated, stylized, and repeated in order to attract and hold another’s attention. Ritual amplifies gesture thereby ensuring effective communication. Art goes further, it amplifies ritual. Visual and plastic art materialize ritual, while performance art embodies ritual. For example, a simple nod can *gesture* respect and deference. A deep bow with head lowered and hands clasped *ritually signals* respect and deference in an even more amplified way compared to a nod. Art can take these sentiments even further with dances, songs, portraits, and poems done *in honor* of someone. Rituals are known to have important social bonding effects. Art can have similar effects. Groups can rally around materialized images and symbols that represent their collective identities. Warriors executing intricately coordinated dances and chants reinforce to one another their organizational discipline while simultaneously intimidating any onlookers who might challenge them.

It is not hard to imagine that in our evolutionary past, under group-competitive conditions, those groups that could more successfully inculcate an “esprit de corps” in their

members would have had an important advantage over others. Art could very well have emerged in the midst of a Pleistocene “arms race” where groups sought increasingly more effective ways of emotionally-bonding members to each other and to the tribe as a whole. If so, this reinforces Lock’s discussion of our deep abhorrence of forgery. If the images and symbols to which we pledge our allegiance and lives don’t really represent what we thought, then maybe they are not worth that level of commitment. Or conversely, if the artist has faked his or her creation, then is he or she really committed to the group and its ideals. Either way, this disingenuousness threatens group cohesion, which in our evolutionary past could have had dire fitness consequences. Modern day forgery may continue to unconsciously evoke these deeply primal concerns.



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“Carving Art Behavior at the Joints: Symbolic Behavior, Aesthetic Responses, and Artification”

I am an evolutionary anthropologist, not an art historian or philosopher, so my comments are directed at the theoretical foundations of Lock’s approach to art behavior rather than his discussion of New Zealand art *per se*. My comments may thus be understood to apply not only to Lock’s article, but to the application of evolutionary theory to the study of art behavior in general.

To begin with first principles, the theory of natural selection is a scientific theory. As such, its proper use is to generate hypotheses regarding natural phenomena, generate predictions from those hypotheses, design experiments to test those predictions, and subject the findings of those experiments to quantitative analysis. If we do not follow this protocol, we run the risk of developing post-hoc explanations, in which we cherry-pick examples that support the explanation and ignore those that do not. Whatever its other merits, Lock’s investigation does not follow this protocol and therefore cannot be said to advance our scientific understanding of the phenomenon in question.

The first step in scientific inquiry is to define the phenomenon in question. In the present case, this requires, at minimum, the definition of art behavior. It is telling that, to date, we lack a compelling definition that encompasses all of the behaviors commonly lumped together as “the arts.” Dissanayake has arguably come closest to achieving this with her concept of “artification” – the use of elaboration, repetition, patterning, and/or exaggeration to make ordinary objects or behaviors extraordinary. However, this concept begs the questions of what precisely is meant by “extraordinary” and how one might quantify this property. Also, the diagnostic utility of this concept is undermined by its broad applicability. Because it can apply to virtually any behavior, it is not particularly effective for narrowing the range of performances included in the behavior set it attempts to delimit. The difficulty of defining art behavior points to an alternative hypothesis: perhaps the phenomenon in question does not exist. That is,

perhaps what we in modern industrialized societies perceive as “the arts” is a subset of another behavior.

This is not to say that the behaviors classified as art in modern societies are unrelated. Indeed, as the very concept of “the arts” suggests, many people see a common thread weaving through them, which is probably why they are widely perceived as being different facets of the same phenomenon. Rather, I am proposing that the common thread cannot be artification, because virtually anything can be artified yet not all things that are artified are assigned to the category of “the arts.” What these behaviors have in common with each other but do not necessarily share with other instances of artification is that they are all instances of symbolic behavior. On this view, what we experience as different art forms is a side-effect of our capacity to use different media – e.g., marks, sound, movement – to communicate meaning. Signals vary in effectiveness, and can be modified in various ways to make them more attention-getting and emotionally arousing. The degree to which a given modification or set of modifications triggers our evolved attentional biases and motivational systems (e.g., aesthetic preferences and/or revulsions) affects the degree to which we experience the signal as “attractive” or “moving.” On this view, artification is signal modification – the use of elaboration, repetition, pattern, and/or exaggeration to increase the attentional salience and emotional intensity of a given signal relative to others.

This brings us to another definitional issue, hinted at in my reference to evolved “aesthetic preferences and revulsions.” Biologically speaking, there is no such thing as a single “aesthetic sense.” Aesthetic responses are motivational mechanisms, the function of which is to direct attention to environmental stimuli and guide responses to them in ways that, in ancestral environments, increased fitness. Our aesthetic responses are programs, and programs are specialized: there is no general aesthetic response capable of directing attention and guiding behavior toward each and every environmental stimulus to which our ancestors recurrently had to respond. This is because different classes of environmental stimuli are useful in different ways. For example, an opposite-sex conspecific is potentially useful as a mate, a piece of fruit is potentially useful as food, and a lush meadow is potentially useful as a campsite or hunting ground. We use different criteria and cues to evaluate the quality of a potential mate than we use to evaluate the quality of a piece of fruit or a campsite. For example, proximity to fresh water is an important criterion for choosing a campsite, but not for choosing fruit or mates. Waist-to-hip ratio is a cue used in mate assessment, but not in fruit or campsite assessment. Moreover, different stimuli require different motivational responses: sexual arousal is a fitness-enhancing response to a willing and attractive partner, but not to fruit or meadows. On this point, it is important to note that aesthetic responses include revulsions, which motivate us to avoid interacting with potentially harmful stimuli. Evolved revulsions underscore the impossibility of designing a general-purpose aesthetic response: a program that motivated both, approach and avoidance, would paralyze its bearer. In sum, there is no universal criterion of beauty, no one quality that all aesthetically arousing entities have in common.

The use of elaboration, repetition, pattern, and/or exaggeration for signal intensification can be productively understood in terms of these aesthetic preferences and revulsions. Much of what we experience as aesthetic responses are evolved attentional bi-

ases; fundamentally, to be *attractive* is to be *attention-attracting*. Attentional biases are mechanisms that motivate us to preferentially direct our attention to environmental cues that, in ancestral environments, were associated with positive fitness outcomes. For example, many predators and toxic animals have distinctive patterns (e.g., spots, stripes), and individuals who preferentially attended to such cues would have reaped huge fitness rewards by avoiding predation. The properties of these cues – such as the bright, saturated color of ripe fruit – can be incorporated into ordinary artifacts and activities to make them more attention-arresting and emotionally compelling. This includes revulsions as well as preferences: much of what is classified as art in modern societies achieves its effects, at least in part, by disturbing, disgusting, or frightening the audience (e.g., Picasso's *Güernica* or Munch's *Scream*).

Many modern aesthetic trends – such as animal-print clothing – do not make much sense until we examine them vis-a-vis the demands of ancestral environments. This brings me to my third point: when generating hypotheses about the function or nature of art behaviors, we must begin by observing these behaviors in an evolutionarily relevant context. This applies to the concept of forgery, or the relationship between the viewer and the artist. In ancestral forager societies, with their subsistence-based economies and comparative lack of private property, opportunities for forgery would have been very limited. Famous artists and the buying and selling of art objects were not part of this world. In ethnographically documented forager societies, some individuals are recognized as being exceptionally skilled craftsmen; however, because band size is small and members are intimately acquainted with one another, individuals can readily distinguish between, for example, an arrow made by person A and an arrow made by person B. Under such conditions, it is extremely unlikely that a person would attempt to falsify the provenance of an artifact (obviously, this concept does not apply to the performing arts, because the viewer is present at the time of production). A more parsimonious explanation for our aversion to forgery in modern environments is our evolved aversion to cheaters, although it is unclear how one would go about testing this hypothesis.

This brings us full circle. Using the theory of natural selection to understand art behaviors requires quantitative hypothesis testing. For example, it is not sufficient to claim that artification or art behaviors (on my view, different phenomena) function to increase group solidarity and make bands “more likely to reap the benefits of living in a group” – especially given that many species reap these benefits without the capacity for either. Science demands that claims be tested. Thus, scientific theories are not alternatives to interpretive frameworks such as feminism, Marxism, and deconstruction: they arise from and require the application of a specific methodology.

So where do we go from here? One thing we can do is make sure we use the tool that is best-suited for the job at hand. Although, ultimately, all behavior is the product of the interaction between genes and environment, some aspects of behavior are better explained in terms of the latter. Putin's rise to power may be understood in terms of male intrasexual competition, but this approach sheds little light on how Putin was able to seize and sustain so much power, and why it was Putin and not someone else who accomplished this. In other words, evolutionary theory cannot tell us much about the causal relations among the personal, economic, political, and other temporally-

and geographically-specific variables that were instrumental to his ascendancy. The same goes for specific artists, artworks, and movements. Another thing we can do is make sure to carve adaptation at the joints – to pinpoint the locus of adaptation before we leap to the generation of hypotheses. With respect to art behavior, there is no evidence that art objects constitute a natural category that is distinct from artifacts. We cannot point to a set of objective criteria that can be used to determine whether a given object or performance is “art.” Thus, whether or not an object or performance is “art” is an opinion, not a fact. This is a powerful indicator that we have been looking for adaptation in the wrong place. Symbolic behavior may point the way to a more promising path of inquiry.

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Lock’s paper is highly cogent, informative and well argued, and I have found much to learn from it. Let me also make clear that I strongly dislike, with whatever strength indifference can muster, the modernist-primitivist art represented by his example of choice, Colin McCahon. But the paper does an excellent job in arguing a number of cultural, cognitive and evolutionary reasons why McCahon’s work *might be* successful. It is not so effective, in my view, when it comes to conveying why it has actually been successful in the struggle for life of the art world ecosystem. By way of critique, the paper is too deliberately restricted to one context of response, evolutionary aesthetics, and to that extent it is an exercise in keeping out other approaches. It does that so smoothly that one does not even notice it has been done. But the paper lacks (much) discussion of the cultural context of art in New Zealand, of artistic traditions in twentieth-century painting, of the dynamics of the art world and the art profession.

Are these matters irrelevant? (Well, perhaps they are within the scope of Lock’s notion of evolutionary aesthetics). But what has created the bandwagon effect? It is arguable that once the discourse of New Zealandism is active, any New Zealand artist hailed as a New Zealander might have been able to occupy the slot and have the discourse stick to him and characterize him. I take the technical incompetence of McCahon’s, and the lack of a militant focus on New Zealand in his work as proof that any other artist might have filled the bill equally well – or better, indeed, in the case of more explicitly regional painters. But the vortex of attention selected McCahon, Rita Angus, and a handful of others. Lock devotes some attention to the role of critics in selecting artists (quite arbitrarily, it would seem) and creating a tradition, but some elements seem to be missing from the discussion. What makes those critics’ views influential, for instance, or what is the actual functioning of the art world as a profession where things are bought and sold, who does the buying and the selling and the reviewing, what other class interests, business interests, prestige markers, political interests, whatever, are active in this small world. There is though the danger of a vicious circle here, because Lock might perhaps answer that it is the inherent qualities in McCahon’s work that helped bring out his critics as perceptive ones in drawing attention to him, or that it was those qualities that furthered his marketability or emblematic potential in the NZ context. Still (in my current act as an Anti-McCahonian) I tend

to see the dominance of pure arbitrariness in the bandwagon effect. Success in modern art (and we wouldn't be discussing McCahon otherwise) is the result of a chaotic matrix of circumstances, and that argues somewhat against the fitness dimension in Lock's argument.

A theory such as Lock's selects some elements from a tangled web of complexity in order to foreground them or to show the way they are active. Still the clarity of the theory plays against itself insofar as there are many elements left outside the complex which are just as entwined with it as those which are brought to the light by the theory. The theory then creates a kind of hindsight bias effect regarding its views of those artists who are eventually consecrated.

Perhaps I'm just saying that Lock explains the success of some elements which are present in art in general, as a scientific theory should, but does not really account for the preeminence of specific artists, because this preeminence is not to be fully explained at this level of reasoning. One would have to engage in a more detailed way dominant discourses and counter discourses in the 20th century, postcolonial dynamics of representation, and the whole shebang of historical, biographic, cultural-aesthetic and poststructuralist criticism, which would make the paper less distinctive as an intervention in evolutionary aesthetics. There would be downsides, and upsides. As it is, the paper is an interesting specimen of Third Culture (i.e. cultural theory written under the aegis of sociobiology and cognitivism). To its credit, it does make some moves in the direction of what I would like to call Fourth Culture – integrating within an evolutionary perspective the insights of cultural criticism, historical scholarship, aesthetics...instead of dismissing them and restricting the scope to what can be seen from a neo-Paleolithic viewpoint.



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“First steps towards a true interdisciplinary evolutionary aesthetics”

Evolutionary Aesthetics (EA) is a burgeoning, youthful field of study, the main aim of which is, broadly speaking, the “importation of aesthetics into natural sciences, and especially its integration into the heuristic of Darwin's evolutionary theory” (Volland, Grammer 2003: 5). EA provides today a set of three main accounts for the emergence of an aesthetic attitude in humans: an account relying on natural selection (*adaptationist* account), an account based on sexual selection (understood in a Darwinian sense; Miller 2000), an account relying on the concept of spandrel (Pinker 1997). Anthony Lock's paper is in line with the adaptationist account.

I agree with Lock's view that “evolutionary aesthetics is most exciting when adaptation allows for new ideas and powerful insight into artistic problems”. However, I would like to briefly highlight some perplexities concerning his application of Dutton's and Dissanayake's theory of the interpersonal relationships (for the emergences

of the arts) to *New Zealandism*.

As is well known, one of the most powerful criticisms raised about Dissanayake's crucial notion of *artification* (Dissanayake 1988, 1992, 2000, 2014) comes from Davies (2005): Dissanayake's concept seems to be, according to Davies, "so thinly characterized that it does not pertain to art as we understand it" (Davies 2005: 291, 296). In a recent paper (2014), Dissanayake cogently responds to Davies' criticism arguing that, surely, the theory of *artification* does not "pertain to" art in the sense of contemporary philosophy of art, rather it "employs a broader, more universal framework". While *artification* is, in Dissanayake's terms, an "evolved behavioural predisposition in members of the genus Homo to intentionally make the ordinary extra-ordinary by means of artistic/aesthetic operations", the "art" of philosophical aesthetics is a subset or sub-field of this "broader universal entity". To put it in other words, *artification* encompasses and underpins the art(s) (in a Western contemporary meaning), instead of being identical with it/them (Dissanayake 2014; for further suggestions in this sense, see Coe 2003).

Actually, Lock does not provide any clear and unambiguous definition of the terms "art" and "aesthetic", as they are assumed throughout his paper; rather he restricts himself to writing that "the definition of art, and jointly, aesthetics, is unsettled, and is sometimes a subjective matter in fringe cases", neither touching on the potential differences between ancestral "arts" and the art in its contemporary meaning (as for the modern notion of artistic *New Zealandism*) nor to the conceptual relationship between the notion of "art" and that of "aesthetic" or to the detailed reasons why the evolutionary lens should be suitable and even necessary for the understanding of *New Zealandism*, more than of other modern and contemporary artistic movements. The concepts of "art" and "aesthetic", their implicative (rather than synonymic) relationship (Desideri 2013, Schaeffer 2015) and the differences between *artification* and modern art deserve perhaps more discussion than Lock provides in his paper. As Dissanayake writes in her paper (2014), "It is not enough to treat our subject [the arts and the aesthetic behavior, M.P.] with a 'cluster definition' (Dutton 2009), if we wish to suggest an origin and adaptive function (or functions). We have to know what we are talking about and looking for" (Dissanayake 2014: 44). I couldn't agree more.

The same pretty loose assumption seems to be true for the biological-evolutionary notions that Lock employs throughout his paper. I refer specifically to the notion of "sexual selection", as the evolutionary hypothesis that underpins Dutton's understanding of art forgery taboo that Lock applies to the specific case of *New Zealandism* (particularly to McCahon's paintings).

In evolutionary biology, sexual selection refers to a very specific process, concerning the struggle between males (generally) to access females (with important differences, that it would take too long to explain here, between Darwin's assumption of the term and its contemporary meaning). Here Lock employs the notion in a rather broad sense, writing that sexual selection "can illuminate the concept of *New Zealandism* because it informs us of an *importance of a frequent connection with the artist in appreciation of an artwork*" (my emphasis) and that the theory helps us understand, with reference to paintings and other artworks, that "whenever people look at artworks, they are

looking at indicators of human presence and perspective generally”. A rather loose assumption, as I said. Does this reference to sexual selection, understood in such a broad sense, make possible a true advancement in our understanding of *New Zealandism* that would have not been possible remaining within the boundaries of the theory of art? I am doubtful. Following Lock’s assumption, sexual selection is like a canopy that can pick out everything humans find interesting (just because indicators of human presence), rather than only things that are specifically aesthetic or art-connected.

Lock’s paper is rich in interesting suggestions about the role and significance of the evolutionary looking glass for the humanities and, more specifically, for philosophical aesthetics and theory of art. The cross-disciplinary approach is personally what I find the most interesting and stimulating aspect in the research field of EA. However, I also think that today, in order to further develop the research in EA, we need a clearer, more rigorous epistemological, theoretical and methodological framework, something more than (even interesting) suggestions or the vague reference to Wilson’s consilience. We need to “build”, in cooperation with biologists, ethologists and researchers in evolutionary sciences, a shared research program for EA, also paying attention to the ways we can derive testable predictions from our theories and interpretations (Dissanayake’s theory of *artification* is a first, enlightening step towards a *true* cross-disciplinary EA).

In 2006, in the frame of a huge research project directed by Harvard University, Boix Monsilla (2006a, b) provided three epistemic criteria for evaluating cross-disciplinary research programs (Croft 2011). These criteria are: a. *consistency*, i.e. the cross-disciplinary work (in our case, EA) should be consistent with what researchers in each of the different disciplines involved (in this case, mainly evolutionary biology and philosophical aesthetics) know and find tenable; b. *balance*, requiring a reasonable compromise between the insights and state of the art of each discipline involved (hyper-simplification of either one or the other is to be avoided); c. *effectiveness*, i.e. the cross-disciplinary research work should produce theoretical or practical advancements that would have not been possible remaining within the boundaries of a single discipline.

As I said, Lock seems to integrate, here, a rather simplified notion of “art” and “aesthetic” with a too broad (and eventually not very fruitful) version of sexual selection hypothesis, so that the resulting cross-disciplinary product seems to be not *balanced* enough (it does not meet Boix Monsilla’s second epistemic criterion; see Davies 2012, for a highly valuable and definitely embraceable assessment of the state of the art in contemporary EA). Moreover, I wonder if his *direct* application of evolutionary notions and EA arguments (from Dissanayake and Dutton) to the specific case-study of *New Zealandism* produces true theoretical advancements that would have not been possible remaining within the boundaries of the theory of art (Boix Monzilla’s third criterion; Croft 2011).

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Firstly, I would like to thank Dr. Tague for the invitation here, and Anthony Lock for the thorough and interesting article.

Since I tend to look at things with a Pragmaticist eye, my first question here is, What difference does an evolutionary aesthetic model really make to the study of art or literature?

The focus that Lock places on Dr. Dissanayake’s notion of ‘artification’ is a good place to begin since evolutionary aesthetic (EA) models, as far as I can tell, require distinct overlaps from the neural/natural to the languaged/linguistic to the textual/representation. I don’t see any other way of making a strong EA case, except to hold out the metaphoric angle and say that literature (my personal research focus) is a metaphorical (borderline metaphysical) repository for evolved tendencies (Peircean ‘habits’ instead?) that we can see in literary or artistic works, but recursively we’ve then doubled back to a ‘textual’ angle which can only be resolved by fuzzily placing the genesis of these tendencies way back into the Pleistocene and saying, ‘Worked for them/Works for us’. Identifying the possible early motivations for the creative process doesn’t quite codify its effect in artistic representation. It might, yes, but there’s still a gap there in my mind. I think articles like Lock’s may well continue to establish a base from which EA models can extend the hand to other literary critical forms.

When a friend of mine asked, ‘Why do you do evolutionary aesthetics?’ I responded, ‘Because I believe in it and because I like it and because it’s true.’ But, more and more what I want is a stronger methodology, a taxonomy perhaps, that fits our very real findings like Lock’s into a specific overlay onto literature or the visual arts. There are wonderful broad strokes like artification but fewer fine-tuned ones like Dr. Disanayake’s research on the mother-infant dyad. The EA theorists have done a great job explaining *that* evolution must (of course of course of course) have some bearing on literary representation, expression and understanding, but I am not quite sure that the *how* (as in, how to bridge a working methodological theory that is systematic, repeatable and comprehensive) is quite in place yet. (But, I do wonder where are primatology’s findings [say, de Waal, et al. coupled with cognitive studies coupled with linguistics/pragmatics]. Here are very direct correlations between human behavior and our cousins’, each having been shaped back in our primordial pasts with a direct ancestor and thus sharing some tendencies toward like-action.) But again, how shall we refine this into a workable aesthetic theory? Not simply pointing again and again to the Westermarck Effect or to less reliable neural possibilities like Mirror Neurons (which I have admittedly done).

How can we mish-mash together quantitative and qualitative research agendas that each rely so heavily on different epistemic qualifiers? Fact: ‘Evolution shaped the human brain and thus the mind, etc. & etc’. But, fact? ‘Ergo, literature demonstrates the definite fingerprints of evolution’. My question is: Where exactly? The demarcation required hangs out at such a fuzzy distance, often sounding its own depths with a rope whose ends have been tied together, ‘Evolutionary selection pressures have resulted in the human capacity for abstract thought and reason, therefore literary works, being repositories for this abstract thought capacity, should demonstrate this capacity.’ Okay. But, where does the knotological (sorry, couldn’t resist that one) Gordian knot-ness’s joint reside and can we then untie it and figure it out? We can surely teach our students that there will be evolutionary evidence in books and poems that they can locate, but what about those books and poems that self-consciously work against such conclusions (‘Ah, you see, the ability to hide our evolutionary origins simply proves the fact that they are there...’), or further, the only relatively furnishable thesis for, say, a graduate student in this burgeoning field to make would follow the template of: ‘According to [insert broad evolution-based concept] *Text XYZ* demonstrates [insert limited evolutionary function] in relation to the author’s focus on [insert even more limited set of warranted textual moments]’.

The human capacity to have an emotion does not warrant its literary or aesthetic expression. Rather, in my thinking, it’s the ability for others to perceive and intuit this at the social level that eventually led to its codification in artistic practice which is where the threefold text/language-primatology/behavior-neural/hard empirical model becomes more important. [Here we invite certain charges of epiphenomenalism, which if we’re talking agential qualities of evolution must certainly be partially correct, akin to something like Churchland.]

I am, admittedly, running this commentary tangential to Lock’s insightful and (very) thorough essay, but I have wanted to give some voice to my uneasiness here in a place and with a sympathetic group that might provide further analysis than my research has

yet provided. I see a number of articles sympathetic to our inquiry acknowledge the central 'fictiveness of literature' and then ignore this most central tenet of literary representation by jumping straight to evolutionary functions or trying to justify the endeavor in the first place. Much of this posturing is necessary, but how far out into the meta-level-representation can EA theory extend (cf. Pat Hogan on this) without itself becoming another metaphor or, by contrast, losing its interpretive quality and range? How do we mix authorial intention with that meta-level of representation in literary or artistic works? Many questions, not enough space. I am not suggesting that these issues are new, surprising, or haven't already been addressed in some way previously and often.

In relation to Lock's paper, I think that some backing here and there by using findings in primatology would certainly create a more resonate structure and solid argument. But there's the problem again: That we are then tasked with mastering 4-5 different disciplines enough to be conversant in them (let alone, to find the time to simply do the reading). Couple that with the general hostility or indifference or quizzical looks from within the academic community and it's a wonder the motivation remains. I don't think there has been a 'unified field theory' put out just yet. The discipline is relatively young. Cognitive theorists, literary Darwinism, evolutionary aesthetics are all working nicely toward the same goal, but ultimately as I see them, they're not quite yet methodologically sound or comprehensive enough to warrant the title 'theory' (let alone the need to have a 'title' for the group). Onward we go, regardless. My many thanks to Anthony Lock for prompting my thoughts on this, sincerely and with sincerest respect.

Anthony Lock Response to Commentaries

My thanks to everyone for their comments. I'll try to make some brief clarifications.

The first of my two main aims in the paper is to show that the fourth culture, as José calls it, is possible, similar to what *The Evolutionary Review's* editors intended. There is, surely, no advantage to the consilience approach over humanities approaches, or vice-versa. The advantage is integrating both, necessarily together, with the scientific as a supplementary, but essential, role. It is important to stress, as David Sloan Wilson says, the relationship between science and the humanities is "evolutionary social constructivism". But this still means phenomena, like social effects and subject preferences that the sciences explore, should be looked at more enthusiastically in art criticism, as they are part of the whole, wider phenomenon of art experience.

The second main aim of the paper is to argue that the relationship between artist and viewer is based on adaptatory origins. The way I phrase the introduction is misleading, so I'll rephrase it and focus on it here: the fourth culture argument I make is not an argument for the adaptatory viewpoint; rather, I employ the interrelationship between artist and viewer in a fourth culture analysis. I think Ellen's work, Denis's work and theory of mind suggest potential extra adaptatory reasons, in pre-history, for our interest in other people, from which the importance of an artist / viewer interrelationship emerges. The interest in other minds and products of the mind is the essential element of the interrelationship between artist and viewer. The evidence I give throughout the paper about the interrelationship between artist and viewer tries to show that the interrelationship between artist and viewer is universally important and often understated. There are two hypotheses this creates for adaptations back in pre-history that are now employed in art experience, focusing around an artist / viewer interrelationship. I should have stated these much more specifically in the paper.

The first comes from Ellen's mother-baby interaction theories. Mother-infant interaction can be described as an aesthetic experience (if being in love is an aesthetic experience, the joy of engaging in baby-talk is aesthetic). Further, it is play-acting with repetitions and devices used in art-making. If so, it is an example of a viewer / performer interrelationship based on aesthetic feelings. If the cognitive impulses for interaction behind the interrelationship of mother-baby interaction, and not just the rituals and rhythms of the interaction, were also utilized in the first experiences of artification, then the same psychological and neurological activity would be used in both. This would provide an adaptatory reason within a previous natural environment for a psychological predisposition towards an interrelationship between artist and viewer to emerge. Whether this was the case can be determined by experiments into brain activity during both activities, and whatever might be gathered from the historical record and paleoneurology, in the future. If not, then my arguments don't require Ellen's mother-baby interaction proposals, and would disprove one of the new adaptationist hypotheses I try to make in the paper.

A second is that because the adaptation of theory of mind generates an interest in people, theory of mind not only explains our love of characters in literature and the poten-

tial adaptatory value of story-telling millennia ago within a landscape where commanding social relations well meant life or death, but that we could learn about other individuals' inner selves (including cultural beliefs of a group) through their art. I think the evidence I present shows very strongly that the application of the adaptation of theory of mind expands from viewers' interests in the artists themselves, as well as *vice-versa*. I think the likelihood for artifice being used in this way as an adaptation would be for symbolic purposes, as showing status socially, but I am not sure. It could be equally that theory of mind is simply being applied now, and has been for some time, in an artist / viewer relationship, but there was no selection for this millennia ago. Here I am less sure, though it is a fascinating area for exploration.

Of course, a lot of the fourth culture analysis I make revolves around the relationship between artist and viewer, but the argument for fourth culture criticism doesn't, and clearly shouldn't, require that this adaptationist argument be correct.

As Mariagrazia and Dustin remark, the whole area of natural science / humanities integration really needs a better methodological and theoretical foundation, and I'm glad they raise this point. Consilience is a great word for natural science / humanities integration, as a single-word is needed for the phenomenon. But I am critical of E.O. Wilson's sketch of it. In the first of a series of papers, I have proposed a computer-level view of consilience between all subjects, as it explains how reductionism and holism balance, and thus how the sciences and humanities should really be understood as linking together (Lock 2014). I am confident the computer-level analogy is important because it shows how the sciences and humanities are part of one big framework, and puts their relationship balance in appropriate perspective. The methodological problems of consilience are more practically troublesome, especially for adequate reading in subjects! But we have terrific reasons for confidence in the area given the rate that consilience has been developing at. The examples Matt and Mark show about recent work in their fields are tremendously interesting, as well as everyone's comments and ideas that I would love to discuss in more detail, but can't here. I hope many others feel, like I do, that the era of consilience is really just beginning.

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ANNOUNCEMENTS

The *ASEBL Journal*, fully peer-reviewed and indexed in the MLA International Bibliography and Ebsco Host, is usually published yearly in January. On occasion there might be a special issue. If you are interested in the journal, please visit the blog (About tab) for complete information, mission, goals, aims and scope: www.asebl.blogspot.com You may contact the editor at publisher@ebibliotekos.com, with ASEBL in the subject line, but do so only after you have reviewed the About tab, please. Sister site: www.ebibliotekos.com

Third Moral Sense Colloquium most likely Spring 2017. Announcement, information, and details will appear on the ASEBL blog at some point in 2016.