PUCRS

ESCOLA DE HUMANIDADES
PROGRAMA DE PÓS-GRADUAÇÃO
DOUTORADO EM HISTÓRIA

JOHN GABRIEL O'DONNELL

ECHOES OF EDEN: BIOSEMIOTICS IN THE MATERIAL CULTURE OF 20TH CENTURY CONSUMERISM

Porto Alegre
2023

PÓS-GRADUAÇÃO - *STRICTO SENSU*

Pontifícia Universidade Católica
do Rio Grande do Sul

JOHN GABRIEL O'DONNELL

ECHOES OF EDEN:
BIOSEMIOTICS IN THE MATERIAL CULTURE OF 20TH CENTURY CONSUMERISM

Trabalho de John Gabriel O'Donnell apresentado ao Programa de Pós-Graduação em História da Pontifícia Universidade Católica do Rio Grande do Sul - PUCRS, como requisito parcial para a obtenção do título de Doutorado em História

Orientador: Prof. Dr. Edison Hüttner

Porto Alegre

2023

Ficha Catalográfica

O26e ODonnell, John Gabriel

Echoes of Eden : Biosemiotics in the Material Culture of 20th Century Consumerism / John Gabriel ODonnell. – 2023.
148 f.
Tese (Doutorado) – Programa de Pós-Graduação em História, PUCRS.

Orientador: Prof. Dr. Edison Hüttner.

1. cultura material. 2. biossemiótica. 3. filosofia da natureza. 4. consumismo. 5. semiotica. I. Hüttner, Edison. II. Título.

Elaborada pelo Sistema de Geração Automática de Ficha Catalográfica da PUCRS
com os dados fornecidos pelo(a) autor(a).
Bibliotecária responsável: Clarissa Jesinska Selbach CRB-10/2051

This work is dedicated to my mother.

ACKNOWLEDGMENTS

I would like to thank my intellectual mentor Dr. Klaus Hilbert for being a friend, a teacher, a fellow *bon vivant*, and supporting me on this fascinating journey.

I must also thank my spiritual and moral compass Epictetus, without whom all of this would come out sideways or not at all.

ABSTRACT

There is a stark contradiction in contemporary consumer societies between the utility and avarice with which the natural world is repurposed and ravaged by commercial activity and, yet, commemorated and fetishized in our material cultural record. Images, both realistic and stylized, of plants, animal beings, geological, meteorological, and astronomical elements appear *ad nasuem* in our clothing items, toys, home decor, artwork, media, and jewelery, despite the fact the majority of the contemporary, urbanized citizenry have no meaningful day-to-day contact with these entities in their "raw" state. *Biosemiotics* is the study of how species communicate amongst their own kind and others; *biosigns* is the term coined by this paper to explore how these biosemiotics are used in human material culture and what their presence denotes. Due to the richness of the data sets, mid-20th century department store catalgs are analyzed for the presence of biosigns and the findings are revealing: each epoch has characteristic uses of specific images from the natural world that can be linked to historical, political, economic, and cultural changes underway at that time; the paper interprets three examples in depth as a form of case studies for how this form of analysis could be used convincingly. In this sense, not only does the ubiquitous presence of biosigns in our contemporary world speak to contemporary perceptions, beliefs, and attitudes towards nature itself, but the specificity of the biosigns that mark a particular era and place in time have deep historical implications, as this paper demonstrates.

Keywords*:* Material culture, biosemiotics, consumer behavior, nature

RESUMO

Há uma total contradição nas sociedades de consumo contemporâneas entre a utilidade e a avareza com que o mundo natural é reaproveitado e devastado pela atividade comercial e, ainda assim, comemorado e fetichizado em nosso registro cultural material. Imagens, tanto realistas quanto estilizadas, de plantas, seres animais, elementos geológicos, meteorológicos e astronômicos aparecem ad nasuem em nossas peças de vestuário, brinquedos, decoração, obras de arte, mídia e joias, apesar do fato de que a maioria dos contemporâneos, urbanizados os cidadãos não têm contato diário significativo com essas entidades em seu estado “bruto”. Biossemiótica é o estudo de como as espécies se comunicam entre sua própria espécie e outras; biosignos é o termo cunhado por este artigo para explorar como esses biossemióticos são usados na cultura material humana e o que sua presença denota. Devido à riqueza dos conjuntos de dados, os catálogos de lojas de departamentos de meados do século 20 são analisados quanto à presença de biosinais e as descobertas são reveladoras: cada época tem usos característicos de imagens específicas do mundo natural que podem ser ligadas a eventos históricos, políticos, mudanças econômicas e culturais em curso na época; o artigo interpreta três exemplos em profundidade como uma forma de estudos de caso sobre como essa forma de análise pode ser usada de forma convincente. Nesse sentido, não apenas a presença onipresente de biosignos em nosso mundo contemporâneo fala sobre as percepções, crenças e atitudes contemporâneas em relação à própria natureza, mas a especificidade dos biosignos que marcam uma época e um local específicos no tempo têm profundas implicações históricas, como este artigo demonstra.

Palavras-chave: cultura material, biossemiótica, comportamento do consumidor, natureza

SUMMARY

INTRODUCTION

1.1 OVERVIEW OF INQUIRY

This impetus for this project is the seemingly simple, but seldomly posited inquiry: *Why do representations of the natural world continue to have such an out-sized presence in contemporary material culture?* For most of us, these reproductions of nature—often arriving in the form of consumer culture goods—are the *primary* interaction we have with the non-human, but what role, if any do they play? Are they simply semiotic vestiges of our cultural past? Do they provide a practical, or even therapeutic function? Are they a cynical set of illusory devices obfuscating our steady slide into a completely sterlized 'human-built' world? Or do they contain various functions and implications which merit their analysis on a case-by-case basis?

Starting with this final assumption—that specificity may have bearings on the general—this project goes to the heart of the matter, considering the robust material cultural content from 20th century U.S. department store mail-order catalogs. An excavation of images, products, and cultural ideas in undertaken in the form data of visual analysis, semiotics, and historicity. The pages of these catalogs (from 1955, 1970, and 1985 respectively) overflow with imagery of organic, botanic, zoological, geological, and interstellar beings and events, and they have all been cataloged systematically and put to the task of historiographic revelation.

By undertaking a thorough, but targeted content analysis and theoretical discussion of a very representative array of material cultural products, the wider issues concerning contemporary society's attitudes and ontological relationship with the natural world come into sharp focus. We can see that the variety of *biosigns*, whether in the form of children's toys, fast fashion, furniture, home decor, or mass media, can transmit emotive and value-laden messages such as nostalgia, nationalism, romance, political affliation, gender role enforcement, satire, terror, awe, and security. In ture semiotical fashion, biosigns that have come to represent any one of these feelings or cultural stances can then be distorted, combined, or subverted to transmit an even more

complex, *second-level* messaging. This is demonstrated in the common appearance of highly anthropomorphised and stylised biosigns uses.

Before heading straght into the material culture itself it is useful to go back to the basic questions that merit rediscovery: *Why is modern humanity's relationship with nature so fraught with ambiguity? How did we get to this state of being "disembedded" from the very environment we depend on?* To address these questions Chapters 1 and 2 deal with the issues concerning the transition, both materialistically and ontologically, away from humanity's of place of simply being one creature amongst many in an ecological framewaork to the modern collective sense of environmental *disembeddness.*

Chapters 3 and 4 open up the discussion to the role of *biosemiotics* (the manner in which beings communicate between their own kind and also to others) in the nature state, but also the transfer of their forms into human cultural realm in the form of *biosigns.* It proposes questions regarding how humanity has come to bestow meaning and a code of complex values to the sights, sounds, smells, and textures of natural elements: *To what degree are these meanings already innate in their original form? And to what degree does human cultural arbitrarily select these signs from nature and give them new meaning?* For this section on communication, especially visual, the toolkit of formal semiotic analysis is introduced and explained.

Chapter 5 and 6 delves into the rich world of contemporary consumer cultural artifacts. Archeaological and material culture theories are used to explore the pivotal role that our purchases and possessions play in our personal self-idenity and outwardly expressed social lives. Also, a brief historical review of the rise of mass consumption and its philosophical implications is offered, as well an explanation of the importance of the mail-order catalogs in 20th century American life. Chapter 6 is exclusively an analysis of the data set itself, offering an explanation of the data collection process, followed by representative case studies from each of the three catalogs. Each case study is analyzed through the methods of history, semiotics, and visual analysis.

Finally, Chapter 7 offers conclusions regarding the data analysis and how it reflects on the original, broader inquiry. It offers some alternative, equally provocative

interpretations of the whole, in the hopes of developing future explorations of the fertile terrain this project has set out to traverse.

1.2 NATURE AND MODERNITY

It rather goes without saying that when discussing consumer-based cultures—which have only developed and proliferated in a recognizable form over the last few centuries—we are by and large urbanized or suburbanised societies. Even if their livelihood depends on the agricultural sector in a more or less rural setting, farming is likely happening at an industrial level, and interactions with the surrounding ecology is not a given. This is to say that the societies under analysis here are almost exclusively removed from any meaningful day-to-day interaction with what we could broadly define as a functioning ecosystem: a symbiotically dependent coterie of plant and animal species, attuned to natural cycles of each other and environmentally conditions, that is developed, co-dependently and co-emergently, on the scale of thousands or tens of thousands of years. This is to say that our interactions with the ‘natural’ — a patently slippery term that will be discussed below — is mostly limited to the virtual in the form of images, media storytelling. On rarer cases it is accessed recreationally in the guise of hiking, national parks, beaches, ecotourism, zoos and botanical gardens, etc.

Of course, it's important not to go too far and dismiss entirely the fact that a lot of ‘nature’ still gets through to us; species that have adapted to or even thrive in this new urban/suburban world are all around us, albeit usually considered “pests”. Depending on the location, pigeons, coyotes, rats, songbirds, bats, bears, squirrels, mosquitoes and cockroaches can all have a heavy presence in our day-to-day lives. The parasitic and touch-and-go nature of this kind of urbanized non-human species’ relationship to their human neighbors however, is somewhat different in kind, as most of the time we can go about largely ignoring their presence.

This is in sharp contrast to the kind of daily and essential relationship that exists between non-industrialized (and therefore, non-consumer based) societies and their surrounding ecological milieu: ambivalence towards nature is not an option, as survival

depends on a direct, intimate interaction and an intense level of understanding. As Brazilian anthropologist Viveiros de Castro has explained so thoroughly the intersubjective animal society so characteristic of non-industrial societies speaks to this neighborly quality that exists between a network of beings in these ontologically and ecologically integrated systems (1998).

Although the anthropologically-based concepts of animism and intersubjectivity will be summarily addressed in the study, this is by no means an attempt at comparative anthopology, or an exercise in comparing ‘western’ and ‘non-western’ views of nature. This project expressedly targets the very recent 20th-century post-war consumer society developed most explicitly in the United States. These anthropological concepts are indeed borrowed and utilized to help shed some clarity or offer some clues for what might be happening when contemporary societies surround themselves with imagery and symbols of the long-abandoned natural ecologies. Of course there it is a challenging act in self-reflexivity trying to plunge the depths of one’s own cultural bowels using methodologies specifically designed to approach “the other”, but one that offers up surprising, and hopefully useful, perspectives.

In our own contemporary cultural context, nature, as a value-endowed concept, seems to be locked in a pair of perpetually dueling metanarratives of the human psyche. It is represented as emblematic of purity, the innocent, the essence of aesthetic beauty, the life-giving, the sublime, and as evidence of the occidental god’s creative and artful perfection. At the same time it's a brutish, dangerous, unpredictable, foreboding, and essentially conquerable realm that is best suited surviving mankind’s utility — in other words, an antithetical representation of every value we have come to believe is best represented by humanity itself. These contradictory, generalized views of the natural state lie at the crux of this narrow concern regarding our contemporary material culture: *How can it be that both nature as such and its destruction in the name of material progress are both celebrated equally by the same society?*

Perhaps if one digs deeper into the uses, origins and historicity these generalizations of the edenic and hellish realities in which we view the non-human

universe a richer cultural dialectic towards the natural than mere contradiction is discoverable. Perhaps the natural, taken as whole, does offer both limitless awe and inspiration, but also challenges to our very survival and sense of purposeful place. Undoubtedly these emphases have likely waxed and waned during various historical times and places and, in fact, this developing cultural dialog regarding the natural world appears in play at the very inception of discoverable human culture itself.

When one considers the caves of Lascaux, the Old Testament and its progeny, and the cults of Minoans, it is quite obvious that confrontation and communion with the non-human parts of the universe have always taken on a profound and perplexing status; it could even be argued that is lies at the heart of what human culture is all about: navigating the natural world.

Likewise, up to our times, endless variations on beliefs, strategies, and attitudes regarding the correct place for humanity in the ‘natural’ setting of the planet and beyond in part of our everyday reality; conversations regarding the rights of animals, suitable farming practices, environmental change, the morality of zoos, pet breeding, space exploration, space junk, genetically modified organisms, pesticides, bullfights, and even artificial intelligence all start with the premise that there is an “appropriate” status of order that is the ultimate goal of any such debate. In a more mythological form, a rather hazily-imagined vision of a wonderfully in-balanced, prelapsarian past still hangs heavy in the air of our culture; as our species becomes increasingly aware of the difficulties of finding a niche of ecological sustainability that doesn’t essentially amputate the very qualities of inventiveness, curiosity, and mobility that make our species so destructive and self-inspired, this collective nostalgia will likely only deepen with time.

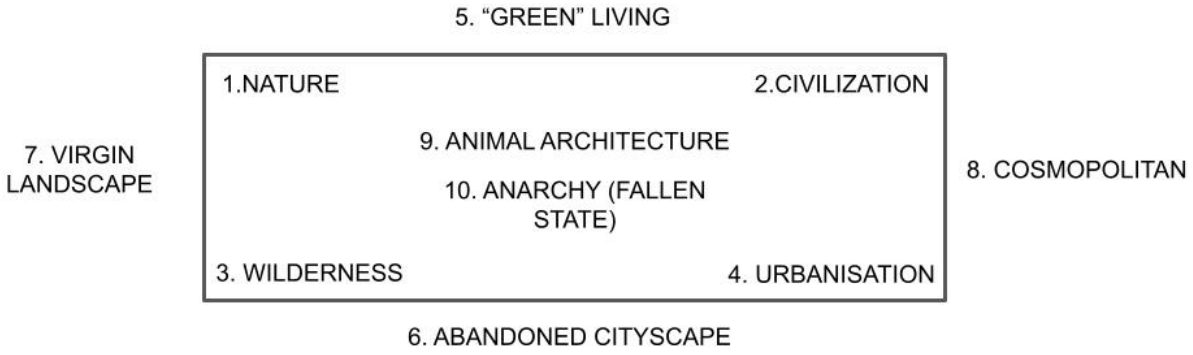
When it comes to clearly determining what exactly separates the natural and the “non-natural”, questions regarding the veracity, legitimacy and applicability of uses of language come into play, because afterall these are only words if not attacted to some physical reality. Oftentimes these stubbornly resilient, but patently antiquated and misleading terms and categories create unnecessary barriers to clear thinking about the complex processes and phenomena under review. We can see this happening at the

scale of the individual *being* in discussions regarding the overlap and justified divisions between human, animal and mechanical subjects; doubts regarding the proper placement of viruses and other parasitic beings in the zoomorphic chain of being, and the ongoing conversations regarding the limitations and potentialities for computer-driven AI to challenge arenas of cognitive and creative pursuits once considered categorically *human* (MAZIS, 2008).

While acknowledging the often ham-fisted application of hopelessly broad and fuzzy-framed categorizations (nature, unnatural, etc) in the face of mounting awareness to the contrary, these may still fulfill certain needs in concrete cases. Genealogical surveys of pervasive generalities and their associated terminology, such as ‘the animal’, can clarify the provenance of, and therefore, utility or uselessness of, such terms in specific cases. Genealogies of the kind undertaken by Nietsche and Foucault don’t seek an origin of a concept, which only leads to a false teleology, but allows a discovery of the historical, circumstantial and institutional bearings that keep an otherwise unintelligible concept in play, often long past its overdue date. By demystifying terms such as nature, humankind, the natural, animals and ecology in this way, we can still use them when deemed necessary or useful, without fetishizing them or allowing them to take on metaphysical stature.

In applied semiotics, the use of the semiotic square tool can help us visually represent the relational arrangements between two concepts (HERBERT, p. 40-43). By applying it to the culture-wide acceptance of a division of sorts—both tangible and imagined—between the natural world and that of human civilisation, we can see quite easily how the meaning-making division (which is not necessarily backed up by scrutiny) is worked out in our language and cultural vocabulary.

The NATURE/CIVILIZATION dichotomy explored using the "semiotic square" (author's work):



Semiotic square key:

1. TERM A
2. TERM B
3. TERM NOT-B
4. TERM NOT-A
5. (=1+2) COMPLEX TERM
6. (=3+4) NEUTRAL TERM
7. (=1+3) POSITIVE DEIXIS
8. (=2+4) NEGATIVE DEIXIS

Based on explanation of semiotic square in:
HÉBERT, L. **An Introduction to Applied Semiotics**: Tools for Text and Image Analysis. London: Routledge, 2020.

THE TRANSITION TO *DISEMBEDDEDNESS*

2.1 THE ORGINS OF OUR STATE

Unapologetically and transparently does this project take the notion of the factual *disembeddedness* of the material reality in which us inhabitants of the consumer economy today find ourselves; in fact, it's the ontological and cultural starting point of the thesis. *How exactly did we, of all creatures, come to construct a material reality that obfuscates our biological, chemical, and anatomical dependance on the rest of the natural world order?*

A simple exercise to illustrate the daily, lived-in experience of disembeddedness can be demonstrated, simply and intimately, but a thoughtful scan of the space in which we find ourselves at any given moment. My current point of environmental reference is a squared-off, roughly 30 x 30 meter studio-apartment in the center of a metropolitan landscape; it more or less mimics the inside of a spacious shoebox. The furniture and floor are both finished with a glossy faux-wood composite, which lends the space a certain woodsy warmth that it otherwise would lack. A forest green blanket that covers

the bed also adds depth and softness to the scene. Cold light from the clouded sky comes through large, dirty windows streaked with exhaust and dirt particles. A humid breeze and the constant drone of traffic and distant jack hammering of the never-ending construction of new, bigger buildings throughout the city also penetrate the apartment; the combined sounds almost have the hypnotic effect of ocean waves lapping the shore at night, were it not for the occasional honking horn, shrill car alarm, or shouting pedestrian. There is a pint-sized white refrigerator in the corner that serves a kitchen; it is filled with the various condiments, produce, and carbohydrates of whose original provenience I am most certainly unaware. These foodstuffs are one of the only material reminders of the natural world that I confront in my domestic space. I know, analytically speaking, that they are the parts and pieces of animals and plants that, at one point, had brief and ill-fated lives of their own, but its not something that confronts me on a viscerally-charged level. I can quite comfortably engage with the products as *man-made*, rather than a co-dependent production between predatory and targeted species.

There is one more key object that stands our amongst the otherwise linear, straightened contours and right angles of the furniture edges paralleling the confines of the apartment; it is brilliant in its incongruity: a potted *calathea triostar.* This is a tropical, dramatically variegated plant, with broad leaves of green, white streaks and a deep maroon underside; it's not difficult to understand its appeal to consumers looking to add a little aesthetic pizzazz into their living spaces. Besides its unique appearance this particular plant family has the added anatomical novelty of closing up at night and opening its leaves in the early morning. In fact, its even possible to quite clearly hear the plant moving at quiet times, which is always an exciting, albeit somewhat bizarre, reminder that this *object d'arte* is most evidently a living, active biological agent and no mere plastic decoration.

But what then, exactly, is this plant from the understory of a distant tropical rainforest doing in my city apartment; propped upon my nightstand like a living trophy? What is my psychological and emotional relationship to it and why was I compelled to

buy it? Does it contain values beyond the simple, abstraction of casual aesthetic pleasure? Is it perhaps a stand-in for a wider desire or nostalgia for access to the pure beauty of the forest; something inaccessible to me in this concrete and glass megalopolis?

Of course, it's not just this particular plant that merits this inquiry, but all around us such aberrant bioforms appear in unlikely company: I implore the reader to partake in their own exercise of scanning their current environment to look for signs and uses of the natural world. Our homes, work places, and public areas are quite saturated with evidence of on-going infatuation, admiration, and awe of the natural world's manifestations; our clothing, decorative objects, sports memorabilia, entertainment, screensavers, housewares, and children's toys are full of the imagery of plants, animals, planets, waves, rainbows, and mountain tops.

Through the course of this research I have come to realize we are quite literally, and ironically, *embedded*, not in a naturally developed ecology, but in network of iconographic representations of the natural world that no longer experience first-hand. It is a virtual, visual surrogate nature of sorts, based on value-laden reinterpretations and recycled biosigns that adorn and lighten the brutal functionality of our urban and suburban realities, and this chapter explores the possible means by which to understand how we arrived at such an inextricable position in the first place.

Coming upon us with its negative prefix, the concept of *disembeddedness* implies a contrast to the state of being embedded; in this sense, it may be useful to "accentuate the positive" before trying to grasp the absence thereof. To be embedded in one's material environment seems to demand sensible connections, present and perceptible, between the cause and effects of elements and events in that environment. If it occurring at the frequency of a daily existence it would induce and encourage a sense of familiarity and present its logic: a pattern of dynamics in a matrix accessible at arm's length: visceral, yet relatable. It implies a certain predictability based on patterns and cycles of the *behavior* of the various elements: the phenomonological physicality of seasonal changes; the diurnal/nocturnal cycles; the behaviors, actions, sounds, and

existence of plants and animals would have relevance to one's life beyond being a mere nuisance or curiosity; generally speaking, an innate and immediate sense that one is engaged with the world in ways not dependent on abstraction.

Our historical trajectory has largely jettisoned us from this kind of dependency of our needs on our immediate environment many, many generations ago. Though it is somewhat of a conjecture, but we can certainly glimpse this embedded existence by way of camping, hiking, or simply spending time in a more-or-less human-free environment for any significant period of time; it almost comes a surprise to see the world functioning without human intervention, as we have become so accustomed to our new reality of dispersed causality.

For a concrete comparison, an activity such as fishing is a fine example of the requirements embeddedness might entail. Yes, technology is generally employed, offering some distance between the human predator and the targeted organism, but the direct connectivity between active engagement (fishing) with the environment (the pond or river) that is home to another agent (the fish) that has its own agency (its attraction to the bait and subsequent fight to resist the rod and reel) and finally the direct nutrition and pleasure derived from the process (the delicious meal of fish) positions the human agent squarely in the midst of an active environment that has non-human processes, individuals, and dynamics. The fact that such a simplistic and practical activity such as fishing was only very recently a universally-known experience, but has now become sidelined as the recreational pursuits of the minority hobbyist community is but one example of how suddenly and dramatically our relationship to our world has changed in the last 200-300 years or so and what this concept of *disembeddedness* is meant to address.

Depending on the frame of reference we can make the claim that the transition to a disembedded reality in the western world was both gradual and sudden. Sudden when applied to the sweeping changes to the our lives associated with globalisation, consumerism, urbanisation, mass media, and free-market capitalism; all of which have emerged of late. Yet gradual in the sense that if one tries to pinpoint the start of the

processes that allowed for these more recent changes we are required to leap back in time and engage in the on-going (and neverending) discussions in history, anthropology, and evolutionary biology regarding the origins of language, the advent of agriculture, and questions about the dawn of *civilisation* (a fading term which probably can't and shouldn't be concretely defined).

Truth be told, a pretty solid case could be made for associating, if not directly linking, the state of social and environmental disembeddedness with the trappings wrapped into that rather hackneyed concept of civilisation itself. Key components generally included in the most traditional definitions to meet the requirements of a 'civilised society' are fundamental in kick-starting this trend towards environmental alienation. The division of labor expressly separates the need for individuals to derive their subsistence directly from their natural environment; for the first time, an intimate knowledge of that environment is not a necessary requirement for survival. The very use of a standardised language (either written, oral, or in the form of the visual codes of art), inserts the use of symbols and signs—by way of semiotics—into our interactions with the larger world, other people, and even our own thoughts. In one sense, the building blocks of language can be viewed as stand-in or abstracted surrogates for more direct, but impossible-to-transcribe, feelings, emotions, or experiences. In essence, we can see that the civilising process appears to require, by its very own definition, a certain distancing between one's immediate interactions with the surroundlng natural biosphere and the arrival of a society of individuals somewhat removed from that world by an array of vary degree of filters within one's day-to-day interactions.

So, certainly the disembedding process has its roots in, and is necessarily built upon, those changes in human society starting around 5,000-10,000 years ago (depending on what one's litmus test for civilisation is; and there are many). However, the particular *brand* of disembeddedness to be addressed in this project is of a more recent vintage.

It is worth offering a few reasons why this project does not expressly address these earlier developments towards the path towards the current disembedded and its accompanying use of biosigns in material culture.

Firstly, there is still no clear consensus on what the very broad, euro-centric, and explicitly teleological concept of civilisation specifically describes. As Lewis Mumford says, “...the passage to ‘civilisation’ is hard to interpret (MUMFORD, p. 166).”, perhaps because it has never been a clearly defined concept, but a hodgepodge of associated practices that sometimes occur in tandem, at other times, bucking the trend. When describing the development of various civilisations there often appears to be more exceptions to the rules than clear-cut examples about picking and choosing which societies past the litmus test. This is one good methodological reason not to depend on the concept for the interests of this research.

Secondly, even when considering the various components often earmarked to designate candidate societies (centralised political structure, written language, cities, animal domestication, etc.) the origin (or origins) of each of these practices remains a very open, and constantly revised, research project. Even within popular science publications we can read daily articles addressing new research that challenges “long held” assumptions and academic consensus about the chronology, genealogy, or geography of early agricultural practices, the spread of world religions, or the scope of global trade.

To further muddle the picture, archaeology, genetics, and new excavations are combining their discoveries to challenge the association held between these very ‘civilising’ practices with key concepts regarding the uniqueness of humanity in the web of species: new research indicates that some of the earliest uses of *meaning-making* art, animal domestication, etc. may have come from entirely non-human hominid species, such as the Neanderthal. Their apparent use of fire, speech and/or some form of writing, and animal husbandry (golden eagles and other raptors) seriously challenge the long-cherished ideas surrounding humanity’s singularity in these arenas (DERR, M. 2022).

Thirdly, this research is very firmly situated in its particular coordinates of space and time, addressing American, consumer class culture, in the middle and late 20th century. This is not meant as a means of exclusion, but in the hopes of offering an exemplary study and methodology that could then be transferred and applied to other contexts in the future. This social and temporal milieu seems fitting, as the United States has been considered a special case of concentration of the key features required for the particular brand of disembedded reality being considered: a frenzied and accessible consumer culture, a far-reaching pop culture and associated mass media, a free-market economy that reaches most citizens, and majority saturation of urbanisation and suburbanisation amongst the population. None of these components existed prior to the early 1800s, despite all the notable factors and precursors that led us to this more contemporary form of environmental alienation.

To recap, the co-emergence of new technologies and its accompanying new demographics of urbanisation eventually paved the way towards the more recent realisation of a full-bodied globalising force, for the first time allowing for:

> (...) the intensification of worldwide social relations which link distant localities in a such a way that local happenings are shaped by events occurring many miles away and vice versa (GIDDENS, 1990, p. 4).

This widespread interconnectivity amongst markets, goods and services, cultural ideals, and media has bred, at the level of individual, an ability to be materially separate from one's immediate environmental conditions—most potently at the middle class, or bourgeoisie, stratas of society. This massive transformation of energy and people generally democratised access to an elevated material condition and lifestyle, but produced a widespread sense of environmental alienation, the implications of which social sciences are only now starting to ascertain and unravel.

The purpose of sketching out, however brusquely and briefly, the *grand telelogical narrative* to 20th-century consumer culture is to make patently clear that a historicity looms over the current conundrum. The seemingly inextricable connection

between the material comforts that free markets afford and the destructivity of its means of creation, both environmentally and socially, is the great crisis of our times; by taking a brief look backwards in its stage-like, but also relatively sudden, development we can see that the current situation was neither planned nor planned for. It has been a planet-sized snowball of contributing factors that has been rolling along for centuries.

Our contemporary sense of historicity is likewise liked to this sense of displacement; the environmental history of our own places, be it microregional or more broadly applied, is also non-existent within the general population. Remarking on his contemporaries, American city dwellers, Sam Warner addresses the issue:

> I have made the discovery that Americans have no urban history. They live in one of the world's most urbanized countries as if it were a wilderness of both time and space. Beyond some civic and ethnic myths and a few family and neighorhood memories, Americans are not conscious that they have a past and that by their actions they participate in making their future (WARNER, Jr., 1995, p. xxxviii).

Very much in this vein, the same observation might be made that we generally lack a collective sense of environmental history: we find ourselves in a rather estranged, often unfriendly environment of our "own" making, without quite comprehending how we arrived here. At the level of building site, neighborhood, municipality, or even state, most in abitants couldn't offer, quite frankly, the faintest idea of how their environment came to be the way it is.

For this reason, it's apropos to remember the antecedents of our current 'man-made' world; this is integral for understanding our attitudes towards the ostensibly *lost* day-to-day access to the natural world and reminders of it's on-going importance in our cultural life that play out in our modern material culture. Splitting hairs over the likely irretrievable starting date of the process of environmental alienation confronting humanity is an interminable project; modes of being tend to emerge co-dependently and

not in a neatly chronologically neat order that traditional historical-narrative projects would prefer.

2.2 CULTURAL ATTITUDES TOWARDS THE NATURAL

To acknowledge that denizens of the contemporary market-economy society have no clear-cut environmental history, is *not* to say that they lack an environmental mythology. Mythologies are more dispersed than, and less concrete, than histories; they lack dates, and often exist in an unreal, undefined past. Despite their ambiguous historicity, they inform our attitudes and, as much as we take pride in being an agnostic, logically-driven, science-based, and otherwise clinical society, we see quite readily that myth and myth-making continue their fundamental role in the construct of a collective social value-making and cultural self-identity.

Ambiguity in the western mythological ambivalence towards the ‘natural’ — and its designated antagonist, ‘science’ — is prevelant in the American literatery tradition that has elevated the ‘open spaces’ of the West against the romanticised push of civilisation. Historian Henry Nash Smith attempted to follow the development of this binary confrontation in his treatise on the subject, writing:

> Civilisation is pernicious (...) because it interposes a veil of artificiality between the individual and the natural subjects of experience. The sophisticated art of cities substitutes a copy for the realities of things (...). That other boasted triumph of civilisation, science, may point to its shallow successes in the realm of mere physical manipulation of natural forces; but the true savage scorns the aid of such trivial tools (SMITH, 1950, p. 78).

This simplistic association of the non-scientific with the ‘noble savagery’ of the Native American speaks to the long-term tension in American literature— and its subsequent media portrayals— of the fascination, admiration, and yet, fear and bellicosity the inward migrating homesteaders and developers of the hungry American economy express when confronting the indigenous communities and their culture. It is an

unresolved narrative of contradictions; a cultural contradiction that is explored in the material culture image analysis of this work later on.

This collectively imagined severance and bespoke independence with the fluxes of the natural world through the means of technology and centralised planning are portrayed in our myths as both a glorious liberation from the degradation of bestial life, and as the terrible curse, forever damning humanity to deal with the consequences of its own material meddling. The stories that have become such an integrated part of our collective consciousness—to such a degree they are often overlooked—speak to the philosophical and moral ambiguity that is the human material condition: immense powers to manipulate the *materia prima,* wth often very little insight or predictability into what the consequences of actions might be. A few examples from both sides of the perennial quandary can illuminate how the western canon of culture has responded.

Perhaps most notably, the Old Testament offers two stark examples of the dilemma in the Book of Genesis. The very concept of the Garden of Eden—a perfectly balanced ecological landscape where humanity can co-habit and benefit from a symbiosis with the fellow creatures—takes dead aim at the prospect and problems with human meddling in a perfectly balanced natural order. The moment Adam and Eve take the fruit of Knowledge of the natural order as their own prerogative they are doomed forever; the species-wide punishment includes not just a new struggle for survival against the once nurturing natural elements, but also an existential shame at the corporality of animality they, as natural creatures, possess. Here, the invasion of humanity's "ingenuity" in the natural order of things is seen as the ultimate tragedy of the human race and comes upon us, theologically, as a curse from God himself.

Oddly, just a few chapters later, when another natural force is being reckoned with—the apocalyptic flood—man's technical sophistication and managerial prowess are exactly the qualities needed to save the entirety of naturekind. Noah, engineer and custodian of life, is asked to undergo an impossibly elaborate engineering feat, by way of the ark, to rescue the otherwise helpless animal and plant kingdoms from ecological annihilation.

This ambivalent attitude towards humanity's technological tinkering as either an ill-fated destructive force (a "curse" in theological terms), or as a creative gift for the betterment of the world is consistently addressed in the literary and myth-making canon of the western world. Parallels to the Judeo-Christian 'Fall of Eden' are also found in the mythology of the Greco-Roman world is and explored in Oswald Spengler's 'Decline of the West (1918-1922):

> By caracterizing creativity as having a dark satanic side, Spengler (Oswald) recalls the Prometheus myth. Because Prometheus stole the fire of creativity from the gods and bestowed it upon humans, Zeus punished him and humans by creating and sending Pandora to Earth, where she opened a box filled with human misery and hard work. This creation myth resembles the Genesis story of Eve tempting Adam to taste the apple from the tree of knowledge, which can be understood as a source of worldly creativity. Having forbidden them to share his creativity, God casts them both out of Eden into a world of toil and misery (HUGHES, 2004, p. 54).

In modern times, the blatant ambiguity between lauding celebration and terrified anxiety regarding the material sciences and their effects is everywhere. The collective prestige bestowed upon leading scientists in prizes like the Nobel are countered by and tempered in the creation of science fiction writing and its products that present dystopian futures generally driven by out-of-control development and dissemination of these very forces in the form of horrifying creations of human engineering, chemistry, munitions, and greed run amok.

That is to say nothing of the fact that much of humanity's scientific efforts are applied to the very problems that have come about by way of humankind's own success: environmental degredation, climate change, and 'first world' diseases like proliferatiing cancers, society-wide depression and anxiety, and childhood obesity, are all being dealt with by a body of science trying to put the 'misery' back into the proverbial Pandora's box. From Mary Shelley's Victorian novel *Frankenstein* (1818) to David Cronenberg's film *The Fly* (1986) portraying the unforeseen outcomes of scientific

endeavor in the form of a monstrous and destructive entity has populated our cultural nightmares, providing a mythology, disguised as entertainment, that clearly touches a raw nerve in our collective anxieties.

Likewise, even in the the design of the famous Apple logo—a profile of the fruit with a bite taken out—acts as a perfect visual metaphor for the pervasive uncertainly regarding our relationship to our unique position as ever-changing, creative beings, a tendency the technology giant's products only facilitates. Mythologically, the apple of knowledge was strictly off limits, and exactly because of this divine fiat, humanity's curiosity led to the abandonment of the natural 'status quo' of the intended ecological order. Most people's relationships with their Apple products—emblazoned with a visual shorthand for the Bible story—is similarly confused: it is a 'necessity' of our times with no means of escape; providing almost magical means to communicate, work, be entertained, informed, and connected to the entire world instantaneously, but at the same time its presence in our lives feels invasive, tedious, superficial, distracting, addictive, and even possibly dangerous to our liberal ideals. We can use this singular example as a easy-to-apply stand-in for the general *disembeddedness* we experience by means of our technologically-derived environmental conditions: our experience of the world has become exponentially accessible, but always feeling somehow further away and less familiar.

Figure 1: *Disembeddedness*: The cost of modernity, from the Book of Genesis to the iPhone 11 and shown clearly, by way of semiotics, in the famous Apple logo.
Source: https://www.gadgetmatch.com/apple-iphone-x-review-price-availability/

The canonical literary work of *Faust*, from Geothe's original (1808) to the countless retellings in all mediums, poetically and tragically portrays the agonising confusion confronting humanity as it transitioned from the medieval world into the modern. The figure of Dr. Faust, exhausted by his insoluble search for meaning and truth in the world of science, knowledge, and human endeavor, finally throws in his hat with the devil Mephistopheles who, in the end, is only a final and fatal blow to the pervasive hubris that has become the hallmark trait of modern humanity. At one point, the Doctor's attendant Wagner encapsulates the conundrum in sympathy with his master:

> Oh dear, what can one do,
> Sitting day after day among one's books
> *The world's so distant*, and one never looks
> Even through a spyglass at it; so how can
> One learn to bring about the betterment of man?
> (lines 529 - 533, GOETHE, ed. 1987, p. 20) *[author's italics]*

Earlier in the text, when Faust is agonising outloud, he offers a possible anecdote to this incessant feeling of disembedded distance from the visceral world when he considers the phenomenological salve that crude nature might offer:

> Oh, take me to the hilltops, there
> To wander in the sweet moonlit air,
> By mountain caves, through fields to roam,
> Hovering with spirits in your gloam,
> Cleansed of book-learning's fog and stew
> And healed by bathing in your dew!
> (Lines 392-397, GOETHE, ed. 1987, p. 16)

The physical environment itself seems to be at the core of Faust, and therefore modern humanity's, frustrated condition; if one could only get back to the moonlit air and fields

to roam, the spirit could be *cleansed* of “book-learning’s fog and stew”. Yet, the power of the Faustian legend is just that impossibility: Faust is quite absolutely addicted or driven to his analytical, fact-finding, ceaselessly curious epistemiological endeavors; much like Adam in the garden before him, he can’t find an escape from the tendencies that are quite literally destroying him in their wake.

Philosopher, literary and art critic John Ruskin, writing at the end of the 19th century, likewise reflected back on how, somehow, modernity has created an irreparable fissure between humankind and nature. In his case, being concerned mostly with the experience of aesthetics, he casts the situation in the dynamics more akin to art appreciation, but with spiritual repurcussions:

> (...) I had only felt, but not ascertained, —the destruction of all sensibility of this high order in the populations of modern Europe, first by the fine luxury of the fifteenth century, and then by the coarse lusts of the eighteenth and early nineteenth: destruction so total that religious men themselves became incapable of education by any natural beauty or nobleness; and though still useful to others by their ministrations and charities, in the courruption of cities, were themselves lost,--or even degraded, if they ever went up into the mountain to preach, or into the wilderness to pray (RUSKIN, 1985, p. 440-441).

This late nineteenth-century observation by Ruskin is fascinating in that it directly relates the emergent consumerism of luxury goods in the fifteen century and subsequent expansion of ‘coarse’ consumer culture of the bourgeiose to the increasing inability to appreciate the ‘nobility’ of natural beauty. Likewise, the ‘corrupting’ powers of city life are cited as part of this process of spiritual degredation.

It’s hard to image another literary quote being so on-the-nose regarding the forthcoming explorations of this project which points to consumerism and urbanism/suburbanism as twin catalysts for the appearance of new, and surprising, uses of natural imagery (or *biosemiotics*) in modern material culture. This must be emphasised again that the sense of disembeddedness of modern humanity has as its environmentally-grounded corollary the concrete reality of urban living and the dynamics

of urban space. The phenomenon of consumerist culture, capital markets, and cities require one another and, generally, instigate the other's continuing dominance. (ZIELENIEC, 2007). All three systems work in tandem to create a false sense of humanity's ontological separateness from the rest of the natural world; because of the fact that urban and suburban individuals don't need to see, smell, touch, or generally interact with the non-human they can start to believe that it doesn't exist, or is at least very low in priority. This is, of course, mere fantasy, and with dire consequences, as Plumwood points out:

> (...) it [humanity] sees nature as a hyper-separate lower order lacking continuity with the human, and stresses those features which makes humans different from nature and animals, rather than those they share with them, as constitutive of a truly human identity. Antropocentric culture endorses a view of the human as outside of and apart from a plastic, passive and 'dead' nature which is conceived in mechanical terms as completely lacking in qualities such as a mind and agency that are seen as exclusive to the human (PLUMWOOD, 2002, p. 107).

Jennifer Price has called this same set of circumnstances 'losing track of nature' (In: Plumwood, p. 97). While, speaking broadly, this sense of the removal of daily communion with the natural world does seems widespread, the crux of this project is to show, with seems contradictory at first glance, that representations of the natural world continue to proliferate, featuring widely in our everyday 'urban' lives, and perhaps, having never been celebrated with such material vim and vigor. It's this contradiction between the so-called 'facts on the ground' of practical environmental disregard, contraposed with the iconographic commemoration of nature and its elements that this project excavates in the artifacts of mass consumer culture.

To make one final point regarding the implications of this relatively sudden—yet inextricably complex—transition from human's 'nakedness' in the web of species to the material fluorescence of technology, market goods, and city life, we have today, we may be able to offer the evolutionary concept of *overspecialisation* as one key to this environmental 'tragedy of the commons' we find ourselves up against. It is quite

possible that the incredible ability to meddle, invent, manage, and communicate are undoubtedly one-of-a-kind and make for an exponentially powerful skillset for the human being confronting a world full of challenges, threats, and possibilities; however, these very tendencies have given rise to a material abundance and proliferation of production; its destructive corollaries have now become our most pressing concern. In other words, overspecialisation in these areas, while clearly useful, necessary, and game-changing in terms of survival for individuals and small groups, has had the snow-balling effect that may prove detrimental to the species as a whole (as weil as other living beings dealing as fallout). The concept of the 'tragedy of the commons' allows us to offer a logical explanation to the environmental dilemma without needing to place value judgements regarding the acts of individuals, or to rely on the mythologising or merits of our origins; as even the stubborn skeptics of an existential environmental crisis must admit, we do face a large-scale problems of our own making that must be dealt with and acknowledged; having some sense of how we have arrived at this precarious state may be a good place to start.

Before exploring the ways that humanity has fashioned nature to its own needs and image in the next section, it may be refreshingly to end on a humorous—and lighthearted—description of this concept of overspecialisation by Czech novelist Josef Skvorecky. Correspondence between two characters contains the following anecdote:

> At that time you were interested in paleontology and you had discovered the hypothesis of someone called Dollo - I think you called it over specialization. it dealt with the mystery of extinction. Dollo, as far as I recall, claims you could paradoxically explain the dying out of some species by a two successful struggle for the survival of the fittest. It seems that some animals underwent a rapid development of certain anatomical features that seemed at first to give them an advantage: herbivorous reptiles grew to such a size that's smaller carnivores could not harm them. The saber-toothed tigers developed huge tasks which could pierce even the skin of dinotherium. But sometimes things go awry and the development of advantageous features don't cease at the point of greatest advantage. The brontosaurus keeps on growing, the saber-toothed tigers tusks

> go grow longer. (..) the four-metre saber-tooth's tusks curl round and close its jaws so that in the end it can only feed on mice, the brontosaurus reaches gigantic proportions and its brain, which is the same size as a cat's, can no longer manage the huge body another brain develops in the pelvic region but the two never managed to get coordinated in the brontosauride die out as a result of anatomical schizophrenia. (...) You, ever the cynic, applied this to mankind (SKVORECKY, 1994, p. 138).

2.3 AT THE LIMINAL OF THE NATURAL: DOMESTICATION & BESPOKE BIOSIGNS

One area that can assist in demonstrating the baked-in ambiguity surrounding humankind's relations to other organic life is within studies of species domestication and its processes. The concept is rather culturally-construed and ambiguous itself—as is made clear below—but generally can be applied in cases when humans have markedly altered the original appearance, behavior, or life cycle of another species, generally for some perceived benefit. The process can be intentional and calculated or haphazard and circumstantial, but generally a complex overlap of the both.

The fact that the individual 'origin stories' regarding each case of domestication are so variable and often, in fact, fundamentally share little in common is ironic when considering that the power to domesticate has long been seen as one of the essential indicators of humankind's civilizing powers; it is often earmarked as one of processes that make humanity distinct, in kind, from the rest of organic life. As Anna Lowenhaupt Tsing say, domestication is the process that "sets world history in motion" (p. 233, 2016), but it begs the questions how a process that is so often unintentional can be seen as so pivotal to our species' self-definition.

Any attempt to encapsulate the uniqueness of domestication by using one of it's associated assumed qualities leaves us wanting: *tameness*, for example, can be found in animals that spend time near humans but not domesticated (some Asian elephants) and likewise, there are animals reproduced and utilized en mass that couldn't rightly be considered tame (the silkworms explored below). Likewise, *cultivation* of another species, again, is found in other species-to-species interactions, whether it be ants and

aphids, or the other insects and fish species that maintain ‘gardens’ as part of their culture of subsistence. In this case, we could use this as our litmus test, but then would have to allow that other non-human species also practice domestication, and that seems to fly in the face of the common sense use of the term that we most associate it with.

This then leads to the possibility that domestication may have more of a cultural meta-narrative quality to it than a purely ecological definition. It is a value-laden concept that ignores the fact that its use is generally applied to disparate situations that may not have very much in common. Again, as Tsing suggests, it generally assumes some kind of large-scale, widespread, and state-based society, while ignoring the more nuanced, local cases of inter-species interactions that take place all over the world, but don’t show up in the ‘world history’ model of analysis (p. 231-251, TSING, A. L. In: SWANSON, H. A.,).

One can attempt to break down and categorize each case of domestication; for example those that initially took place unintentionally (the case of the chicken explained below), though resource management (as was often the case of large herbivores), or in highly anticipated and controlled way (heirloom and pet breeds). The arrangement into groups is helpful mostly for realizing again that each case is unique in its historicity: it will often be unclear where a particular case fits as the dynamics in the nature of the domesticating process may change over time (as is the case of both the chicken and cat below). The following is one attempt to visually illustrate the variety and similarities between types of domesticating relationships:

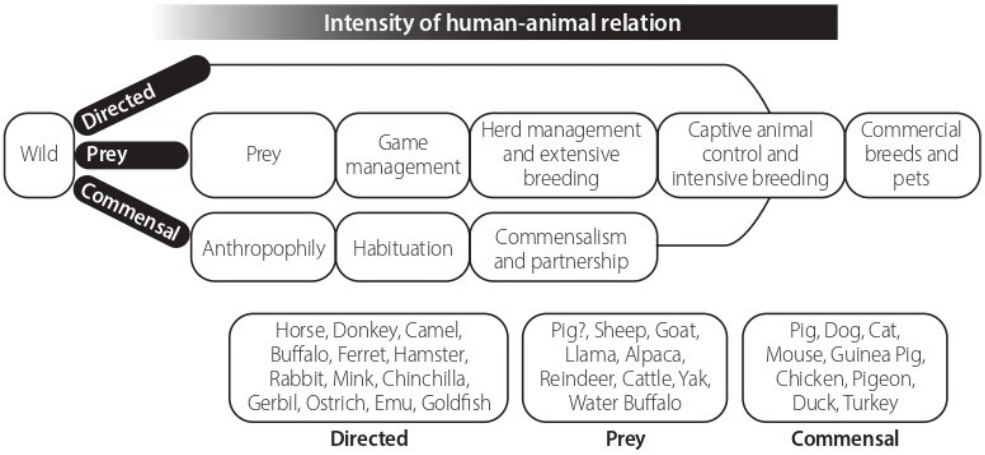


Figure 2: Sanchez-Villagro's illustrated map of various domestication processes
Source: *'The Process of Animal Domestication',* Sanchez-Villagro (2022)

By reviewing a small sampling of recently published popular science news items on a few token species we can illustrate the stark heterogeneity of processes that all end up falling under the heading of 'domestication'; it will be clear that not only is there little uniformity in the application of the term itself in these cases, but the outcome—in both practical and cultural implications—in each situation, is wildly different. To put it simply, each case of domestication must be taken on its own terms.

'*Modern'* chickens originated around 3,500 years ago in Southeast Asia, later than previously thought, scientists say.'; so reads the openings lines of this review of current theories regarding chicken domestication. What is startling in the language used here, is the idea that the chickens we use for our purposes are somehow more 'modern' than their still extant archestral forebear the asian *red junglefowl (Gallus gallus)*: considering the fact that both bird species still exist and thrive, it leads us to consider what exactly makes one bird more *modern* than the other; this casual application of a teleological framing for the domesticate version of the chicken seems to be linked to Tsing's emphasis that the concept of domestication itself is conceptually linked to the culture of a controlable, reproducable, and widespread marketplace as an idicator of a species' value. (BOWER, 2022)

The article goes on to explain the theory that the *red junglefowl* bird began by exploiting the easily accessible rice crops planted in Southeast asia sometime around 4,000 years BP. Overtime the species grew accustomed to the presence of the rice planters themselves. The surprise findings is that the archaeological evidence seems to suggest that for about the first 800 of years of this collaborative relationship the birds were seen as culturally or 'symbolically' significant creatures, being buried whole, either with human remains or on their own. Only later did the Roman military forces begin using them as a cheap and reliable protein source.

If these theories stand, we have a case of 'domestication' wherein the animal species first entered the human domain to exploit a newly available resource; the human's eventually adopted the animal as a cultural symbol whose meanings remain obscure; and then, only after many centuries, did the contemporary form of human production and consumption of the species take hold. This is certainly not the kneejerk idea of the domesticating process that comes to mind when considering it as a foundational pillar of humankind's ingenuity, but an envolving hodgepodge of relationships between species that was actually initiated by the non-human counterpart. Let's consider another example.

The outline very much mirrors that as provided to the chicken, although now the wild ancestors of the cat are drawn, again, to the new agricultural zones of human settlement, this time in the Fertile Crescent, due to the large abundance of rodent prey who, in turn, have been attracted by the new concentration of seeds, fruits, and ready-at-hand produce.

Here the author makes that assumption that domestication is directly linked to a change to the origin species' behavior and therefore quotes a scientist making the following claim:

> We can actually refer to cats as semi-domesticated, because if we turned them loose into the wild, they would likely still hunt vermin and be able to survive and mate on their own due to their natural behaviors. (...) Unlike dogs and other domesticated animals, we haven't really changed the behaviors of cats that much

> during the domestication process, so cats once again prove to be a special animal (NIELD, Dec. 2022).

This idea of ‘semi-domestication’ is revealing: because the concept of domestication itself is so vague and underdeveloped, even a professional biologist finds some ambiguity regarding whether the house cat falls completely under such a heading. As we saw above, tameness is certainly not a prerequisite for a generally excepted, broad definition of the domesticating process, but because the concept is largely cultural, there is ample wiggle room for the claims about the house cat’s state of semi-domestication is pass without much notice.

Though all kinds of animals described as domestic feature in the material cultural material analysed in the following pages—’farm animals’ like cows, horses, and pigs are especially popular—the strange cases of humankind modifying lifeforms themselves for their aesthetics whims is most important to highlight here. Over the last 300-400 years there has been a proliferation of concerted breeding efforts—with both plant and animal forms—to develop what I am terming *bespoke biosigns.* These are the breeds or ‘heirloom’ variety of dogs, cats, chickens, lizards, roses, houseplants, and succlents that whose only ontological antecedents are the patient, determined imaginations of the human creators that willed them into existence. It is a special sub-family of biosigns, because unlike the majority of our cultural appropriations of the natural world, these specific biological motifs were designed from the raw organic life into entirely new visual forms. Those *bespoke* biosigns will again appear and be addressed in this study, here is is sufficient to provide one example from popular science literature to specifically highlight how the concept of domestication meets the demands of aesthetics.

The article concerns the health risks that plague a family of dogbreeds known as brachycephalic or brachy dogs: bulldgos, boxers, and pugs—the focus of the article—all fall under this heading (PANDAY, 2022). Since the Victorian era, as eugenics and systematic, goal-oriented breeding practices came to the fore, these dogs have been developed specifically to appeal to human tastes for short-faced, excessively wrinkly, pudgy, and generally ‘baby-featured’ features; traits that seem tied to our naturally-wired

warm feelinged tendencies towards human infants. However, demanding infantile anthropomorphic features in dogs leads to anatomical disfuntionality. In the case of the ‘adorable’ pug, the perpetual ‘smile’ is due to the fact that the breeds cannot breath properly through their noses—they must mouthbreathe—, and the ‘cute, curly tail’ is in fact a distorted vertebrate due to a genetic mutation from persistent inbreeding.

Here we have the case of domestic organisms being redesigned genetically, anatomically, and behaviorally, to appeal to human tastes. At this level of domestication, it is difficult to ascertain where the creature representative of the origin species and something entirely new begin and end; it is a zoomorphism as fashion.

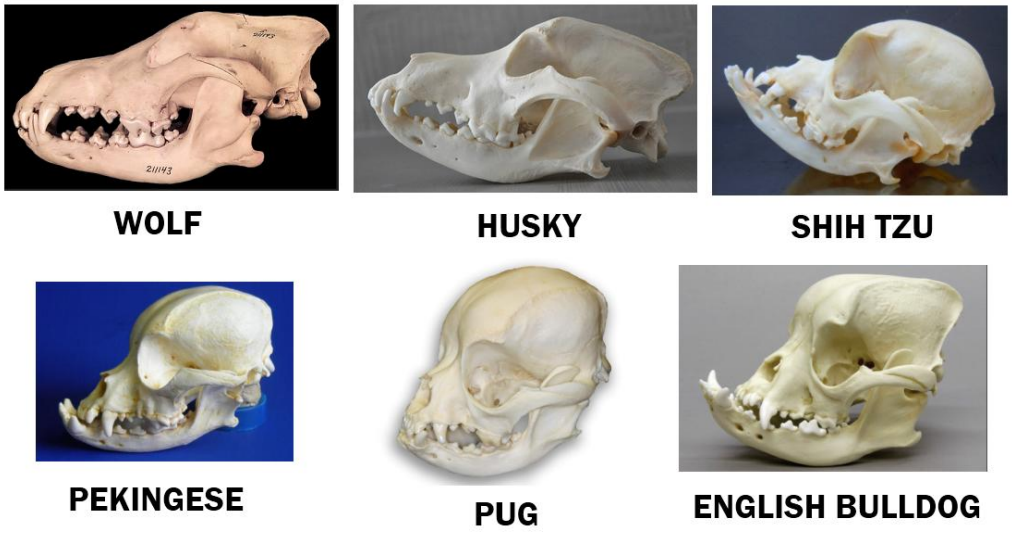


Figure 3: Many domestic dog breed anatomical features are non-functional
Source: https://twitter.com/pookleblinky/status/1336968254758281223

The final example presented here comes full-circle: an organism’s natural state is altered over time to such a degree that a new, biological unviable form is inadvertently created, a form which goes on to attain an aesthetic value in human popular culture, although not by design, but by accident.

The animal under consideration, the silkworm, has been cultivated for textile production for more than 7,000 years, making it one of the earliest known ‘domesticated’ species (again, tameness or behavioral change is absent here as an indicator of domestication) (GORVETT, 2022). In the process of silk production the life stages—including larvae, pupa, cocoon, and finally moth—are so tampered with and

aborted that the natural stages of individual lifecycles and their associated phenotypic appearances have been dramatically altered. While most of the millions of individual organisms are usually killed at the stage of cocoon, when the silk casing is removed by boiling off the living inner insect, when allowed to progress to maturation, a strange-looking, fuzzy, anatomically nonfunctional moth popularly known-as ‘sky puppies’ emerge.

These unplanned-for curious creatures have now gathered a pop following as the wholly original, and patently eye-popping, ‘sky puppies’ are now appearing as memes, plush dolls, and exotic pets.

Figure 4: The silkworm moth on a t-shirt, as a pop ‘meme’
Source: https://reptiliatus-5.creator-spring.com/listing/sky-puppy?product=46

This case, like all the precedent examples explored, demonstrates the cultural, biological, and practical complexity involved in the relational dynamics between the human race and each ‘domesticated’ organism; there is no linear, one-size-fits-all narrative that can clearly encapsulate these inter-species dynamics. Many example involves the agency—to varying degrees—of both species, but not necessarily a mutually beneficial outcome. All the cases involve unforeseen consequences, both cultural and pysiological, that have effects and implications of their own, sometimes, as is the case of the pug dogbreed and the silkworm moth, disastrous for the natural viability of the modified organism.

The rationale behind this quick digression into the concept of the domestic species is to make it plain that—even when direct human meddling on the organic material itself is at play—the cultural consequences are dynamic and have an individual history in the material culture record. House cats, chickens, pugs, and now even sky puppies, all have a culturo-historical identity in the human material cultural record; their images have semiotic values situated in place and time, despite their often utilitarian function as pest control, cheap food source, or fabric manufacturer. What this project hopes to do is explore the historicity of biosigns and biosemiotics in the contemporary material culture in general; to emphasis this value-laden contexualized use of organic life in our collective self-narrative. The fact that so much human effort has been applied to developing new lifeforms as *bespoke biosigns* in the last 300 years—in the visage of original breeds—speaks volumes to the tension between being in control and being in awe of the natural world that seems to encapsulate so much of this on-going dialectic between humankind’s place in the natural order of things.

2.3.1 ANIMALS AND HUMANITY

As a major subset of the concept of “the natural”, animal and plant life will come to represent a large proportion of the biosemiotics represented in the photographic material analyzed in this project. The position of humankind within the larger animal kingdom has been a philosophical and biological question going at least back to the ancient writings of Aristotle, but from Darwin onwards we have come to better grips with

the realization that out community with other species is much greater than once previously thought. With the on-going understanding of genetics demonstrating just how much coded material we share with the other species, this has become even clearer. However these realizations have not put an end to important debates on the difference *in kind* and type between humankind and the other species, when compared as two distinct entities.

Problem-based thinking, processing, language use, self-awareness and creativity have all been used as characteristics that seem to intuitively and perennially define humanity; each has received a fair dose of welcomed rebuttal as well. Why this question becomes relevant within the secondary study of cultural usage of bioscience is straightforward: without understanding our own self-definition vis-a-vis other forms of life it becomes nearly impossible to imagine how these supposedly second-rate beings are being utilized in the cultural record. It's safe to say they are generally not being viewed as co-equals or peers but as something else; not quite alien to our environment but alien in our way of confronting existence they are ontologically positioned apart from our social milieu. As explored in subsequent sections this helps explain the proliferation of anthropomorphism in the use of animal forms: the more an animal image is made *less* animal and *more* human the more easily we seem able to connect on a social, emotional, and personal level, especially as children.

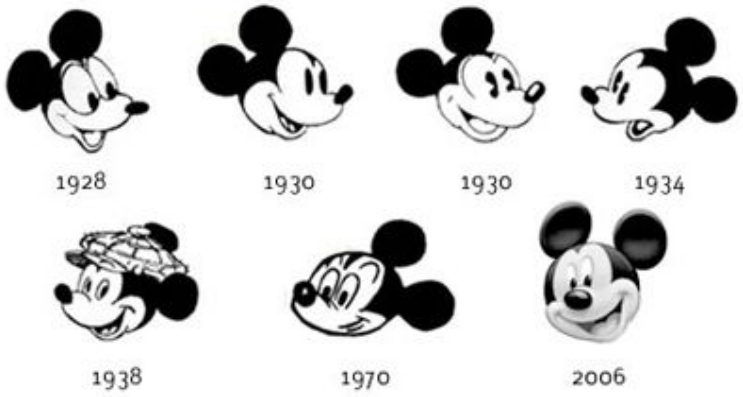


Figure 5: Mickey Mouse has become increasing less ‘mouse’ and more ‘human’ over the years, a tendency that speaks to the proliferation and power of *anthropomorphism*.
Source: https://lancopyonline.com.br/kit-festa-mickey-mouse/disney-mickey-evolution/

Aside from these questions regarding what if anything still marks humans out as an anomaly aboard the planet's organisms there are some who have reversed the question, noting rather that humanity seems to be the most unnatural of all organisms; a being divided within itself, seemingly unable to find a secure place of composure within the environment; constantly questioning it's own self-value and demonstrating chronic levels of species-level self-destructive. As comedian Larry David posits ironically in an episode of HBO's 'Curb Your Enthusiasm' humankind despite its unmitigated population has all of the hallmarks of a failed species.

More seriously, the philosopher Giorgio Agamben draws up the human-animal divide in a contrary manner, asking what makes humanity divided against itself, an inner tension that seems to be largely absent from the rest of the animals:

> (..) the caesura between the human and the animal passes first of all within man, then it is the very question of man—and of "humanism" — that's must be posed in a new way. We must learn (..) to think of man as what results from the incongruity of these two elements (a body and a soul/*logos*) and investigate not the metaphysical mystery of conjunction, but rather the practical and political mystery of separation. What is man, if he is always the place— and at the same time the result — of ceaseless divisions and caesure? It is more urgent to work on these divisions, to ask in what way— within man — has man been separated from non-man, and the animal from the human (...) and perhaps even the most luminous sphere of our relations with the divine depends in some way, on that darker one which separates us from the animal (AGAMBEN, 2004, p. 16).

So whether one choses to emphasize some apparent superiority or the obvious existential failings of the human race in contrast to a nature which seems more secure of its place in the environmental scheme of things—albeit without the technological, artistic, and linguistic output we seem to value so heartily—it remains important to recognize this tension in our cultural conception of animal life; the apparent difference and separation between ourselves and the rest of the environment appears in how

these natural elements or ‘biosemiotics’ reappear within our material culture. At times their presence reinforces or diplomatically mitigates this contradictory conundrum through visual motifs and myth-making. Though this story is not a new one, as seen in reference to the Book of Genesis and its candid account of mankind’s early spiritual separation from the animal world, it is ongoing exploration which we bear witness to it in our own contemporary cultural output. The consumer products represented in this study reveal that tense, confounding and at times inspiring dynamic of modern humanity’s on-going attempts to find a meaningful place for itself in this strange environment filled with equally inexplicable beings and phenomena.

2.4 A SEMIOTIC APPLICATION TO MODIFIED ORGANISMS

Formal semiotics can be useful to explore modified organisms. **Operations of transformation** produce new objects by way of a variety of operations (HERBERT, p. 20-21), including addition, deletion, etc. We can illustrate the intentional manipulation of other beings in the creation of bespoke biosigns with this methodology, and by placing ‘true life’ organic example alongside parallel beings from mythology or popular culture, we can see how the manipulating practices are applied across all range of human activity and world-building. Some examples are as follows:

Addition or blending:

There are many options to illustrate the operation of blending two distinct biosigns to create something entirely new. The portmanteau-named *liger* (a cross between a female tiger and a male lion) is a very clear example. The animals are eye-catching for zoo displays, but like many cross-bred creations, sterile and suffer from chronic health problems.

Figure 6: A 19th century lithograph of a liger by Étienne Geoffroy Saint-Hilaire
Source: http://members.aol.com/jshartwell/hybrid-bigcats.html

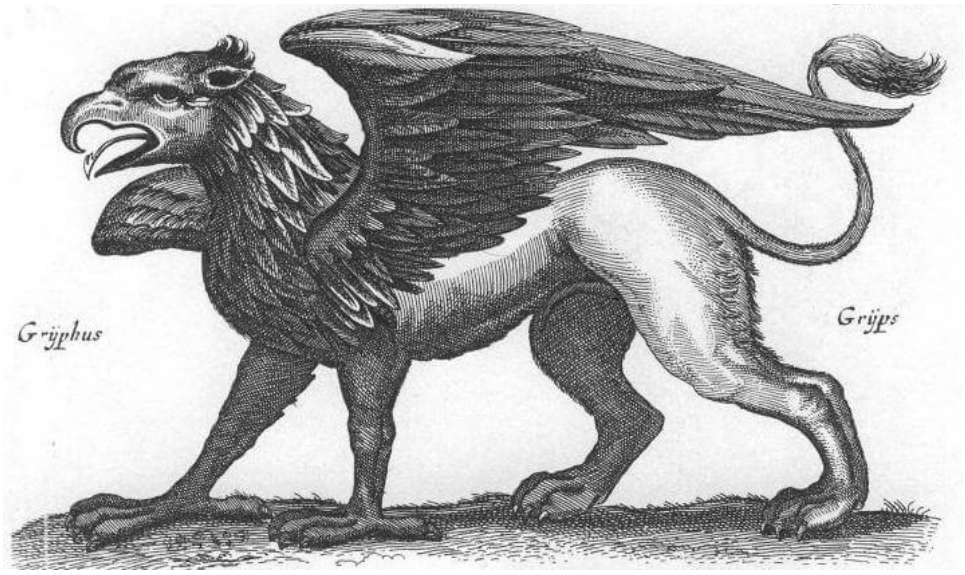


Figure 7: The Griffin, a mixture of lion and eagle, is an iconic example of *addition* in mythology.
Source: I.I. Schipper, Matthius Merian, Griffin engraving, 1660

Deletion or sorting:

By systematically removing typical features a unique, new biosign is developed, usually with an unnatural effect. In produce we find this quite commonly in as seedless or pitless varieties of fruits and vegetables.

Figure 8: The ‘Sphynx’ or hairless cat was developed in the 1960s.
The first was produced by breeding a mother feline with its own offspring.
Source: https://trupanion.com/breeds/cat/sphynx

Figure 9: The one-eyed cyclops, also from European mythology, is likewise uncanny due to simple *deletion/sorting* of the eye.
Source: https://commons.wikimedia.org/wiki/File:Polyphemus_head_Colosseum.JPG

Substitution:

Substitution is coordinated deletion-addition operation and results in the sense of surprise at find a familiar biosign transformed. It is quite common in the practices of the floral industry.

Figure 10: These blue roses, sold from an Ecuador flower factory,
easily capture our attention by way *substitution* of color.
Source: https://www.amazon.com/Direct-Tinted-Bouquet-Fresh-Roses/dp/B07C3GS1F2

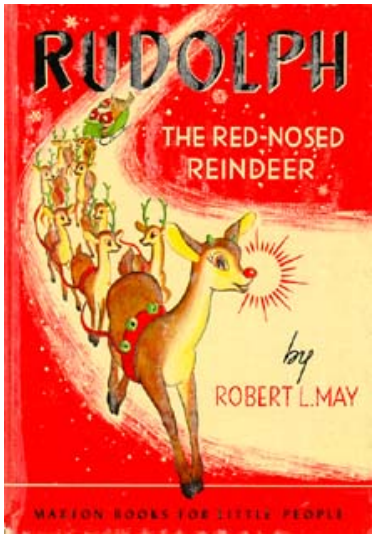


Figure 11: Rudolph the Red-nosed Reindeer, created in 1949,
uses *substitution* to magical effect.
Source: Robert L. May, Maxton Publishers, Inc., 1949

Increase:

The increased scale of a biosign, beyond its normal proportions has fear-inducing effects. As demonstrated below, the increased size of biosigns are perfect material for nightmarish movie “monsters”, but are also practically useful in the production of foodstuffs.

Figure 12: *King Kong* promotional material
Source: Universal Pictures, 1933

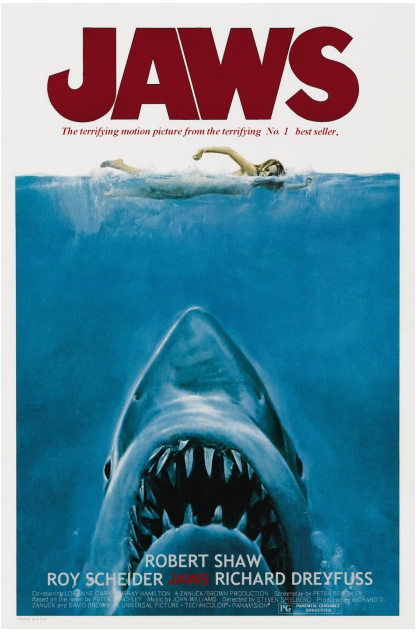


Figure 13: *Jaws* movie poster
Source: Universal Pictures, 1975

Decrease:

The operation of decrease, of course, as the opposite effect, creating a sense of adorableness and curiosity. As dogs have continued to loose their functionality transforming from a utility animal to preforming a psychological and aesthetic role for its owners, smaller versions of once larger breeds has come into vogue.

Figure 14: Many “toy” dog breeds, like the miniature pinscher, are *decreased* editions of their precedent pedigrees; in this case, the Doberman.
Source: Tara Gregg, Getty Images

Intense continuance:

The repetition of a biosign, beyond the expectations of the norm, creates an unnaturalness in the numerical sense. Many have reflected and suggested that a population of 8 billion human beings on the planet is one such manifestation of **intense continuance**. Many also feel a semiotically-dervied sense of shock when viewing industrialised food practices that inevitably include intense continuance in their mass production tendencies.

Figure 15: Industrialised food produce rely on *intense continuance* for their profitability, as shown in this massive poultry production facility.
Source: https://thehumaneleague.org/article/chicken-farm

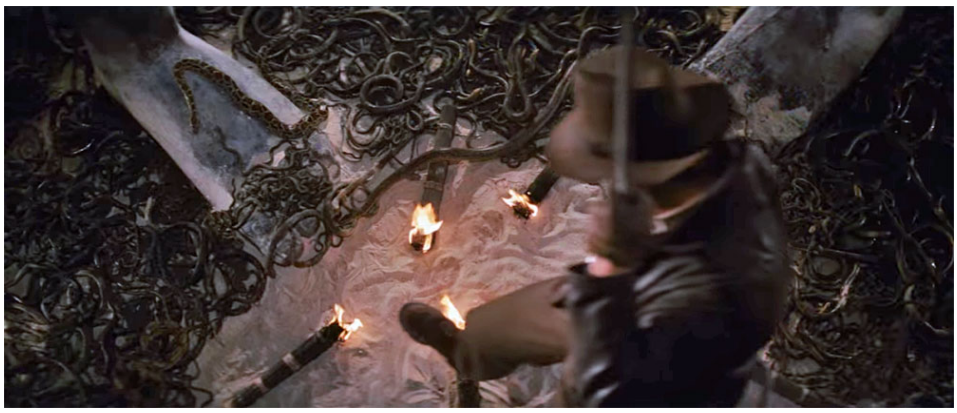


Figure 16: *Intense continuance* can produce nightmarish effects,
like in the iconic snake scene from *Indiana Jone and Raiders of the Lost Ark*
Source: Paramount Pictures (1981)

Finally, we can consider that any number of these **operations of transformation** can be combined, either with organic life, in the fictional realms of mythology and media, to create surprising result. Most fantastical creatures of fiction are generally combinations of pre-existing parts that have undergone semitioc transformation. This can be as simple as combining two parts, as the case of the unicorn, or a neurotic admixture of many elements, shown here in the creation of the horrifying “alien” that combines many elements, including insect, reptilian, and humanoid.

Figure 17: The unicorn is essentially an all-white horse with
the *inclusion* of a narwhal tusk.
Source: Domenichino, c. 1604–05, Palazzo Farnese, Rome

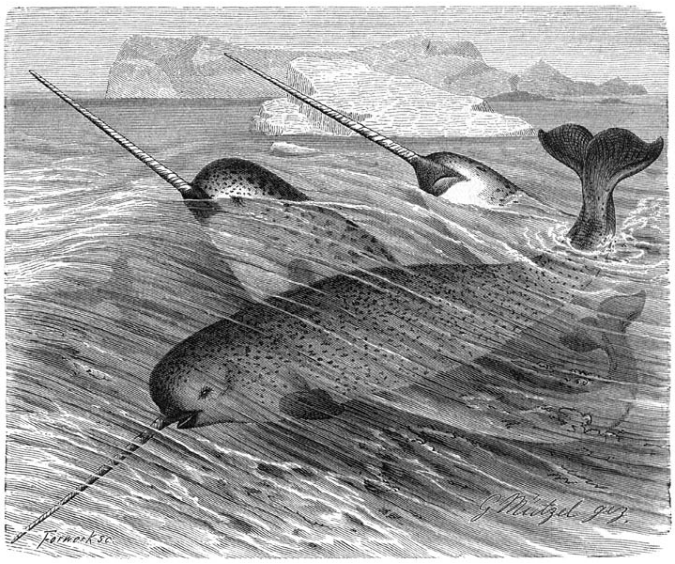


Figure 18: The narwhal
Source: Illustration by AE Brehm, 1895

Figure 19: By a combination of *substitution, increase, sorting*, and *blending*, bizarre new biosigns can be construed for our society's myth-making operations. The xenomorph from the film *Alien* includes insect, reptile, aquatic, and human elements for an unsettling effect.
Source: 20th Century Studios (1979)

BIOSEMIOTICS AS THEMSELVES

3.1 THEIR ORIGIN AND FUNCTION

Since biosemiotics, like semiotics in general, deals with the concept of *signs*—notably broken into *signifier* and *signified*—it's helpful to remember the words' direct link to the concept of *significance*. Given that the available stimuli offered to our sensory organs at any given moment is virtually limitless, it's logical that we must constantly—both consciously and generally not—be in a game of selecting what ought to demand our very limited attention. This applies to the visual field, as well as sound and touch, as well as the mental processing that accompanies *paying* attention; we 'pay' attention because it is a commodity of high value. Without this constant selection process we would quickly get lost in a morass of colors, noises and smells that would be both overwhelming and meaningless at the same time.

Hence, the obvious value of picking out significance in the surrounding environment, as well as being able to relay our own significance to fellow inhabitants; both at an inter- and intraspecies level of communication.

Bearing this in mind, we can see that biosemiotics plays itself out in all forms of life which must depend on significant stimuli from their surroundings when making choices about the next best action to take. Whether the spectrum of internal self-reflection—from *instinctual* to *strategic*—is important in this regard is debatable, but it suffices to recognize that all living organisms depend on signs to survive. Paul Colbey uses Hoffmeyer's example of a bacterium 'choosing' to change direction in a stream of nutrients rather than blindly swimming about as a basic example; Hoffmeyer then goes on to summarize how a further development of this 'sign-reading' would offer key benefits to any species that could do so:

> An increase in semiotic freedom implies an increased capacity for responding to a variety of signs through the formation of (locally) 'meaningful' interpretants. Since semiotic freedom allows a system to 'read' many sorts of 'cues' in the

> surroundings it will tend to have beneficial effects upon fitness (HOFFMEYER In: COLBY, 2016, p. 2).

Although all of our sense organ systems are in constant state of data collection, given that this is largely a historical analytical survey of photographic material, we will be largely focused on the visual field and can therefore contain any operational explanations to the optic. It is helpful to recognize that at its most straightforward understanding modern studies of the optic-neural interactions have drawn two primary, but significant conclusions: 1) The brain does not 'snap' a visual image of the entire eyescape, but works in parallel modes of collecting data on color, movement, and form separately, and 2) The optic system in action is co-emergent with modes of knowledge acquisition, and therefore, quite subjective in its effective functionality (i.e.
"seeing is believing", "beauty is in the eye of the beholder" are not simply pithy aphorisms, but are quite reflective of the way the brain-eyes operate).

The importance of functional parallelism in visual data collection is that significant aspects of the visual field can be seen as somewhat separable units of information: color, movement, form, etc. Although there is great universality in what might engage us most immediately in a visual field (bright colors, sudden movements, etc), it is in the *scopic regime* of cultural, personal, value-imbued phenomenological mode of seeing that meaning is formulated in the optic sphere. Like an unfolding, dynamic Rorschach blot, the optic system works in tandem with the visual cortex to arrange of composition of 'relevance' in our otherwise overwhelming flood of visual data:

> Functional specialization is, then, one of the first solutions that the brain has evolved to tackle the problem of acquiring knowledge about the world, of constancy. The kind of information that the brain has to discard or sacrifice in getting to the essence of one attribute, say color, is very different from the kind of information that is has to discard to get to the essence of another attribute, say size: in the former it has to discount the precise wavelength composition of the light coming from one surface alone and in the latter the viewing distance. The brain has evidently found it operationally more efficient to discount these different

> kinds of signals in different areas, ones whose entire anatomy and physiology are specifically tailored to the needs of getting to the essentials of particular attributes (ZEKI, 2000, p. 62).

We can see this play out in the ability for relatively simple forms or figures to come to represent complicated biosemiotic entities or in the fact that almost entirely abstracted symbols have come to represent whole categories of natural, highly complex, real-world experiences.

Figure 20: In both our interaction with the natural world, as well as in the abstractions of symbolic semiotics, simplifying complexities and clumping meaningful features to create an archetype is essential for navigating the world. Here, a simple 5-pointed “star” stands for an infinitely complex array of stellar celestial phenomenon populating the universe.
Source: Speigel 1955 Christmas Catalog, p. 180

Figure 21: Although no generic “bird” exists in the natural order of organic life, a generalized symbol, representing all ‘bird-like’ beings universally, is useful for making sense of a child’s complex world, as evidenced here by a singin crib ornament.
Source: 1970 Pennys Wishbook, p. 274

This tendency and ability to filter the infinitely complex into abstracted ‘categories’ allows species and individuals to navigate a world inhabited by other beings, that can at times be collaborative, hostile, or a mix of the two. This creates a web of *knowledge* based on observable cues delivered and received amongst desperate beings; this is a dynamic system of ecological epistemology that includes ruptures of disruption—adjusting to an invasive species—but also a necessary base of stability over evolutionary time.

The performance of these exchanges happens at every level of awareness, from the occasional self-reflectivity of human beings, to the stimuli of plant and single-celled organisms reacting to patterns of light, shape, and viscosity: knowledge comes in many forms. Even within the human frame of epistemic references, we can find various degrees of ‘knowing’ happening at various levels of consciousness; most of it seeming to be at very out-of-the-way areas of subconscious, limbidinal or *intuitive* areas of our cerebral and corporeal access to the environment and its components. If this is so obviously the case for our own species, then extending this recognition of the presence of less-navel-gazing levels of knowing can surely be extended to other species and even objects. Glen Mazis, in his *Humans, Animals, Machines*, makes this departure from the Cartesian dilemma quite explicit:

> We often assume that to understand is to first understand oneself through self-consciousness. For Descartes it was this self-certainty, knowing that one is thinking and then being able to rationally and willfully direct one’s thinking, that safeguarded our sure path of knowing the world. (...) there is a question of whether there are not other sorts of “understanding” — as a mutual relating that accommodates two or more beings in adjusting to each other and working together without deliberate self-reflection—that be said to be part of human “knowing” in other ways. This sense of knowing as being more akin to the way animals “know” aspects of their world opens possibilities that other beings who are not self-reflective may still be part of a “coming to know” as a co-contributer with humans (MAZIS, 2008, p. 50).

Even though this project draws the line of inquiry at the feet of biosemiotics and doesn't extend so far as to include all materiality, it does beg attention to consider at what point the concept of "communication" between entities can be extended before it loses it usefulness as a concept. Perhaps if we can speak of the communication or exchange of information at the biochemical, cellular or elementary level of particles, we may need to reel in the line a bit unless our intent is to stumble into the realm of pure philosophy, cosmology, or even metaphysics. For this reason, the focus will remain on communication happening at the level of the ecological, and later, the cultural, historical, and sociolgical; we can leave the abstractions to the wizards, alchemists, and scientists.

3.2 *UMWELT* AND INTERSUBJECTIVITY

Organisms' *outward*-facing appearances, their coterie of phenotypes, are manifestations directly intended for the *external* world. However, this appearance of an individual organism's superficial confrontation with the *outside* environment is largely an illusory, perhaps lazy, description of the facts: bodies are not closed systems, but in a continuous state of flux acting both upon and at the receiving end of their environmental contexts. When combining multiple organisms' dynamic situational state-of-being and sensorial readings within a given range, we could consider this a more helpful view of what is meant by an ecological model: a concept rich in its endowment to the early writings and formula of the *Umwelt* model of species-based ontologies posited by Jakob von Uexkull and later used by many others, including Merleau-Ponty, Heidegger and Deleuze. In this framing the emphasis is placed on the 'openness' (*Offenheit)* and exchange networks between organisms rather than their self-contained, categorical distinctness, i.e. the concept of organisms as units of a closed species (BUCHANON, p. 115).

The developments of complexity theory and the application of phenomenologically-centered ecological and ethological models have done away with the industrially-based mechanistic models of both humankind and nature itself. Models

of exchanges of energy, in the form of both material and also communicative levels, seem to offer a richer, more nuanced version of how life beings and their environments are intertwined on the planet. The big takeaway is that the beings and their environmental surroundings, if separated for compartmentalized 'scientific' study, lose their comprehensibility. Once the dialectic relationship between organisms and environment are accepted as a given we can begin to approach them as mirror images of each other; by studying the organisms the environment is revealed and vice versa. With this overarching model of reciprocal ecology in mind biosemiotics, likewise, should be viewed as trove of visual, auditory, textural information about not only the species that manifests such outward signs, but also a reflection of it's environmental bedfellows, as well as the environment itself. Although we have typically been apt to separate and name units in nature individually (humans apparently are naturally inclined to dissect rather than synthesize), by shifting the focus to interspecies interaction, communication, and methods of doing so, we see that the 'stand-alone' organism looks rather useless as a functioning being when removed from its surroundings. The environmental bedfellows are present as details in the 'design' apparatus of each organism.

However, the organism is not simply as a passive shape tossed around by the environmental conditions, but an immanent and co-emergent part of the environment itself. Each biosign reveals not just aspects of the specific being, but also something about the 'external' world itself. In that sense, it also conveys information about our mutually-inhabited spaces. If one of these inter-subjective ecological networks manages to stay more or less stable for an extended period of time, and species begin to establish traditions of behavioral and nutritive dependencies on one another, we have come to the arrival of what is called an *ecosystem*; a steady state ecological model that, though miraculous in its self-governance and economy of use, is liable to unravel when met when disruptive forces, such as the sudden intrusion of humanity and its resource-hungry activities.

When considering such 'contact moments' between well-established ecological interspecies relationship networks and the sudden arrival of new organisms, it may be

useful to focus on the changes this introduces into the biosemiotics of the organisms involved. How adaptable are these devices and do they aid in or limit an ability to thrive in such a jarring and unknown set of new relations? When we consider the fact that mockingbirds in urban settings mimic complex car alarm systems, the ability to demonstrate sociability of the canine allowed for a new bond of domesticity between humankind and dogs, or the heightened risk to the highly-visible, and therefore highly valued, bird species with dazzlingly flashy plumage, we can see the complexity of how previously developed biosemiotic devices can be integrated in a topsy-turvy, idiosyncratic fashion when ecosystems are dismantled and reconfigured, often discordantly. This concept may also be extended to include the human use of biosigns in their material culture output. As we will explore below, the abundant use of non-human biosemiotics in man-made cultural artifacts seems to be a defining feature of us, as a species, and offers a wealth of information and clues regarding our unfolding conundrum of a relationship with the non-human, *natural* world. We can see some fundamental themes that exhibit durability throughout time (fear, awe, desire to dominance), but also track changes about the attitudes towards the environment that do appear to evolve over time, albeit often at odds with our actual, day-to-day behavior.

Likewise, when considering the environmental science concept of the *invasive* species—largely a result of human behavior as the catalyst—it is interesting to think in terms of biosemiotic dynamics in these cases. *In what ways do the communication devices of the previously 'stable' ecosystem actors allow themselves to become victimized or protected by the new arrival? Does the invading species itself have an advantage in the unpredictable results of its biosemiotic devices working in its favor?* Some recent case studies have been undertaken which explore the semiotic implications of the introduction of a new species and its "languge" into an non-native biofield. The arrivel of the golden jackal, colloquially known as the howling fox, and its newfound place in the cultural and ecological environment of Estonia is one example of a successfully targeted case study (MARAN, T. 2015).

Returning to the onto-ecology model described above, it allows for the multitude of individual organisms to be engaging amongst individuals, their own species and individuals of other species, via the means of communication delivered through the aforementioned biosemiotics devices. All the while all organisms are being affected upon by (including by other organisms), at both the time-scale of evolutionary models — which is readable in changes of the species writ large — but also at the level of the individual organism, with its constant flux of reinvention as expressed in neurological, chemical, hormonal, kinetic, emotive, and physiological changes. In this inter-special, inter-subjective, dynamic environmental model, each organism also has the capacity for agency to act upon other individual organisms and the environment itself, either in confrontation or collaborative modes. This is not a vision of ecology that emphasizes the victimhood of organisms in the face of a fierce and frigid static state of conditions, but tends to highlight the *creativity* inherent in the reactive expressions of organic life. This is not at all to say that all organisms are created equal; their uniqueness, including at the level of biosemiotics, need not be jettisoned when proposing this non-atomistic model.

Merleau-Ponty frequently, and evocatively, uses musical metaphors to describe the way nature plays itself out, for example viewing “the organism as a melody that sings itself”, or using harmony and dissonance to describe the reciprocally involved and evolving dynamics between species (BUCHANON, p. 130). Likewise, we often describe environmental degradation and an ecosystem’s collapse as being ‘out-of-balance’ or unbalanced, descriptives appropriate for jarring orchestral work by Schoenberg: interesting perhaps in theory, but unlistenable in practice. *Does our contemporary use of natural signs in our consumer products reveal anything about this harmonizing effect of a functional environment or, contrarily, a discordant antagonizing unnatural cacophony? We continue to celebrate and revel in the ethereal beauty of the natural world, that seems to need no explanation to enjoy and no obvious utility to be present in the objects, arts, and fashions of our day-to-day lives, but why insist? If we seem so unqualified to take the environment seriously as part and parcel of our own beings and*

bodies and insist on maintaining a separate identity as a species outside and above the natural, why do biosemiotics continue to proliferate and appear in our cultural output? What is the message the natural signs removed from the functionality and interlaced purposefulness of their native environs transmitting?

The hope is that the analysis and expository reflections below will offer some ideas about the rather out-of-place presence of biosemiotics in contemporary, consumer-based economies and its cultural *stuff*. I argue that, quite simply, our ecologically-centered natural history as a species has not seen quite the ontological bludgeoning that has come to describe the Industrial Revolution and subsequent spread of consumerism and this may account for the continuing presence of the natural in our otherwise incubated lives. And also, by addressing individual biosigns as case studies, especially in historico-cultural contexts, we can see that at the singular level, each use of biosemiotics has its own analysis to undergo and meaning to reveal:

> (...) it simply makes no experiential or biological sense to talk simply about 'individuals', but only about the organism-environment continuum. Of course, individuals are real, and have 'minds', but these minds (from the simplest to the most complex) are more usefully understood in terms of semiotic processes which necessarily and logically include the environment in which an organism swims—its 'world' or *Umwelt* (WHEELER, 2006, p. 107).

The concept of *animism,* most generally found in anthropological and ethological studies, has often been offered up as something of a conceptual elixer to overcome the supposed epistemiological barrier to the contemporary West's ability to grapple with other, more ecologically-incorporated cultures (the cultural implications of *animism* are explored more fully in the subsequent chapter 'Biosigns in the Cultural Web'). Although defined in a dizzyingly variety of scholarly explanations, the main tenants are the twin beliefs that mankind sits as just one amongst many within a network of cognizant and equally subjective beings. In many cases some kind of transformation, either

metaphorical or ritualistic, allows the communication between disparate entities and therefore an establishment of a mutual respect and inter-awareness.

Indeed, it is a concept rich in possibilities and arrives into the western philosophical and ecological criticism studies in concepts like *deep ecology* and *intersubjectivity*; concepts or worldviews that attempt to rectify the lost ability for contemporary society to *live out* the facts of our ecological co-dependency, rather than merely recognizing this at the level of intelltectual abstraction. Although, there are still massive barriers of prejudice to overcome when it comes to taking *animistic* thinking seriously, as Morrison explains:

> (...) the conceptual history of animism (primitivism as rampant emotionality, fear and anxiety, the irrationality of tradition, the supernatural, magic and mysticism) has had an incestuous relationship with the Cartesian failure to understand sociality (MORRISON, 2013, p. 47).

This concept of sociality is key to allow each living entity to possess a subjectivity equal to one's own. This ontologically-enrinching stance offers a direct counter-narrative to the classical utility-based model towards nature that has both allowed our society's material affluence, but also introduced countless devastating side effects. What is most interesting, when sifting through the material cultural record that consumerism leaves behind, is the prevalence of this counter-narrative, of this continued appearance of the robust subjectively in the way lifeforms are portrayed, which generally fly in the face of the the official ontological narrative of the world as a toolbox best fit for human's purposes.

Figure 22: Other species, including farm animals, very often appear as subjectively-endowed, emotive beings in the material culture record, which contradicts the more generally utilitarian model of production and consumption.
Source: 1985 Sears Wishbook, p. 555

Outside of the material cultural record, western valuations of non-human beings tend to limit attention towards animal beings as either purely functional (objects) or for children only, as for example, in a zoo or the aquarium. It as if the natural world, if not immediately and obviously useful from some pursuit of monetary gain, is not-quite-appropriate for adult interests; it comes across as some king of curious fantasy. There are rare excepts, with dogs and cats being amongst some of the only socially-recognized, permissible animal relations for adults in our contemporary mores. The general position of Western attitudes towards the rest of the planet and its non-human inhabitants has been one of unabashed *instrumentalism*: “the assumption that all other species are available for unrestricted human use” (PLUMWOOD, V. p. 113).

Figure 23: Dogs and cats are generally the only non-human entities allowed full subjective status, as the tradition of the Presidental White House dog demonstrates. Here John F. Kennedy and his family ride along with their terrier Charlie.
Source: https://br.pinterest.com/pin/699395017111448436/

To the extent that this intersubjectivity appears in our modern lives to be quite minimal, surrogate biosigns, in the guise of material cultural goods, may helps lessen the damaging effects of this sudden transition away from being substantially connected to other non-human entities, as the animism of pre-industrial societies attests to:

> Animism raises our curiosity as the hesitant acknowledgement of suppressed childhood experiences, the assertion of which would challenge the entire modern project. Relatedness is a condition that most of us continue to be capable of achieving in particular, experiential contexts of some minimal duration (HORNBORG, In: HARVEY, 2013, p. 249).

It has, and will likely continue, to provide s workable model, or at least some insights regarding the interconnectivity of nature's components, that can contribute to a more realistic cultural narrative of how ecology operates. Whether these lessons are transribable into the supercharged economic-driven market society is another issue, with a rather worrisome track record to date.

FROM BIOSEMIOTICS TO *BIOSIGNS*

4.1 *BIOSIGNS* AND THEIR MEANINGS

Although biosigns in consumer goods can come at us in a variety of forms — aural (the chirping of birdsong in an electronic toy), textural (the comfy give-and-take of a leather moccasin), or olfactory (a jasmine-scented candle) — it's in by and large the visual field that dominates this particular survey of material culture. The interpretation or ‘reading’ of visual culture is a complex, subtle, and well-developed field of analysis, but also rife with an understandable veneer of subjectivity and intersubjectivity between the researcher and the image at hand. It is by no means, nor does it intend to be, a ‘hard’ science of analysis.

It's helpful to distinguish between the *visual* and *visuality*; the former referring to the pure physiological input into the eyes from the surrounding environment, the later regards how that ‘raw’ visual data is filtered through our mental, cultural, emotional, and prioritizing selves as either meaningful, ambivalent, or totally ignored (ROSE, p. 6). Since the attention we can direct towards the scopic regime at any given moment is quite literally infinite in possibilities, it's clear that we constantly make choices, sometimes consciously, but largely reactive and habitual, about what aspects and details of the visual field we will focus our attention on. At the level of material culture, including both the images in the catalogs under consideration, but also the products themselves, there is an added layer of interpretive complication: the intentions or desired affected on the scopic regime of the consumer by the producer of the image(s) embedded within the products and catalog images.

Biosemiotics inserts ecological, evolutionary co-dependent interactions into this already overcrowded network of visual sign designers (both intentional and unintended), sign consumers (both collective/cultural and individual), and, now, biological (both inherent and culturally embedded). The intentionality of the image maker is especially difficult to peg down as, by and large, we lack the firsthand accounts of these product designers, photographers, and catalog layout functionaries. Oftentimes, as we will

explore below, the use of certain biosigns is so deeply embedded in the cultural visual vocabulary, it seems likely that motifs from the natural world are incorporated into the potpourri of consumer goods and the associated media in a rather off-hand way. You can successfully design and produce a floral-patterned summer dress without having to consider the fact that the inviting receptivity of open flowers, waiting for their required pollination, exudes sexualized femininity at a subconsciously working level: biosemiotics' presence and power does not requires the affecting or affected agent's awareness of its presence in order to function.

Of course, how an individual reacts to each object or gesture within their given scopic regime (what we are looking at) is happening at both the group-think level (the social) and the individual (psychological) and social psychology has develop excellent tools for attempting to tease out this deeply dialectically intertwined relationship. One's emotive, intellectual, or aesthetic responses to the visual vocabulary of the world is informed by the cultural baggage of history, religion, current events, taste and fashions, advertising, peer pressure, and mythology, but perhaps just as strongly by the biographical details of specific geographical location, personal events and experiences (especially at a young age), and values developed over time and throughout adulthood (often, again, largely informed by deeply influential personal first-hand experiences).

In *Navigating Environmental Attitudes*, Thomas Heberlein introduces and then applies very well-articulated guideposts for compartmentalizing and discovering what exactly 'makes people tick', specifically in regards to their views and attitudes towards nature and environmental issues of the day (2012). Borrowing terminology and concepts from social psychologists, such as Daryl Bem and Milton Rokeach, Herberlein's main point is to outline the *vertical structure* of individual's attitudes towards the world around, with the important discovery being that most of our posturing is based on purely emotionally-felt, often unexamined, rather than rationally-developed attitudes:

> The real driving force of attitudes is emotion, or as social psychologists call it, **affect**. This is the irrational part—the part not subject to reason—and the part that makes attitudes difficult for those trying to deal with them. (...) Affect and

> emotion engages the body as well as the mind. (...) Attitudes differ from knowledge because they are driven by the love-hate, good-bad aspect of emotion (HEBERLEIN, 2012, p.16).

By applying these social psychological concepts to the world of biosemiotics, we can better grapple with why some biosigns carry positive, negative, or even neutral connotations, and if those are universally, culturally, or personally-derived valued reactions. Beyond this, the values which change over time allow for a historically significant level of analysis (a feat attempted in the final third of this work).

An excellent case study of attitudes' development towards a specific biosign, is Matthew Lerberg's short, but pithy essay of the influence of Spielberg's 1975 film adaptation of the 1974 Peter Benchley novel *Jaws* (In: GEORGE, A. E., SCHATZ, J. L. 2016, p. 33-46). Prior to the film's release most people's attitude towards sharks could be described as neutral, ambivalent or even non-existent. Since most of us will never, nor would have ever encountered a living shark in our lives, it's safe to say their genuine risk to our safety is very low: there is simply no logical reason to develop strong feelings of fear or defensiveness towards sharks in an essentially shark-free environment. This lack of real encounters between individual sharks and individual people is also played out in the scientific data on shark sightings, attacks, etc: extremely, extremely rare. However, as a cultural artifact, 'the shark' has taken on nightmarish proportions, which are almost exclusively, as Lerberg demonstrates, due to the production and success of Spielberg's movie:

> The cultural transformation of sharks to the overly reductive "Shark" relies on casting the material semiotic relationship between shark, jaws, and fins with a singular aspect of their behavior, feeding. THe practice serves as a normative paradigm that much like the film *Jaws* casts the human as hero and the Shark as villain. Similarly, the relationship relies heavily on an anthropomorphic logic whereby human opposes the Other. The film not only reflects this binary construction in its plot, but also in its trailer, which states: 'there is a creature alive today who has survived millions of years of evolution without change, without passion, and without logic. It lives to kill. A mindless eating machine, it will attack

> and devour anything. It is as if God created the devil and gave him jaws'. (...) Sharks' identifying characteristic is their jaws, melding materiality and semiotics where the flash of teeth indicates an unspeakable evil. The literal (material) jaws of sharks become imbued with meaning (semiotics) whereby the biological and historical meaning (feeding) becomes overshadowed by a cultural meaning (intent on locating and killing humans) (LERBERG, In: GEORGE, 2016, p. 36).

Here we can see plainly how reactions to a biosign, collectively and individually, are informed by a mythological meta-narrative (in this case introduced in a single blockbuster film). It is not surprising that film, being such a potent format for instilling emotionally-based reactions to a large-scale audience, is a highly effective steward of attitudes, as reflected by Heberlein's axiom: 'Attitudes obey a psycho logic rather than a formal logic' (HEBERLEIN, T., p. 24).

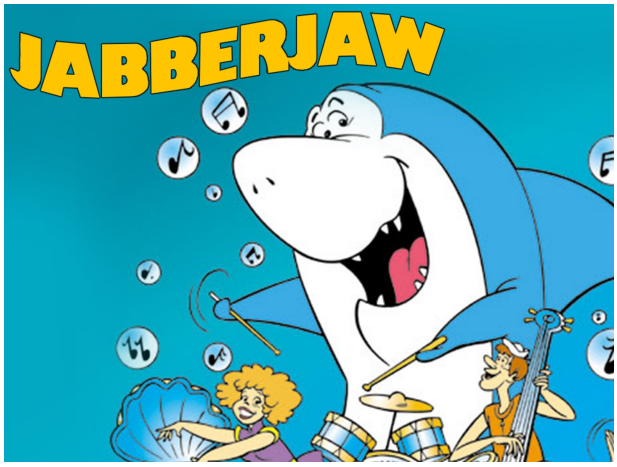


Figure 24: The Jabberjaw cartoon (1976), launched just one year after *Jaws*, achieves comedic results by subverting the newly established 'psycho logic': sharks are horrific killing machines.
This is the *displacement* operation in formal semiotics.
Source: Warner Bros. Studios (1976)

As an exercise in uncovering the layers of 'psycho logic' that undergird culturally-informed, but personally-held attitudes towards a biosign — in this case 'the

shark' — using Heberlein's three principles of attitude development, we can better understand how they are spawned, maintained, and disrupted:

"Attitudes tend towards consistency, but they are not always consistent; assuming consistency in attitudes without data can be misleading": All available data clearly demonstrates that sharks pose almost no threat to individual humans, yet contemporary popular culture has developed and reinforced an out-sized and highly-charged fear of the animal. The reality on the ground and the attitudes in the populace do not agree. Even when present with the data, most people will continue to be captive to these deeply-embedded fears: logic does not move attitudes.

"Attitudes based on direct experience have more beliefs and greater stability; direct experience can change attitudes.": People who must engage with sharks in real-life scenarios — fishermen, marine biologists, surfers, scuba divers — are less likely to have a myth-based view of the animal based on uniformed ideas. By knowing the animal *as it is*, they can develop a nuanced, more complete view of the biosign; an attitude that is very unlikely to be one of unadulterated fear, but informed by the fact that very rarely does the animal pose a serious threat. Likewise, a single, memorable experience with a biosign — for example, an encounter at an aquarium or on a snorkeling trip — can loosen a once firmly held attitude and replace it with a new, more experience-based attitude.

"*Attitudes tied to our identities tend to be more emotional and difficult to change; they can, however, change as our identities and roles change"*: Most people do not stake much of their sense of self-identity on their feelings towards sharks. Therefore, though perhaps a strongly felt attitude of fear in the most common default setting, it is not an essential for maintaining a way of life that helps them define who they are. If a stronger meta-narrative were to come along and offer a differing, but equally compelling version of the appropriate attitude towards 'the shark', it could replace the current *Jaws*-based model. By comparison, the 1983 Stephen King-adapted film *Cujo*, about a

man-eating dog, was never likely to change largely positive public attitudes towards dogs. Unlike sharks, most people have an important identity-stake in their attitudes towards dogs (even going so far as to be a self-described *dog* or *cat person*), and therefore, it is an attitude that is more-emotionally and experientially grounded. Though statistically, dogs are much more likely to pose an *actual* danger, the positive attitudes towards them are unlikely to change; experience has allowed people to understand the danger is limited and sits within a larger context of favorable and identity-informing attitudes. (HEBERLEIN, T. p. 24)

These days, we can largely surpass the unimaginative binarism of the *nature-nurture* debates as we have come to realize attempts to divide two sides of the same coin of human development generally creates more explanatory static than resolution, but the general concept of innate vis-a-vas inculcated tendencies can be explored when we look at human engagement with biosemiotics.

4.2 BIOSIGNS IN THE CULTURAL WEB

The use of biosemiotic-derived biosigns in non-industrial and industrial societies (I intentionally avoid the teleologically-imbued prefixes ‘post’ and ‘pre’ for describing these ways of living) may be said to be different in degree, perhaps even in kind, but not necessarily in terms of the overly simplistic binary divide in which they are often addressed and compared. New economic and technological models of living, and their accompanying political and cultural frameworks, do not represent a clinically sterile fissure with all that transpired before. Social conventions, moral codes, myths and superstitions, unexamined beliefs, taboos and totems, and language-imbedded values can all continue on, albeit in often modified or codified forms, but nonetheless offer their essence and influence to past models of living that have ostensibly been usurped. As applied to the material culture record, we can find this in abundance and, in fact, as archaeology and art history demonstrate, it is implausible to address the contemporary record of material culture without some knowledge about what came before. Therefore, when exploring the use of biosigns in the use of contemporary consumer goods, it's

important not to throw the baby out with the bathwater and assume this is a whole new semiotic ballgame with no serious links to a pre-industrial past. That's why this project argues for the concept of a *residual animism*.

One way of approaching the degrees of difference between what is being described as variations on the animistic principle, is in the use of semiotic terms. In a society with direct, co-dependent and cognitively integrated (meaning they are aware of this co-dependence) contact with the direct natural forms, we can expect for signs and signifiers to be more closely aligned. The symbolic representation of the animal, plant, or other biosign will be associated with some kind of direct experience. This does not negate the likelihood that there will be values, personalities, or taboos associated with the biosign in question; only that these associations will be grounded in experience and reflect a different level of co-dependent existence.

For a large chunk of the globe's societies, as industrialism, colonialism, and the full-blooded adoption of scientific models for producing and disseminating knowledge became the golden standard in this new economic and cultural order, the practicality of having first-person, hands-on experiential knowledge of the natural world became largely impractical and eventually, inaccessible. As written word literacy of science-based information expanded, tangible embodied experience became relegated to those societies and individuals not totally engulfed in the expansion of the capital-driven, consumer-based cultural and economic framework.

This new situation, however, did not prevent members entrenched within the new physical and attitudinal reality from questioning and probing the seemingly newly antagonistic or 'mechanized' relationship between humankind and the rest of the natural world; in fact, the rapid and dramatic changes to environment, the seeming accompanying acceleration of time, and the incoming and existential threats posed on humanity itself, may have increased this interest in trying to unravel the unravelable.

Philosophers such as Uexkull, Heidegger, Merleau-Ponty, and Deleuze, have each, sequentially, taken a shot at better defining often taken-for-granted concepts like *organism, animal*, *human*, and *environment* that are used so incessantly within the life

sciences and popular vernacular, that we often fail to realize just how poorly that align with the facts or simply lack clarity. Without offering up a full recapitulation of each philosopher's take on the issue (for an excellent and very readable overview see Buchanan's 'Onto-Ecologies', 2008), the main trajectory of their arguments, each built upon the former, is one of a continuing cohesion between organic entities and the environment. The exact nature or degree of the *membrane* or categorical gap (some other terms include 'living bond', 'blending', and 'cohesion') that separates individuals is debated at length and used metaphoric language which at times begs for clarity; but the general picture is clearly akin to the non-mechanistic, non-utility based cosmologies found in non-industrial ontological models. It appears our greatest philosophers have brought us full circle.

By emphasizing the transitory junctures of the evolutionary model (mutation), the constant exchange of energies in the food chain between species, and, most importantly for this project, the communicative exchanges via biosemiotic devices, the divisions in ecology can be deemphasized as the collective is highlighted. Again, the precise nature of this mother 'organism' that includes all life — whether it should be considered as a system of exchanges, an adhesion of the multiple, or multi-faceted crossroads of rings of finality or *Umwelten*—is not yet fully realized philosophically, but described in many ways, such as by Merleau-Ponty:

> This gap apparently distinguishes between certain living bodies, such as between my body and that of an other, but on another level there *is* a cohesion between living things, one, however, that does not amount to a great living force, the world as one huge organism and we its organs (BUCHANON, 2008, p. 132).

Whether one chooses to emphasis the uniqueness and singularity of individual organic entities or this aforementioned collectivity model in ecology—and perhaps the decision will be its largely based on the goals of the inquiry— biosemiotics can be seen as the level of a commonly-held language at which organisms communicate, albeit to varying degrees of intentionality and understandability depending on the specific cases.

The ability for each ecological entity to navigate its *umwelt* depends on its geven sensory organs and flow of neurological processing. The fellow inhabitants of the same and different species will likewise be sending out biosigns as brilliant colors, flight patterns, howls, eye contact, plumage, intolerable stenches and the like; it is this interexchange between these signals and those sense organs that the 'flesh' of Organic Life comes together (Merleau-Ponty's term).

Another way to frame these abundant 'cross-species' exchanges is to take the ecological concept of biosphere (a shared resource and energy-dependent network) and create an analogous network of signs: a semiosphere of communication possibilities. The dynamics present between pet owners and their pets is one very clear example:

> Thus, a domestic cat and its owner share the same semiosphere when they are eating a portion of a fish that the latter has cooked for both of them. For feline and human, the fish is a component of what they understand as food. However, the ways that these two members of different species will relate to the food (...) are very different. (...) It follows that the cat as observer and the human as observer are obviously very different. The main difference is that the human *knows* that s/he knows. The human is capable of understanding of Thirdness relations. To put it another way, the human animal is a semiotic animal defined by the fact that s/he knows that there are signs (MORRISON, 2013, p. 39).

When we move into the realm of the 'purely human' material culture and its introduction of biosemiotics as motifs, patterns, fabrics, and reproduced likenesses we are adding a further complicating layer of culture into the exchange. In these instances, which this project addresses, it is an object working its messaging in an insularity amongst members of the same species, while recycling and repurposing biosigns from the larger ecology. An understanding of the sign, organism being repurposed, cultural filters, and historical context must all be considered, case by case, to understand to what degree this new usage of the biosemiotic raw material has ties to the original purposefulness it exhibited in the functional ecosystem of its provenience. At one

extreme of the spectrum we can have parallel-usages, and at another extreme ironic inverting of original and repurposed usage, many examples of which will be explored below.

Figure 25: The use of fruitbaskets as centerpieces performance parallel functions; their 'design-by-nature' to attraction the attention of pollinators help attract the attention of hunger houseguests.
Source: 1955 Spiegel Christmas Catalog, p.302

Figure 26: Biosigns can be combined and subverted from their culturally coded usage, for surprising or bizarre results: here the hungry alligator is combined with a colorful floral pattern to create a cultural artifact both unexpected and subversive.
Source: 1970 Pennys Chistmas Catalog, p. 117

Now it must also be remembered that in the context of 19th and 20th commercialized activity with a strategically targeted consumer public and the tools of advertising and market manipulation, the particular values placed on symbols is sometimes intentionally determined. This does not negate the mythological, biological or precedent historical meanings, but simply must take these new forces of capitalism into effect.

One example if offer in the flower market where, very much like fashion in general, certain species, colors, or families of flowering plants are introduced into the market with a bevy of operatives. While contemporarily we can all recognize the explosion in popularity of succulents and large, low maintenance, easily photogenic tropical breeds like Adam's Rib in recent years, this *trending* of plants, pet breeds, and even wild animals in product design has a history as long as consumption itself. In 19th century England, for example, the "seedsmen, nurserymen and bulb growers" were already in the business of price manipulation to in increase perceived value (the camelia and the fuschia), mail-order catalog distribution, and constantly reaffirming advertising campaigns (MCKENDRICK, N.; BREWER, J.; PLUMB, J. H., p. 66).

4.2.1 LEVELS OF FUNCTION: INHERENT AND BESTOWED MEANINGS

Each use of a biosign must be analyzed independently, in its own content, but some general 'categories' of the derivation of meaning are possible.

Causal power, a term developed by philosopher Rom Harre, is the kind of latent power anything, tool or being possesses in its natural state. Another way to describe to this idea is the notion that objects have inherent properties, visible to the outside world. For example, the 'largeness' of a grizzly bear in comparison to other animals in its ecosystem does not need any interpretation to understand; there are no secondary steps required to sense the inherent power in size and, therefore, act accordingly by keeping away or at least being ready to confront a massive carnivore. Thus, the bear is

evolutionarily adapted to be an apex predator in the context of its own environment: this is part of its *causal power.*

Wendy Wheeler has applied this concept of *causal power* or inherent meaning to humanity and comes to the surprising conclusion that sign-making itself is what we are most adequately adapted for; thus:

> (...) the causal powers of human beings reside in their powers, of imaginative and linguistic representation, for example to inscribe and re-inscribe, and ti venture more deeply into [mythologically, artistically, scientifically], the patterns of the world (WHEELER, 2006, p. 73).

This is to say that the recycling, reimagining, and repurposing of the natural world in the form of biosigns, as performed in material culture, is indeed an indication of what humanity is all about: our inclination to transform and adapt the environment into a kind of symbolic index is what we are designed for and driven towards, in all our naked *naturalness* of humans. The results of all of this frenzied rearranging may prove unpredictable, contradictory, or even downright harmful in its long-term effects, but to imagine humanity behaving in any other manner would be to not imagine humanity at all.

This is not to deter in any way from the explosive variety of forms in which this symbolic meaning-making takes share across time and geography; the near infinite stark differences and subtle nuances between human cultures when compared is what makes the study of art, history, sociology, and anthropology possible. Though we have spoken generally and universally about humankind's 'causal power' to mess around and recreate with the *materia primei* that the environment provides, its in the unique arrangements, and the ideas about the world and our place in it (ontology) where the scope and degree of options about how to live in the world become clear.

Each individual comes into the world within the context of a certain culture or subculture, that has a teleology, value set, and lingusitic/visual vocabulary of its own (BERGER, p. 15). This corpus of contextualized cultural armour—perhaps declining in

variety due to the open floodgates of globalisation—includes the ideas about the natural world that instigate our attitudes and reactions to individual biosigns as we go through the life our own symbolically-laden biographies. We can detract from and rebel against, or uphold or reinforce the culture context of our infancy, but its influence will always be remain present in our lives, whether valued positively or in repugnance.

Another important concept to consider in the production of the semiosphere is **self-representation** or **self-reflexivity.** These presuppose a relation of autotexuality: that which represents itself or reflects on itself necessarily refers to itself doing so. Moreover, self-reflexivity presupposes a relation of self-representation: in order to "reflect on itself", the act must somehow present itself as the object of its own discourse. (HERBERT, p. 13)

In contemporary material culture this is often accompanied or achieved by a heightened, often extreme, degree of anthropomorphism and/or stylisation. Examples: Garfield or Mickey Mouse. In both cases, the raw organic material of their original design (cat and mouse, respectively) has become obfuscated to such a degree that their image no longer speaks to cat-ness or mice-ness in general. When they appear in a cultural text as image or otherwise, they mostly reinforce their own uniqueness of personality, likeness, and desired emotive response from the audience. Their behavior as it plays out in products, media, and storytelling mostly transmit content related to their instantly recognizable and idiosyncratic self-representation; any vestige of the 'natural' is less than zero.

> In traditional semiotics, as developed by Saussure, "(...) signs have two parts: a sound-image or *signifier* and a concept or *signified*; it is crucially important to understand that the relation between the *signifier* and *signified* is not natural but arbitrary and based on convention. This means the meaning of signs can change over time (BERGER, 2010, p. 5).

The dove, for example, and its association with 'peace' is an example of a historically-dependent arbitrary biosign; we could easily imagine another animal, bird, or

flower standing in for the same ideal. In spite of many seemingly arbitrary biosigns and semiotics in general, a large share of biosigns, as shown quite vividly in the case studies below, are directly connected to their *naturally*-endowed, or ecological, qualities and function.

CONSUMER CULTURE & BIOSIGNS

5.1 THE EMERGENCE OF CONSUMERISM

While the buying and selling of non-essential goods has been part of western economic practices since at least the early Ancient Periods (Greek and Roman), a very notable distinction must be drawn between the presence of a consumer class and that of *consumerism* writ large. Full-throated consumerism, as both an economic, but also social and cultural model, has only just arrived in full in the middle of the 19th century Victorian epoch, constantly and exponentially expanding ever since. It is distinct in both its level of saturation—reaching and determining the behavior of all classes—and its methods; due to the parallel emergence of mass media, as well as the study of human psychology, marketing goods and services at such a widespread, and sophisticated degree has marked modern consumerist society as something as yet unseen in human history. It's saturation into every aspect of modern and post-modern life, whether in our home life, relationships, sexual behaviors, physical and mental health, education systems, military, politics, diets, transportation means, and recreational activities is so thorough as to take on the aspects and, indeed, become a who new landscape of anxious aversion, and untamed desires. The currency of this new material and social order are the material products themselves, although increasingly it seems the actual materiality or functionality of each individual item is less important than what meaning the project 'projects' to the consumer and their social peers. The novelty of such an order—so alien and sudden, and yet so pervasive—has been compared to the 'ecologies' of the natural world:

> Objects are neither a flora nor a fauna. And yet they do indeed give the impression of a proliferating vegetation, a jungle in which the new wild man of modern times has difficulty recovering the reflexes of civilization (BAUDRILLARD, ed. 1998, p. 25).

Indeed, one cannot begin to understand the arrival of consumerism and consumer culture on the world stage, without also understanding the Industrial Revolution, which made it possible materially. Somewhat ironically however, neither event can be considered without the other; since the mass production of goods only functions so long as there are consumers ready, and with the means, to purchase them the two ‘revolutions’ must be seen together as ‘necessary analogues’ (MCKENDRICK, N.; BREWER, J.; PLUMB, J. H., p. 9). Indubitably, both transitions offered disruptions to society and material opportunities to the masses that can be explored from a multidule of economic, humanistic, environmental, psychological and political standpoints that paint both profoundly optimistic and disturbing aspects of these changes.

One major theme that emerges from an analysis of the psychology surrounding consumerism, is its heavy emphasis on the individual, as both an identity-craving psyche and nexus of purchase power and psychological hub. Indeed, it has often been noted that the pre-Industrial agrarian societies supported and depended on collectivistic, vehemently non-individualistic models of work and consumption in order to function. From this perspective, modern notions of individualism and consumerism itself can be seen to emerge co-dependently, right around the time of the Englightment:

> The simplest way to define consumer culture is that they are societies in which spending for private “needs” and desires overwhelms spending on public ones (BERGER, 2010, p. 34).

In the first half of the 20th century, the great consumer culture blossomed as, “excessiveness replaced thrift as a social value” amongst the lower and middle classes for the first ime in contemporary history (MCDONALD, M.; WEARING, S. p. 77). The

needs for continued growth in production developed ever increasing sophisticated methods of advertising and manufacturing desires for products and goods that hadn't previously existed. As is well established, the increasing banality of the workplace was paired with a new concept of leisure time which was to be filled with pastimes, entertainments, personal hobbies, and various forms of consumption; catalogs and their distribution networks facilitated this new arrangement.

As the Three Estates system of the Middle Ages began to buckle, cracking up the bone-brittle strata of fixed social identities into pieces, and reveals new fissures fecund for fresh modes of social behavior and ideas, mechanized and modalized industries were also emerging that would allow for a production (in quantity and type) of goods beyond the scope of the precedent methodologies of the individual artisan. This double-edged blade of a dying social order and a nascent high-volume production boom (along with the brutish colonial undertakings that fueled it). Left without the highly visible and universally understood hierarchical system of clerical, landed (aristocratic) and laboring classes, individuals gradually - and then suddenly - began to seek out easily attained and easily read 'semiotic' devices in the form of apparel, housewares, styles and a refinement of taste that could give them an edge in the ever-increasingly complex and confused hustle for social standings: keeping up, and surpassing, the Joneses was an imperative of the newly hatched fledgling of conspicuous and spreading material consumption:

> These characteristics — the closely stratified nature of English society, the striving for vertical social mobility, the emulative spending bred by social emulation, the compulsive power of fashion begotten by social competition—combined with the widespread ability to spend (offered by novel levels of prosperity) to produce an unprecedented propensity to consume: unprecedented in the depth in which it penetrated the lower reaches of society and unprecedented in its impact on the economy (MCKENDRICK, 1982, p.11).

The insatiable Hydra-headed appetite of consumer demands, at its most basic psychological explanation we can view it as this simple and blunt device for

distinguishing individual social standing amongst a citizenry that has lost its dependable, but no longer tenable paraphernalia, theatrics and physical apparati that distinguished serf, soldier, and saint. Each middling module of the cracked up Leviathan was now gathering together out their own tenuous semiotic wardrobe of signs that performed as a jerry-built visual language - the coats of arms were fading fast in the winds of fashion flying and heraldry hung out to dry. There's a dry irony that the merchant and middle-class rat race emerged from the expanded demands for higher wages and better treatment made possible by the decimated post-Bubonic population dearth. This new hustle to define one's place in the pecking order through consumption practices snowballs ahead with momentum of its own logical demands - since there is no end to the demand for a way to distinguish oneself amongst one's peers, novelty becomes the fuel in the engine of design to production ends and fashion is born. The 'market' was shifting in its meaning of a physical place of exchange amongst one's neighbors, to an abstract economic concept of 'expandable spending' (MCKENDRICK, 14).

The personal and the private were new values that began to develop for the first time and this also led to new ways of thinking about and acting out life in the home. Pre-industrial homes were patently spartan and their contents were equally so. The wares were functional and few, and marked by, "(...) a simplicity, an austerity, a sheer lack of possessions, which can still startle one when one reads the probate inventories" (MCKENDRICK, 27). The principles of consumerist society were quite obviously a complete about-face to frugality, austerity, and utility in both like and kind of personal possessions and this quite obviously had a transformative effect on the way owners and buyers of goods thought about their purchases, because they, in fact, now played a different psychological role.

5.1.1 THE MAIL ORDER CATALOG

At the start of 20th century, most Americans were still lively in largely rural areas; the access to the luxurious, eye-catching, and sensuous department store experiences

offered in the urban centers of Chicago, Pittsburgh, or New York, were far away from most peoples' day-to-day reality. Most purchases were done at the local general store, which functioned as a grocery, hardware, pharmacy, and simple lunchcounter, all in one compact, and limited, space. However, with the quickly spreading access to engine-powered automobile, and subsequent delivery vans and trucks, this ability was to purchase items not available locally was to change dramatically. The other changes that made this new mode of buying and selling possible arrived quickly and in tandem:

> A number of advances in industry made the dramatic growth of mail order possible: rural free delivery, started in 1896, delivered mail and catalogs directly to the houses of rural residents (who previously had to travel long distances to their post offices to collect their mail); the expansion of the railroad lowered the cost of transportation; refrigerated railroad cars made it possible to deliver perishable goods across the country; and standardized clothing sizes—developed during the Civil War for soldiers' uniforms— made it viable to sell clothing through the mail. Finally, technological advances in production made it feasible to mass produce items in the quantities required for national distribution (CHERRY, 2008, p. 11).

These catalogs, from department stores like JCPennys, Sears & Roebuck, and Montgomery Ward, arrived annually or bi-annually, bringing, for the first time, the products of cosmopolitan and suburban living into rural and semi-rural homes. It was, in fact, the very first time it could be said the country, as a whole, had a *shared material culture*. For this very reason, these catalogs offer the earliest and most comprehensive picture of national cultural values, as least as indicated by the most widespread and populist material cultural artifacts. This is not to say local culture did not continue to co-exist, in most rural "folk" forms and also urban "cosmopolitanism", but they were not the *lingua franca* of the country as a whole.

Indeed, the catalogs were so representative of the *national* cultural offerings they were even used as political propoganda against the ardently non-capitalist Communist entities. In 1946, Montgomery Ward and Sears collectively sent thousands of catalogs

to American overseas offices in hopes to influence and counter leftist state officials by showing off the material affluence and luxury of the American markets (CHERRY, R. p. 21).

5.2 FINDING MEANING IN MATERIAL CULTURE

Consumer culture has been defined as a culture, ‘organized around the consumption (of goods and leisure), rather than the production of materials and services’ (MARSHALL, 1998, p. 112-113 apud MCDONALD; WEARING, 2013 p. 8). It is problematic and dull to conclude that all previous and concurrent non-consumerist societies are simply and uniformly *organized and concerned with materials and services*, but we can improve this definition, but emphasizing what material culture *is*, rather than what it *isn’t* — because it isn’t *a lot* of things!

It's the degree to which the attainment and accumulation of objects has become the dominant driving economic, cultural (and therefore psychic) force in people’s lives. Combining this unending drive to accumulate with the dynamism of fashion allows for a material flow of objects to go through design, production, delivery and consumption, while taking on all varieties of both culturally conservative or transgressive meanings; all the while, functioning on both a collective (social) and personal (private) level.

Since consumer culture and its transmission is heavily reliant on the visual for its modus operandi to interact with potential consumers, it is no surprise that semiotics and its counterpart biosemiotics are easily employed as interpretative models to “get at” the objects of consumption and see what messages, cogent and subliminal, live behind such products. Featherstone has coined the term *aestheticisation* to describe the degree of pervasiveness by which consumer culture has come to rely on, transmit and reproduce images and visual signs that permeate our everyday lives. (In: MCDONALD, 11). Therefore, visual analysis is general arena in which consumer culture (including the use of biosemiotics) is most readily accessible.

The visual objects and products themselves have been approached analytically primarily through the *cultural studies* and *critical studies* approaches. The former

emphasizing material culture's communicative and meaning-making properties, while the later takes a more ardently critical focus of the unequal power dynamics that produce and facilitate objects and their role in maintaining hierarchical social structures.

With the introduction of a representative biosemiotic device we can demonstrate both approaches when applied to the same object:

Figure 27: This rabbit-themed doll could be analyzed both *culturally* and *critically*
Soure: Sears Wishbook, 1985, p. 490

For example, a *cultural studies* approach to the above doll might explore questions about how the design of the product makes it appealing to young girls: *What about the product itself, color, textures, visuals, communicate to the purchaser?* It might also ask questions about the interplay between the rabbit-themed clothing, the baby figure, and the intended child consumer: *What cultural pedigree makes the rabbit-theme communicable and meaningful?* And, from a historical approach, it might ask questions regarding the manufacture of doll-making at this particular moment in American history:

What was the social and cultural value of product like this at this point in consumer history?

A *critical studies* approach however would be much more interested in the effects that such a product has on the psyche and social structure of the intended target: *What is the rationale for a young girl to play with a baby doll in general? What kind of impact does that have on the child's psychological development and on the value sets of the culture writ large?* Perhaps, it would also interrogate the intentions of the manufacturer, the catalog publishers, and even the parents purchasing the product: *Are their motives to influence the child's consciousness and sense of identity intentional or are they themselves being victimized by the meta-narrative that places the burden of caregiver at the feet of a young girl from such an early age?*

One thing that must remain very clear is that neither reading, *cultural* or *critical*, are mutually exclusive and, in fact, they should used be used in tandem whenever possible, as they will likely only enrich the analysis overall; this project has certainly attempted to take such a mutually-beneficial approach.

While the first major wave of consumer cultural fluorescence occurred alongside the demise of the pre-Modern social categories, as speculative financial markets became increasingly tied to profit-driven corporate enterprises, the need for continued growth required an insatiable hunger for consumption. The mere desire for nuanced social distinction by means of fashion, housewares and accessories achieved a new level of velocity and insatiability as manufacturers took on the task of scientifically producing desire for new products in the psyches of their target consumers:

> The citizen had to be taught to become a consumer by learning how to express and satisfy long-suppressed desires, to seek out new pleasures, to spend now and save later. This process was facilitated in the early part of the twentieth century by the US government in conjunction with high-profile psychologists such as Edward Bernays, and some of the country's largest corporations (MCDONALD, 2013, p.10).

In order to understand how a potential consumer would engage with the material of these department store catalogs, it is important to understand some key concepts developed by consumer behavior psychologists, generally for the purposes of effective marketing itself.

Despite the feeling that we mostly make product purchases based on our personal tastes, backgrounds, likes and dislikes, all the research points in another direction. The two single greatest influences on consumer choice are *word of mouth* (personally exchanged information from peer-to-peer) and *observation* of their peer group (seeing what other's purchase) (LE BON, CAROLINE, *Fashion Marketing*, p. 47-53). What this means, is that our consumer identity is very much a product of how what believe or what others to see or feel in regards to ourselves, and also how we feel about other: in other words, it is a *social* behavior and must be studied as such. Because of this, it makes it a wonderfully rich resource for exploring socially-embedded value and attitudes (in this case, regarding the natural world); consumers are, in essence, purchasing their products collectively in a socially-reflective hall of infinity mirrors rather than as individually isolated decisions.

Because consumption is largely a series of disconnected, moment-to-moment self-storytelling, it becomes clear how personal choices regarding individual purchases, might be contradictory in style, character, values, or lifestyle orientation. The fractured, schizophrenic consumption behavior crosses over into our attitudes and ideas about the natural world, which seems to be, as a rule, a murky mixture of adoration, flippancy, and expediency:

> It is important to add that our training in the skillis of modernist detachment and objectification is contextual, as illustrated by the professional logger who privately cares for his garden or the industrial butcher who privately cares for his dog. This efficacy of modernity in unleashing wholesale transformations in human-environmental relations lies in the creation of a spectrum of highly specialized occupations, each emphasizing its own specific application of objectification and detachment, so that the total impact of modern society is unrestricted by moral concerns, while each individual is able to maintain, by and large, a moral identity (HORNBURG, 2013, In: HARVEY, p. 247).

This realisation that contemporary consumers are generally inconsistent in their efforts at ‘self-realization’ and ‘self-identity’ through consumption gets to the heart of the original question poses by the project, namely: *How can individuals claim to commemorate and yet practically denigrate the natural world simultaneously?* Now we can see that the psychology of consumption is purposeful and forthright in its efforts to create splintered, disconnected moments of consumption that don’t necessarily form a cohesive whole in terms of values, beliefs, or tastes.

With the bellow of coughing smokestacks, overheating combines regurgitating sparks into the air, and poisoned sidewalks paving a new industrial *Umwelt* for a large chunk of humanity, it’s easy to over-emphasize the depth and degree of this ontological turn towards a fully man-made environment. From the *Hard Times* of Dickens to the *Concrete Jungle* of Upton Sinclair, the sight of Charlie Chaplin literally becoming the cog in the wheel, or Antonioni making factories vividly threaten and domineer a new void landscape in *Red Desert*; it was forgivable to portray and interpret this over-mechanization and complete redesign of the physical space as a total break with the past; as an sensorily and culturally extraterrestrial setting when compared to the relatively bucolic, verdant and wildly organic spaces humans had dealt with before. Despite the dramatic and rapid transformation of greenspaces into fully architectural affairs in less then a few centuries, the cultural, ecological and ontological antecedents have left their remnants behind that appear in the form of the abundant biosemiotics in our everyday lives. This reality is generally underappreciated or downright ignored, simply for the fact that so much emphasis in the suppositional historical narrative is placed on the “break” with the past and characteristically binary analysis that pits *nature* against *modernity*. Fortunately, it's not so simple.

Historiography’s tendency is to over exaggerate fissures and downplay continuity, as if the clearly numerated, chronological chapters of a crisply edited novel were a better format than the topsy-turvy oozing dialectic of a Joycean narrative that comes out in stops and fits. Drawing lines in the sand of the desert of history is attractive to our

organizational needs, but a poor reflection of the unraveling of history itself, which would be something more like attempting to draw a line in a swamp. The use of clear-cut epistemological and ontological breaks as historical events — The French Revolution, the Columbian Exchange, the taming of the Nile, the arrival of the Internet — don't happen overnight, but are part of the leaps and bounds and seeping transitions often happening long before and felt long after the 'events' themselves transpire. The short individual lives of common people situated within the expansive *long durre* of history may or may not be impacted by these monumental disruptions at the time of their occurrence, and certainly to varying degrees.

We can see the historico-social treatment and conceptual framing of western versus non-western attitudes and beliefs toward the natural world as a prime example of a largely unimaginative oversimplification and explanation that obfuscates as much as it illuminates. Within the pages of archaeological and anthropological texts its has become an almost unquestioned truth that the *western* world is largely confined to an acutely utilitarian and exploitative stance towards nature, meanwhile *non-western* cultures (including those indigenous to the american continents) have developed and maintained a nuanced, respective, intersubjective, and therefore ontologically and ecologically valid, approach to their environment.

HISTORY AND BIOSEMIOTICS IN CONSUMER GOODS

6.1 IMAGE ANALYSIS AS HISTORY

This chapter represents the cumulative quantitative and qualitative analysis of the visual material under review; from each of the three catalogs' databases (which represent thousands of individual cases of *semiotized* biomotifs) it highlights key trends and outliers in each catalog, and justifies, using data, the purpose of choosing such historically 'representative' biomotifs that somehow came to 'define an era' in 20th century American political and cultural history.

Each of the three catalogs' epochs is notable, respectively by a meta-theme represented by a particular abundance of particular biosign; in 1955 a *Mythologizing Nostalgia* as epitomized by an over-abundant use of leather products as a stand-in for the 'West; *Political Symbolism* in 1970 is subversively represented by the multiple meanings embedded in the proliferation of the *flower power* motif; and finally a *Futurist Fetish* dominates 1985 with the mechanisation of biomotifs in the form of robotic forms, within the context of the on-going Cold War.

All three of these thematic monikers are justified by way of data analysis: comparing the frequencies of the selected motifs between decades demonstrates their idiosyncratic presence in the specific historical moment. Some key examples of the images themselves are then treated to formal semiotic analytical tools (the veridictory square, tensive model, etc), which pulls back the curtain on how the original biosemiotics are being repurposed, or re-valued, in these material cultural products. The broader concepts regarding how material culture's meaning-making takes place at the levels of intentionality (design) or below consciousness ('hard-wired' responses) are discussed in detail in the previous theoretical sections.

Besides formal semiotics, other visual analysis methodologies are applied, including questions regarding the relationships of meaning between the product's site of production, intended target, and the wider possibilities regarding how the specific product's messaging would continue after purchase, in the context of the home and family, for example.

Finally, as indicated by the titled 'themes' for each epoch mentioned above, the political, cultural, and storytelling implications of each representative family of biomotifs are brought into a wider historical context: What was the historical reality within which these particular images would have transmitted their particular values and messaging?

The non-arbitrariness of visual motifs, especially from the natural world, is emphasized. Each biomotif comes into play with multiple millenniums of previous meaning-making in the cultural vocabulary, making each ripe for its use as convention (traditional readings) or subversion (inverting the traditional reading in some way); the

biosigns analyzed here represent both kinds of performances. Candidly, the historical analysis here is intended to be representative of the historicity of broad political and cultural trends in the United States, within the context of the burgeoning consumer class, and therefore, leaves many important segments of society, as well as the rest of the international scenario, humbly outside its purview.

Before this quartet of data, semiotic, visual, and historical analytical methods are undertaken in each of the three datasets, an explanation of the data collection process and unique labelling system is necessary to clarify the organisation of the analysis itself.

6.2 METHODOLOGY AND DATA COLLECTION

The categorisation, organizational sequencing, and definitions used to characterize each specific biosign within the scope of the catalog images is non-taxonomic in character; meaning it does not follow a strictly or even generalized bioevolutionarily-based structure. Because this is a analysis of cultural scope the categorisation has been done at the cultural level, i.e. approached from the standpoint of a general cultural understanding of how the individual biosemiotic references fit together in their visual associations. It is strictly non-scientific or biological in sequence.

Somewhat akin to the idealized forms of Plato's world beyond our world, human psychology tends to make references to categories and examples in a way that does not always accord with the *hard facts* but with a cultural shorthand based in narrative references. These provide clues regarding our inner cultural psychology view of way the world is, more than it’s measurable dimensions. In this way we can approach the cultural use of biosemiotics as subsets of *structured gestalts*—for example birds, fish, farm animals, cute animals, scary animals, pets or the very exotic—that may have little or no analogy, strictly speaking, to linnean taxonomic or genetically-based genealogies of lifeforms (LAKOFF, G; JOHNSON, M. 1980). This cultural projection onto the natural world becomes even more problematic when we go beyond organisms to include natural concepts like waves, the Moon, stars, waterfalls, silver and gold, or rainbows. These ideas and their real-world counterparts carry enormous cultural and

psychological potency, but become very difficult to categorize in a tidy taxonomy of logical associations. For all of these reasons the databases here are organized, to the best degree possible, along a broadly recognizable culturally embedded hierarchy or 'web' of associations. It's an organizational model that would surely drive any evolutionary biologist running for the nearest exit in this theater of value-strewn associations.

Another way of approaching this concept of cultural categories is via the concept of the prototype or the example *par excellence*; a single example that broadly represents a whole category. Again, making reference to the platonic forms we can easily think of the basic chair: probably simple, wooden, and unadorned; neither ancient nor modern; it may not exist in the tangible world, but seems to check all the boxes required for chair-ness. This use of the prototypical is clearly at play when humans confront, categorize, and repurpose elements from the natural world. Lakoff and Johnson provider an example of both *par excellence* and *strictly speaking* members of classes with the bird family:

> *Par excellence:* this picks out prototypical members of a category. For example a robin is a bird par excellence, but chickens, ostriches, and penguins are not birds par excellent.
>
> *Strictly speaking*: This picks out the nonprototypical cases that ordinarily fall within the category. Strictly speaking, chickens, ostriches, and penguins are birds even though they are not birds par excellence. Sharks, blowfish, catfish, and goldfish are not fish par excellence, but they are fish, strictly speaking (LAKOFF; JOHNSON, 1980, p. 123).

With this in mind we can see why the duck-billed platypus, the hippopotamus, the jellyfish, lichen, sea anemones, and carnivorous plants become not just zoomorphic, but cultural pariahs. We find them intriguing, somewhat disturbing, but not permissible into any of our culturally-useful categories as such.

Hopefully with the concept of cultural, rather than scientific-based, biosign categories in mind the sequencing and organizational model of the image data shouldn't cause too much confusion. It has been constructed with general public, high school-level knowledge of the natural world in mind, so rather than approaching bioscience at the level of the species (Siberian tiger as distinguished from Bengal tiger, etc), it always defers to the broader cultural category : in this case, simply tiger. It also tends to adopt any cross-environmental referencing often used culturally, so marine mammals like whales and dolphins will be found adjacent to other marine life and not strictly alongside their more technically closer mammalian cousins. The level of science-based distinction becomes even less clear at the level of floral patterns, house plants, and generalized forms such as bird or fish, and that has been indicated as such in the database using terms such as bird *generalized* or flowers *unidentified*. Certainly not because the identification isn't possible but to indicate that degree of identification is largely outside of the scope of the general cultural knowledge and therefore it's understood that the creators of the images and product catalog would likely have understood that their audience's interpretation of such images would be generalized as such.

Lakoff and Johnson (1980) point out that categories are open-ended and, indeed, as we can see just through these three catalogs of images, the ebb and flow of categories seem to indicate that modern consumer society change cultural categorization of the natural world in the mode of fashions overtime. Some biosigns present in the 1985 catalog, such as the Smurfs or Glowworms, would have likely been shocking or unrecognizable in the 1955; as knowledge increases or certain bio semiotic signs lose or take on new values though historical channels, organizational models change. This is one of the key ideas—the idea of unfixed cultural biosemiotics—that this project hopes to highlight and better understand.

6.2.1 TERMS AND THEIR MEANINGS

The **forms** that the biosigns take are described as either figures/figurines (FIG), ornaments (ORN), fabrics (FAB), scenery (SC), or illustration (IL). Each of these is briefly described below, along with an example from the catalogs.

1. Figure (FIG): A three-dimensional representation of the biosign in question.
   Example: dolls, figurines, or action figures

Figure 28: These assorted animal dolls are *figures 'par excellence'*; this page features realistic, stylized, and anthropomorphized figures of dogs, cats, cows, lambs, bears, tigers, monkeys, and even a laughing skunk.
Source: 1955 Spiegel Christmas Catalog, p. 192

2. Illustration (IL): A two-dimensional representation of the biosign, often printed onto the product.
   Example: book covers, etched glass, wood carving, etc.

Figure 29: This glassware features *illustrations* ducks, pheasants, partridges and other "game" birds. These biosigns add class distinction, as bird-hunting is closely associated with landed aristocracy in the cultural consciousness.
Source: 1970 Pennys Christmas Catalog, p. 165

3. Ornamentation (ORN): A three-dimensional image that is attached to another primary product; it is a cross between a figure and an illustration.

   Example: A button on clothing, a sculpted figure atop a cookware lid, etc.

Figure 30: These three-dimensional butterflies that adorn the hairbrushes are neither illustrated nor stand-alone figurines, hence their classification as *ornaments.*
Source: 1985 Sears Wishbook, p. 140

4. Scenery (SC): These are biosigns that appear within the setting that pictures themselves of the catalog are taken. They are not the products being sold, but part of the surroundings in which the products are displayed.

   Example: A winter landscape with models in winter clothes, a fireplace in the living room in which a photo of children playing with toys is taken, etc.

Figure 31: The wood-panelled furniture in this image is considered part of the *setting*, since its not part of the product itself, but uses a biosign in the environment in which the product is displayed.
Source: 1985 Sears Wish Book, p. 282

5. Fabric (FAB): This is the material out of which a product is made. It is therefore generally not representational or figurative, but connotive of the biosign through the textural, visual or sensory experience.

   Example: A leather wallet, calfskin gloves, a wooden dining table set, etc.

Figure 32: The rabbit-fur lined hood, mittens, and muff are biosign *fabric par excellence,* while the gemstones are classified as *ornaments*
Source: 1970 Pennys Christmas Catalog, p. 118

6.2.2 STYLE AND REALISM

Any analysis of visual material, either *critical* or *compositional* in approach, will include some inevitable degree of interpretively subjective grey areas—afterall, images are qualitative in many ways that are not always translatable to measurable quantities, or not worth the effort to do so. However, the defining and applying of a robust interpretive model to the degree that is feasible or in-line with the objectives of the project should be utilized to lend an interpretive consistency and legibility to the project's conclusions. This project's interpretive methodological regime relies heavily on the visual methodology as well as more specifically semiotic interpretive devices.

Jillian Rose (2001) has helped those interpreting visual resources by making a very clear and important distinction between *compositional interpretation* or rather, "the attempt to look at images for 'what they are', rather than for, say, on what they do or how they work at are used", versus a *critical interpretation* which tends to focus on the reception, meaning and visualized content of the image, all in relation to its production and intended audience.

Due to the sheer amount of images under consideration in this project which includes more than 1,375 pages, each with between 5-10 distinct merchandising images for a grand total of over 5,000 tallied images, each offering the possibility of its own compositional and critical exploration. Individual compositional elements will be acknowledged only when they fall outside the realm of realistic betrayals and be considered and classified as a stylized version of the original biosemiotic source material. In that sense, it is key to understand how style is formally dictated:

> 'Style' is a vague word of uncertain definition and many, rather disparate, uses. Finding a use for it in the anthropology of material culture might be considered a waste of effort, were it not, in fact, so pervasive, at least as a mode of classification. As it is, we are routinely accustomed to classifying objects as sharing, or not sharing, stylistic attributes with one another. But exactly what is shared (or not shared) in such instances is much harder to access. Moreover, we are inclined to believe that what objects with shared stylistic attributes have in

> common, is not just some formal, external, property, but something integral to their standing expressions of 'the culture' in the wider sense; common stylistic attributes shared by artifacts are associated, via a basic scheme transfer, with shared 'cultural values' in a community (GELL, 1998, p. 155-156).

There are two main points to consider here: firstly, that the quality of *style* that begs the denomination of *stylization* when characterizing any object is rather vague. There are no clear cut guidelines for this determining process, and it must be stated clearly that a large degree of subjectivity entered into this slippery topology. As a general rule, the following standard was used: if it appears that the aim of the rendering was something other than a 'realistic' portrayal of the original bioform then it was considered to be *stylized* and classified as such.

The second important takeaway from Gell's explanation of style is that it is culturally-imbedded; 'styles' come to be recognized by their consistently appearance traits, generally found within a certain cultural milieu. When considered as such, it would be natural to assume they can and do reflect some kind of culturally-prescient value or mode of expression, whether it be superficial or significant, fleeting or hereditary. Because this study is explicitly confined to the North American mid and late 20the century mass consumer culture-scape it doesn't allow for any in-depth comparison with other, parallel models of stylized representations of the natural world, but the possibility of such a project is rich in its potential implications.

Figure 33: This "owl-motif" cutting board uses just the barest elements needed to convey the essence of owlness; it would therefore be classified as highly *stylized.*
Source: 1970 Pennys Christmas Catalog, p. 189

Apart from the geographically-bound cultural constructs, style should show some variation over time, within a singular cultural unit, and that, in fact, is permitted (however limited in scope and data) by the fact that this analysis of data extends over the course of thirty years. There is some variation in the levels of stylization saturation that permeate the material between the decades.

Although the catalog doesn't offer a full scope in time and quantity there are also some interesting instances of such stylized morphologies, such as the changes to the physiognomy of Disney characters as mentioned previous. However, the constant presence of nostalgia in the popular material culture haunts these catalogs like a stubborn spectral shadow of antiquated imagery that muddles the picture of historical analysis. Simply monitoring the changes to styles or numerations of style present won't offer an accurate portrayal of the cultural changes; the dialectical invasion of nostalgia, backwards-looking appearances in the material cultural record allows us to gage a society's preoccupation with its past self, but interferes with a clearer picture of what was genuinely considered 'cutting edge' at the time. We can also make the inference that nostalgia levels speak to the encoded conservative, perhaps perceived-to-be-threatened, social values that the images themselves invoke; it is not simply an admiration for old-fashioned visual motifs, but what social world these images themselves were developed in.

In regards to social attitudes towards the natural and degrees of abstraction in its representation, it would be forgivable and quite logical to assume that the 'closer' and more consistent day-to-day interactions a society has with the non-human organic world, the more likely it would be to both be able to and inclined to portray it with some degree of naturalism. However, the data paints a more complex picture and doesn't support the knee jerk assumption.

When looking through the archaeological and anthropological cultural material data we find highly stylized, abstract portrayals of bioforms in many cultural settings that would be considered to have a high degree of firsthand contact and co-habitance with the larger ecological milieu; the examples of the extremely stylized Maya and Incan

representations of biosigns are quite widely known. What this seems to suggest is that there is no universal law governing a society's degree of abstraction towards portrayals of the natural and its degree of phenomenological engagement.

Despite the inherent challenges of subjectivity when one is determining the degree of either *stylisation* or *anthropomorphism* (see below) of a given figure, some formal semiotic tools can certainly help. The *tensive model* particularly, offers some degree of guidance to avoid total arbitrariness with determining degrees of qualities.

> In the tensive model, any given value is constituted by combing two "valencies" (dimensions): intensity and extent (range). Extent is the range over which intensity apples: it corresponds to quantity, variety, and the spatial or temporal range of penomena (HERBERT, 2020, p. 63).

Likewise any degree of anthropomorphism will be designated as such and signaled with the letter A in the database. in this study anthropomorphic is applied broadly to mean any alteration or in design, color, or the addition of accoutrements, otherwise unnatural, that mark a biosign out as more human-like then a strightforwardly naturalistically representative attempt would demand.

6.2 APPROACHING THE MATERIAL AS HISTORY

As Gillian Rose (2001, p. 16) has made clear, researchers engaged in visual culture interpretations usually acknowledge three distinct *modalities* or *sites* at which an image must be engaged to be holistically dealt with: 1) *Production* - Who or what institution manufactured the image and with what purpose? 2) *Image* - What are the contents and arrangement of the image itself?, and finally 3) *Audience* - What groups or individuals are consuming the image and to what purpose? We could expand this shortlist by adding the secondary image interaction of the researchers themselves, as active observers who will naturally will bring their own perspectives and biases to the dialectic. Ideally, this unavoidable layer of self-awareness would likely be mentioned,

explored, if not simply tacitly understood in any seriously critical — or postmodernist if you like — engagement with visual or material culture.

However for the sake of this particular undertaking—which is meant to reveal historical tendencies, rather than hyper-critical reflections— we will generally focus on the interplay of the three aforementioned image modalities, plus the biosemiotic sign elements which, although used in the catalog images and products, have inherent and ecologically-developed ‘meanings’ all of their own in their organic contexts.

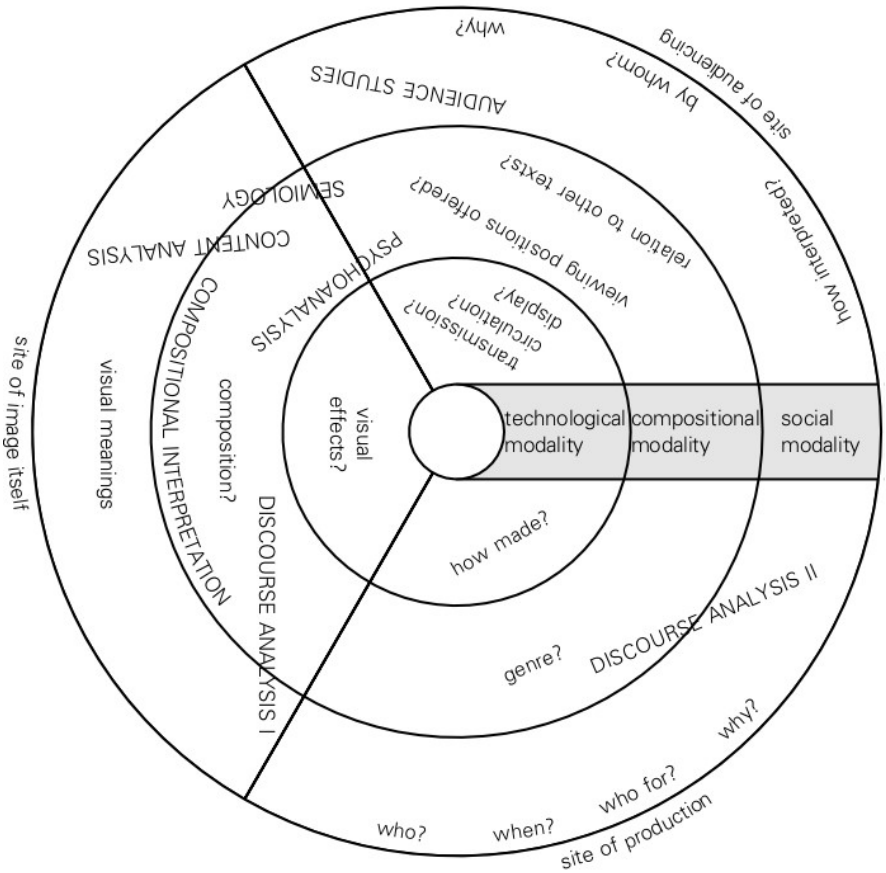


Figure 33: Map of modalities for visual interpretations
Source: Gillian Rose’s *Visual Methodologies,* p. 30

6.3.3 DEFINING RELEVANT CONTENT

Of the three modalities, this project definitely emphasizes the site of the *audience* or consumer of the products; because the interpretive goal of the study is to link changes over time in choices and tastes of material culture to larger, social-wide *attitudes* towards nature and its motifs, the final destination of the image, the socially-situated *individual* gets most attention here. That is not to say the consumer isn't inexorably limited, restricted, pressured, and led to purchase from the highly curated and filtered selection of products and value-laden symbols they represent. This is certainly true and cannot be refuted, and is more fully addressed in the previous section on the birth of the consumer culture and the ascendancy of the model department store and its promoters. However, even within the suffocating confines of the 'goods on display' some personal agency is at play in how purchasing decisions are made, that both reflect and inform individually-felt, but socially-situated emotions like nostalgia, idealism, and expectations, all three of which will be highlighted below.

Social psychologists have defined two key agents of change that can be seen to have major effects on attitudes within the larger population: *cohort* and *period* effects; both will be used in the following case studies (HERBERLEIN, 2012, p. 35). Cohort change refers to the fact that most people, generally 'go with the flow' or follow the crowd. Once a certain critical mass adopts a certain attitude—once it becomes main*stream* (other hydrological analogy)—its becomes so widespread that a divergent attitudinal position becomes a rarity, if not downright rebellious.

When we address concepts like fads, fashions, social conventions, 'common' sense or consensus, and mainstream anything we are within the wheelhouse of cohort changes. In terms of attitudes towards nature generally, we can see this play out quite dramatically in the seemingly sudden effervescence of environmental concerns and discussion that appeared in the 1970s and 80s; topics, terms, opinions, and conceptual framing regarding the non-human built world that would have been essentially inconceivable in only the previous generation. It is not as if there weren't some intellectuals, artists, and academics engaged with ecological ideas; in fact some, like John Muir, Henry David Thoreau, and even Theodore Roosevelt (whose balance sheet

for stewardship versus bellicosity towards the natural is open for debate) had already built reputations as voices advocating for ‘the natural’. However, a true cohort change had not yet occurred that would allow, and eventually force, nearly every man on the street to have a clearly developed, if not at least considered, attitudinal position towards these issues ‘of the day’.

The second analytical framing on collective attitudes focuses on period effects; or, the influence of specific events. True enough, cohort effects almost inevitably are linked to catalytic, attitude-changing events: either directly experienced (such as a major oil spill that devastates a region’s economy) or secondarily as a work of material culture (the individual ideas or experiences of single person are disseminated through the means of media; i.e. Thoreau’s ‘Walden’ or Seilberg’s ‘Jaws’). These events’ impact, however, are not always immediately felt and adopted as attitudinal changes throughout a larger population, hence the helpfulness to distinguish between cohort and period agents of change.

By choosing to use the data sets from three department store catalogs with more than a decade of dynamic national, political, and cultural history between them each, it was hoped that the influence of period effects — those directly tied to widely experienced and significant in impact — would be registered in the use of biosemiotics, and be recognizable as such; and certainly that has been the case.

THE CASE STUDIES

7.1 1955: MYTHOLOGIZING NOSTALGIA: THE PROTECTIVE EFFECTS OF LEATHER

If one collective narrative-making theme runs throughout the 1955 Spiegel Christmas department store catalog it is a visual vocabulary paying homage to and visually re-imaging the body of historical and cultural ideas collectively known as the West, or Wild West. This takes the form of housewares, furniture, and fashion, but is especially found in the form of products and toys geared towards children, especially

young boys. If we are to understand the role that toys play in the development of self image within an identity-building process that includes gender, values, race and a budding sense of nationalism, these products have profound indications about their appearance in the marketplace at this particular time in U.S. history.

Many biosigns have out-sized roles in the semiotic vocabulary of the West mythos: principally, wood and wood-grained products that harken back to an era of rusticity and ready-at-hand ingenuity, ranch animals *par excellence* including cows and horse (which interestingly are almost never shown anthropomorphized or heavily stylized, but always with an emphasis on realism), and finally, leather goods, in a wide range of forms. This section uses leather products (derived mostly from cow, but also an occasional pigskin, muleskin, or lambskin product) as the primary biosign of the era, for both its apparent abundance within the images of the catalog, but also for its special role as a stand-in, misleadingly subtle at that, for the body if imagery that elicits responses in the public surrounding the West and its associated set of values, real or imagined.

There are 42 pages of products in the 1955 catalog featuring leather products, sometimes many dozens of products on the same page, that account for 11.7% of the entire catalog offerings. If we jump ahead to the 1970 and 1985 catalogs we find the frequency of leather products greatly diminished, at 6.9% (1970) and 7.4% (1985) respectively. Of course, an argument could be made for the practical aspects of manufacturing with leather and changes to the supply side that may have contributed to this decline in use, but when we begin to look at the thematic underpinnings of the products at offer, it is easy to see this was most often a question of premeditated choice rather than a mere aspect of material demands.

In fact, the historical mythologizing of these products are quite literally written out in much of the copy and product descriptions that accompany the illustrations themselves. Here, for example, a set of children’s slippers is advertised as being composed of rough leather just like the ‘buffalo hide’ historical frontiersman Buffalo Bill would have used; not only is the product directly connected to the West ethos, but even

to a specific person who participated, very violently, in that process of western expansion and displacement.

Figure 34. *"...rough, frontier finished…..'buffalo skin'"*
Source: Spiegel's 1955 catalog, p. 100

The literary mythologising of the American West has a history quite literally as long as the concept of the western frontier has existed. Fictional literary figures like Deadwood Dick and Calamity Jane featured in aventurous dime-novels following on the heels of books portraying actual, albeit exaggerated, exploits of historical figures like backwoodsman Kit Carson since the mid-1800s (SMITH, H.S., 1950).

At the final stretch of the receding historicity of Western expansion lies 'Buffalo Bill' (William Frederick Cody) himself; he had a died a full 38 years before this catalog was published, but perfectly encapsulates this transition between the brutal realities of the colonisation of the western continent and its transition into a form of entertainment, fashions, and an often highly sanitized form of national storytelling. He began his life as

a soldier in the Civil War, taking his military manouvers into the Indian Territories, most famously becoming a legendarily prolific buffalo slayers; at the time the population of bison had been reduced to less than a thousand from upwards of 50,000,000 just a century before. This celebrated buffalo killing was considered an essential part of the colonisation process, not just to remove the animals from swathes of potential farm land, but also to ‘starve out’ the Native tribes of the Great Plains whose society and sustenance depended on this key species. In this sense, Will Cody was championed as a hero of the American cause of Manifest Destiny and took this newfound fame to the bank in the form of his travelling, ringside shows of horseback riding and storytelling; the Cowboy as popular entertainer had been born. And also a national celebrity whose status, as we see hear, would continue to sell products and ideas about American history long after his life had ended.

But why exactly would these images, and in this case, materiality and texture of leather, that symbolise the Old West make their appeals so strongly in 1955? Pasrtially it can be linked to the steady urbanisation that country was undergoing: in 1950 census more than 64% of the entire population was experiencing city iving, with likely little or no regular access to ‘natural’ environments, but in the years represented by the decades of the classic ‘Old West’ that percentage was only 25-35% (between 1870-1890), so clearly a major and rather sudden change, not experienced directly, but generationally. It’s not far-fetched to imagine that many newly urbanised or suburbanised citizens had a sense that some essential connectivity with the beauty, cleanliness, and innate awe towards the landscape had been lost, and perhaps remembered anecdotally as an old family farm, hunting and fishing trips, or just glimpses of a wilderness seen from a window on a train travelling between cities.

This year, 1955, also marks the moment more than half of the U.S. households had television sets for the first time (AVILA, E. p. 103). The need for cheaply produced content that could capture the eager public’s attention easily and transmit a meaningful visual vocabulary was reaching a fever pitch. The western genre, chalk-full of familiar motifs, easily identifiable archetypical heroes and villains, and mass produced on

reusable, cookie-cutter backlot sets was a natural choice for television and B-movie studios, mosty based in the desert-like scenery of Southern California.

However, aside from this ‘back to the land’ factor of environmental nostalgia, the most likely explanation for the pervasiveness of the cowboy and the West’s prevasiveness in this era, is the the imagery’s powerful ability to upkeep and glamorize the social status quo. The value-laden ideas of individuality (as opposed to collectivity), ruggedness (as opposed to cosmopolitan), white (as opposed to black), European (as opposed to Native American), Christian (as opposed to Jewish), masculine (as opposed to feminine), and violent (as opposed to passive or diplomatic) are all transmitted via the cowboy and his milieu in a direct, distilled, entertaining, and familiar image. Indeed, a great part of the Western genre’s staying power is indeed its formulaic, repetitive motifs, which have become so collectively codififed that their underlying politcal and socially proscriptive function often gets ignored or erased in the sense of comfortable familiarity. While many popular film productions in the late 50s, 60s and 70s did begin to confront and challenge some of the historical and cultural assumptions within the western genre, in the year 1955, the genre’s role as a de facto stand-in for the entrenched status quo was firmly in place.

Matthew Costello encapsulates the positioning of the West’s imagery as a semiotic bulwark against a host of newly imagined or real threats to the status quo during this period:

> While the 1950s have often been characterized as an age of conformity, recent historical studies have revealed that the decade was a period of political, economic, and cultural ferment. The early cold war (1947–1963) was an era of social change, with an emerging postindustrial economy, new planned communities, and the rise of a national security state of unprecedented power and scope. Within this context of change a new politics of group interests emerged, including the civil rights movement, a politics of gender, and early signs of a youth movement. Amid this social and political change, citizens, government, business, and cultural agents attempted desperately to cling to some form of consensus. Cast in a variety of contexts—ideological, economic, and

> cultural—the key element of this consensus was a vision of American moral exceptionalism, sustained by unparalleled consumer power, uniting Americans against the extremist forces of communism and fascism. It described a community of white, middle-class, two-parent families with faith in the virtue of their leaders and the moral superiority of a free market. They were united by a mission of moral progress, defined primarily as the export of America's free-market, individualist ideology
> (COSTELLO In: ROLLINS, O'CONNER, 2005, p 175).

7.1.1 SEMIOTIC ANALYSIS

The image offers us a rich example of how the Western mythology is casually infantilised; transforming a history riddled with violence into a visual vocabulary of play. The application of the semiotic *operations of transformation* can be used to investigate how this effect is produced (p. 21; Handbook of Semiotics).

Figure 35: *"Close your eyes, Let's pretend."*
Source: Spiegel's 1955 catalog, p. 169

The tagline here itself, "*Close your eyes. Let's pretend"*, is full of the kind of ambiguity that allows for such transfers of values to be hidden from immediate view, yet fully displayed; The command to 'close your eyes' here has little to do with visuality—in fact, the costumes and fantasy items being offered here don't work with one's eyes

closed—but seems to implicate a closing up or turning off of one's critical consciousness; a matter of see no evil, hear no evil. Let's see how this is done.

Firstly, the children are clearly inserted into the roles typically held by adults: Annie Oakley, indeed, was a historical figure, a performer in Buffalo Bill's shows in fact. The simple replacement of age inappropriate persons is an example, semiotically, of *simple displacement*; this has the immediate effect of infantilising or turning the violence shown my gun wielding children as something 'playful' or age appropriate. It's interesting to note how only the boy is shown in a state of active violence with his gun drawn and grimacing facial expression. The young girls, meanwhile, are armed as well, but never it a state of using their weapons, they are passive role players in this fantasy.

Another operation of transformation, *increase*, is used here to further fantasize or stylize the retinue of Western products and make them more approachable; to minimize their violence. The colors, bright oranges, reds, blues, and roses, are playful and joyful; meanwhile the fabrics are exaggerated in their cuts, wide-legged chaps, and decorative fringes. These details emphasize fantasy and theatricality over historicity. However, the continued use of leather, real or faux, keeps all of these items firmly entrenched in the visual vocabulary of the Western body of ethos.

Figure 36: *King of the Wild Frontier*
Source: Spiegel's 1955 catalog, p. 98

7.2.2 IMAGE ANALYSIS

This image brings together the visual meanings of the frontiersman costume for children, the idea of the settler's encampment, and the illustrated background of the protected suburban lawn to tell a vivid, complex visual story of the 'frontier', both historical and contemporary.

Davy Crockett, another historical figure with a mythologised biography, had become the wildly popular central figure of a Walt Disney television series in rotation at this time. Besides his outdoorsman-like escapades of trapping, trekking, and the idea that he 'kill't him a b'ar when we was only three', it is important to remember the historical Crockett's role as a soldier in the Battle of the Alamo. This was a major military loss for the Americans in their invasion of Mexico's sovereignty and was still in the process of being reimagined and portrayed as a heroic, sacrificial sanguine tragedy, so as to downplay or obfuscate the purpose and presence of American homesteaders and soldiers in foreign territory. In 1955, the justifications for the Mexican-American War (1846-48) were already highly questionable and controversial, so figures like Davy Crockett could offer determined heroism as a kind of brawny jingoism that appealed to the collective American apologists.

In this image, the child, in the guise of the ever-vigilant scout, is placed in the context of the 'Old West' (defening against vengeful Indians or wild animals), but also within the conext of the 'New West' (a suburban, fenced-in lawn in a patently all-white neighborhood), quite possibly in the new track housing developments of Southern California, Arizona, or New Mexico. Therefore, quite literally, this image uses the visual vocabulary of the Old West mythology to comment on the living situation of the suburban refuge of 'open land' protected from the urban residents (black, Latino, or the working poor). The little scout in already defending his middle class family's claim to this land, with a rifle in hand.

7.1.3 HISTORICAL ANALYSIS

This image leads up conclusively to the real meaning behind the adoption of the Cowboy and the West in general during this time of overdriven conservatism in the

1950s. At the front of ideological politics the Cold War was offering a stark contrast between individual ‘market forces’ and collective social projects; the Cowboy was a caracterised archetype of the ‘lone wolf’ who, despite suffering, always had it his way or ‘the highway’. It’s hard to imagine a popular figure any less ‘socialist’ than the collective Cowboy, who quite literally, takes the ‘law’ in his own hands.

In context of the post-war confrontation of possible political models it was always easiest to associate the collective models of communism, socialism, and any form of authoritarianism with the effeminate. In fact, this emphasis on masculinity in lieu of political ideologies is laid expressedly in K.A. Cuordileone’s *Manhood and American Political Culture in the Cold War*, which outlines the historical development of the Cold War-era widespread belief that, “totalitarianism is ultimately suited to weaklings” (p. 7). The triump of the brawny, unbridled iconic cowboy seems to underpin this faith in individualistic political orders.

> The obsession with strong character that permeates the cultural works of the 1950s was in part a response to unprecedented prosperity and dramatic social and cultural changes (including the rise of therapeutic culture itself) unleashed by the war and accelerated by the postwar economic boom. But those concerns were also the product of the wartime encounter with mass man and the cold war that followed, both of which raised concerns about the ability of the American self to withstand the forces of a mass society that would overwhelm and crush it. The problem of the beleaguered self in mid-century American life was fraught with ideological tension (CUORDILEONE, 2005, p. 104).

On top of these wider political issues, nationally the burgeoning Civil Rights movement was clearly confronting the hegemony of America’s WASPs (white Anglo-Saxon protestant). This brought a new emphasis on race that played out in the white-washing of the West that hadn’t actually existed in such an extreme form previously. This was, as Hobsbawn calls it, the birth of the Aryan cowboy:

> Hence the quiet dropping of the Mexican, Indian and black elements, which still appear in the original non-ideological westerns – for instance, Buffalo Bill's show. It is at this stage and in this manner that the cowboy becomes the lanky, tall Aryan. In other words, the invented cowboy tradition is part of the rise of both segregation and anti-immigrant racism; this is a dangerous heritage (HOBSBAWN, 2013).

To recapitulate, as explored here, leather *stand-ins* for the West, and the West *stand-ins* for a justification for the violence of expansion, racial hegemony, property rights, and the heroism of masculinity. 1953's 'The Wild One' with Marlon Brandon, and biker culture in general, began to challenge and complicate this body of associations of leather with the coded West, but in general, as this visual data from 1955 demonstrates, the body of meanings here was still firmly entrenched.

7.2 1970: THE POLITICAL SYMBOLISM AND IDEALISM OF *FLOWER POWER*

No single biosign is as emblematic of the 1970 Jennys—later JC Pennys—department store catalog as the flower, and in particular, the daisy. It is the motif and emblem of choice for clothing and textiles, the ornamentation *du jour* on toys, home decor, generally speaking, the icon of the era. There are more than 87 pages of products with floral imagery (18.9% of the entire catalog). That compares to 47 pages (12%) and 88 pages (13.5%) of representations in the 1955 and 1985 catalogs respectively. Of these 1970 floral appearances, 38% are specifically daisies (followed by distantly by roses). Interestingly the daisy is almost entirely absent in the other two era's representative product offerings, clearly indicating this was an image with a very specific historicity. It should be noted that many floral designs appear to be a generalized, abstracted form of the flower *type*, petals and stigma signalling the visual generic character as a shorthand to convey the floralness, within being stymied by the meanings of a particular species

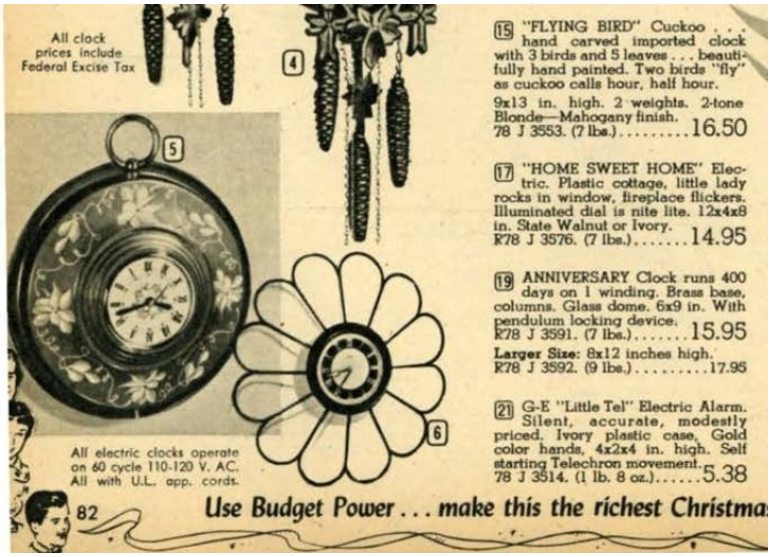


Figure 37: A rare appearance of the *daisy* in the 1955 catalog
Source: Spiegel's 1955 catalog, p. 83

Because of the predominance and variety of types, designs, and applications of the flower motif in the 1970 product miasma, the flower itself offers an ideal test case for teasing out the triangulation of dynamics between the signifier, the signified, and the ultimate enmeshment of those two performancers. As previously mentioned, the position of this work is to defend the *non-arbitrary* status of the signifier when it comes to "bio-similar" products designs and their cultural use. The ways and sheer endurance which the flower as a sign symbol and bioform comes to dominate material culture in the late 1960s-early 70s is a dramatic example how the biological and anatomical form and function of the repurposed organism, even including its place in the larger ecology, apply the base of the artistic and value-embedded modes that the biosign takes on when reproduced, sometimes *ad nauseam*, in the material culture record.

In this case, a dominant biosign of the cultural epoch, like the *flower*, speaks to both to the historical context of its emergence in the popular material record and, at a deeper level, the emergent presence of the flower in the consumer diaspora of the day offers philosophical leads—phenomenologically-oriented—regarding the human species' situation with other organism and their life systems within the natural world: the historically-mediated and naturally inherent layers are ultimately inseparable.

To better understand this layering of significance the clarity of formal semiotics is of great use specifically where structural relations and criteria are defined. A basic explanation is as follows:

> With respect to the signifier/signified opposition (of expression/content) constituting any sign, there are three basic kinds of structural analysis one can perform, depending on whether the structure includes (1) only the signifier (e.g., an analysis restricted to the versification of a poem), (2) only the signified (e.g., a traditional thematic analysis), or (3) both the signifier and the signified (e.g., an analysis of the relations between the sounds and the meanings of the words used for a rhyming in a poem) (HERBERT, 2020, p. 4).

Here we have definitions and examples by way of poetic analysis, but we can chance a parallel demonstration with the subjects on hand: the use of floral design motifs in the historical and cultural context of early 1970s consumer culture.

Anatomically, the flower form is dominated by the often-colorful petals, the projecting stigma, and the supporting “stem” or penduncle. At the core of the flower lies the receptacle housing the ovaries and ovule (eggs). The stamen of the flower, which produces pollen, is composed of the terminal anther and supporting filament, and generally absent from the simplified graphic depictions of floral life in the products under analysis. Most non-self-pollinating flowers depend on the mobility of other creatures to collect and transfer their pollen and hence the bewildering variety in colors, shapes, scents, and sizes that cater to the ‘tastes’ of ecological cohabitants like bees, wasps, bats, birds, snails, slugs and so on. This dependence is so essential that some specific flowering plants, like the family of ‘bee orchids’ have even come to mimic entire organisms of another kind in their bid for inter-special reproductive engagement or ‘pseudocopulation’.

Without going much deeped into the physiological functioning of the scientific flower, for the sake of human material cultural applications we need only go to the level of what is generally known—or reacted to—at the culturally “intuitive” or widely dispersed level of understanding of the flower-type. Albeit, there is certainly a

wide-range of plant knowledge in the non-trained public sector; some people are able to name and distinguish between hundreds of distinct flower species and even factor the activity of gardening into their everyday routines, while others—certainly children—may not be able to go far beyond the identification the abstracted ‘flower type’; perhaps demonstrating some familiarity with the culturally-predominant rose, sunflower or tulip flower “types”. The main point here is not so much to distinguish between depth of botanical knowledge amongst the populace, but to make clear there is are abstracted and specific flower biosigns that carry different semiotic information. For the most generic, non-specified flower motif, the basic elements of radiating petals and some central point representing the stigma seems to suffice; anything beyond those core elements is entering the territory of taxonomic specificity and will bring along the additional associations connected to the flower sub-grouping or species.

The semiotic cousins of the flower are the non-flowering generic *plant*—which rarely appears as a biosign other than to designate the concept of ‘being outside’ or in the form of a houseplant—and the *tree*, which has become a widespread sign of a vivifying ‘nature’, in the most general sense. Once petalled flowers are put into the mix, whether attached to plants, trees, or standing alone, the mood changes dramatically to something more celebratory, charged with expression, and above all, feminine.

Figure 38: Many of the flower motifs, including ‘daisies’, are highly abstracted, but still recognizable
Source: The Penny’s Christmas Catalog 1970, p. 10

Structurally, the flower epitomizes receptivity; a paragon of form as openness and invitation; it's spreading pedals, mesmerizingly drawing the eyes into the central point of orifice. It is concave, yielding, and intentionally exposed. The eye-popping tones of colors that radiate from the flower’s surfaces in vibranting shades of blues, magentas, tropical yellows, and variegated candy stripes only add to this hypnotic visual appeal. Certainly, there is nothing coincidental here, but part and parcel of the flowering plants’ function as a place blistering with appeal for its pollinating co-dependents. The swamy scents and bright aromas are a further weaponized lure in the flower’s nearly universal appeal: perfume as propaganda. Our potpurri, scented candles, and flower-inspired bathing products attest to the wonderfully successful aromatics that emanate from the botanical realm. Flowers are simply irresistible, and need to be as such for their functionality.

Culturally, they have lent themselves quite readily to be associated with femininity and all its associations and, considering the retinue of adjectives associated with

reception, concavity, and the like, its not a huge leap to make. The flower is the home of the female reproductive parts and generally require a pollinating agent, often time with actively phallic appendages, be it in the form of a hummingbird's nectar-seeking beak, or a hornet's hyperactive insect parts. It is a signifier of female over male, water over fire, Venus over Apollo, and passive over active.

Of course, it goes without saying that one could (and should) question the validity or utility of these generalized, highly oversimplistic bifurcations between the ying-and-yangness of the sexes in our modern political and social contexts, but this is merely meant to be a descriptions of how these elements that originally play out in the natural world have worked their way into the semiotic lexicon of our cultural inheritance. It is by no means meant to pass judgements on engendered political discussions about what *should* be, but the idea that gender distinctions hasn't figured enormously in the production of our material culture designs up to this point—especially when viewing references from the years under analysis here—is simply untenable.

The most common product families that use the flower sign speak to these engendered and value-presumptive associations: women and girls' clothing, home decor & furniture associated with traditionally female "roles", attitudes towards romance (from the female perspective), and toys for young girls.

Figure 39:'The Christmas place for…*girls'* page unsurprisingly features plenty of floral motifs
Source: The Penny's Christmas Catalog 1970, p. 116

Figure 40: Products for entertaining and hosting are likewise embellished with delicate flower motifs
Source: The Penny's Christmas Catalog 1970, p. 189

Tangentially, there are some visual designs, such as paisley, that exudes *flowerness* without quite presenting the bonafide flower. Although the exact origins of the Indian-derived pattern is lost to history, the essential elements that flowerness demands are present in an entirely abstracted form that was adopted eagerly in the late 1960s and appears as regularly as an option for loungewear and feminine fashion in this 1970 catalog.

The fact that paisley also includes the elemental motif of the peacock feather is an interesting observation on the interchangability of biosemiotics in the cultural sphere: two natural forms intended to elicit attention (the flower and the peacock feather) and, therefore, beautiful to behold, combine seamlessly in a idiosyncratic pattern that has stood the test of time for its durability and effectiveness in below-the-conscious visual messaging.

Figure 41: By 1970, psychedelia and its visual vocabulary were an innocuous set of safely recognizable and mainstream visual motifs
Source: The Penny's Christmas Catalog 1970, p. 13

7.2.1 SEMIOTIC ANALYSIS

The new youth culture of the late 1960s had been described by the philosopher Herbert Marcuse as "the Great Refusal—the protest against that which is." (In: ISSERMAN, p. 151). It was seen as major, consequential, and concentrated cultural and political effort to dispute and disrupt many aspects of the so-called 'status quo'. These institutions that were challenged were those stubborn themes of sexual peevishness; outspoken and entrenched racism; staid, conservative artistic expression; red-blooded, unquestioning patriotism; and the widely accepted misogynistic structures and attitudes regarding gender, the family, and work. This watershed moment, along with its visually and musically innovative cultural vocabulary, eventually collapsed under the weight of its own popularity, gaining important legislative and political victories, but have its symbolic language swallowed up in the cravenous jaws of mainstream product designers and copycat artists:

> (...) some of the nation's biggest corporations quickly learned to tap the generation gap with slogans like Pepsi's ("For those who think young") and low-slung, fast cars like the Ford Mustang. "To be young is to be with it," remarked a business journalist in 1968. "Youth is getting the hard sell." Advertising agencies, filled with people who considered themselves hip and creative, churned out commercials that made fun of conformity, snobs, and the very products they were selling (ISSERMAN, 2000, p. 151).

However, it is the catalog firmly anchored in the cultural tumult of the late 1960s and early 70s, 1970 catalog, where the *flower as signifier and sign* takes on its greatest cultural exuberance, extending the reach of its meaning even into the realm of political realities of grave importance. To understand how the quintessential biosign of passivity, and therefore, pacifism extended its cultural reach into the cultural-political arena as 'Flower Power' we must understand how more 'basic' associations get recycled as more complex, contextualized associations take hold. We can see a very vivid analogy with the semiotics of language as explained by Terrence Deacon (2012, p. 22), "Of couse, every word or morpheme in a sentence functions symbolically and a word or phrase may take on a higher order symbolic or indexical role in its combinational relationships to other language units at the same level This flexibility provides a diversity of symbolized indexical relations."

Figure 42: The domestication of youth counterculture
Source: The Penny's Christmas Catalog 1970, p. 194

7.2.2 VISUAL ANALYSIS

Consumer products and their visual language aimed at the idiosyncratic *audience* of ‘the teenager’ have to play a very delicate balancing act. Ideally, their messaging is two-tiered. Primarily, there must be a meaningful catering to the desires and tastes of teenager themselves; desires sprung out of a burgeoning independence of spirit that manifests itself in a newly-awakened sense of self reliability, sensuality, social fluidity, and a general adventure-soaked realisation that their forthcoming world and place in it will argely be one of their own making. Needless to say, it is an exciting, but somewhat overwhelming time, full of peaks and valleys, with the seemingly contradictory cravings for untethered liberation and filial dependency constantly in play. Therefore, the images that succeed with the teenage audience must convey this admixture of freedom and comfort in order to be a success at messaging on a natural level.

The second *audience* that must be considered in an teenage-aimed product is the likely purchaser of the goods, the bankrolling parents. There is a perennial push-and-pull between to what degree and depth new freedoms and responsibilities should be permitted to the teen; to ideas about what may be considered ‘age appropriate’. While most 20th century parents would likely have recognized, and perhaps even encouraged, their young adult’s new beginnings as an independently-minded entity, there are also many areas of disagreement about what behaviors and lifestyle choices would be permissible while the two agents, parents and teens, are still so intimately connected in each other’s day-to-day lives. Because of this, teenage-aimed products—especially those sold through mail order—needed to consider the parent’s likely input into any purchases made on behalf of the teenager’s wishes. That is to say, to successfully fulfill both the demanding desires of the teen and their parents, the product but convey, visually, an attractive degree of the values of independece, experimentation, and sensuality, without going too far in any of those areas so as to offend the parental demands of safety, conformity/normalcy, or sensibility.

The images of the bedding products presented here seem to fulfill this task exceptionally,

In the bottom-righthand portion of the image we have a visual of the product in use. The teenage girl, perhaps fifteen, is completely in her element: alone, listening to the pop music singles or 45s on her personal turntable, while writing personal letters — perhaps to either a new boyfriend or a close friend — envelopes for securing their secrecy from the prying eyes of her parents or pesky sibling already at hand. This scene truly gives us the sense that the girl is truly in her own little universe, with its own personally chosen soundtrack, and even location; after all, the sleeping bag itself is means to mobility; a literal permission to move around and make your own wherever you are. With the love letters, the casual location on the undefined location of the generic floor, the musical companionship, and even the pseudo-psychedelic colors of the Hawainn floral print, this image and the associated product radiates the needs of the teen in multiple meaningful ways.

It's striking how much of this acceptance of this teenager's 'proper place' in the family household needed to be crystallized over time. Perhaps, sadly, it speaks to a new demand for a pre-adulthood period of experimental loneliness and isolation that could properly prepare one for a new kind of adult-wide isolationism that simply wasn't the norm in earlier generations. This bold demonstration of teenage estrangement is simply not present in the 1955 catalog as such.

What most directly addresses the parents' concerns (their *audiencing*) in this image is the point of perspective of the camera itself: it looks down and *at* the girl, who is either unaware or aloof enough is her own thoughts not to pay the observer any mind. This is the ideal placement for the perspective of the parental gaze. The observer sees the teen, clearly, in a well-lit, bright space, and can see that she is safe and sound; merely 'playing' at being a full-bodied adult caught up in an amorous exchange.

The records themselves, next to and on the turntable, also offers clues to the values being displayed. They sit in a haphazard pile, seemingly of little enough value to be taken care of properly, or stored in their protective sleeves; they are discardable and

interchangeable. This is a level of pleasurable decadent that speaks to two things: the teenage is in an atmosphere of abundance, being able to treat expensive recreational items casually and in a care-free way; surely an attractive economic situation for any family unit. But, perhaps more importantly, for the parental eyes, it shows a flippancy towards the musical material itself; if the music is perhaps boisterous in its counterculture show dressing and has an outspoken political posturing, clearly the child doesn't pay those aspects much mind. After all, these are disposable plastic moments of leisure, to be changed from week-to-week; nothing but innocuous fads of theatrical musical artists, whose messages of revolution, sexual liberation, and drug-use don't carry the weight they portend to. Perhaps the parent, seeing the way the teenage girl carelessly and casually treats the content, can relax and say to themselves, "After all, she really is just 'going through a phase'".

In the historical framing of the 1960s and 70s visual lexicon, the flower begins its work as a *higher order* symbol. From its functional physical and anatomical characteristics, to its valued associations associated with passivity and the feminine, onto the final politically-charged implications of a pacifism opposed to the active aggression of bucolic US foreign policy (Vietnam, Korea, etc) turn, we can chart the layered, semiotic evolution of 'The Flower' as a sign that became the embodiment of the values of a countercultural political movement. This remarkably rich and unpredictable use of the floral biosemiotic in late-1960s anitmar demonstrations is epitomized in the famous photograph by Bernie Boston (*Flower Power,* 1967) taken at the foot of the steps leading in the Pentagon. The fact that the carnations—and all of the flower-associated qualities they embody—are quite literally being inserted into the threatening phallic-like, and loaded, rifles of the 503rd Military Police Battalion is what makes this image so riveting. It is a contrast in values, institutions, and forces—political, engendered, psychic, and aesthetic—engaged in a visceral struggle at the level of the intimate. The fact that the design and evolutions of flowering biosemiotics is what makes this moment possible, both visually and symbolically, could be easily overlooked.

Figure 43: *Flower Power,* Bernie Boston, 1967
Source: https://www.sartle.com/artwork/flower-power-bernie-boston

As we have seen, by the publication of this 1970 catalog — a full three years after the Bernie Boston photo was taken — the ‘flower as sign’ had become so ubiquitous as to have lost it's original political implications and simply become more or less a fad or fashion device. The daisy itself, with its earlier associations to Haight-Ashbury hippies, experimental drugs use, and liberal sexual mores, still predominates, but has filtered down and spread out through the hydrology of the cultural vernacular; from largely absent to politicized to sensationalized to commonplace and then back to a state of cultural dormancy, biosigns must be understood within the specifics of their societal, geographic, and political contexts to attempt a toothsome understanding. In the new velocity of so-called ‘social acceleration’, these traces of ebbs and flows of the use of these re-purposed, naturally-sourced images will becomes an evermore daunting task, as the next example demonstrates.

7.3 1985: FUTURIST FETISH: NARCISSUS AS ROBOTICS

By the time we come around the 1985 Sears Wish Book, 645-page tome of a catalog, we have entered an entirely new, what could be considered a no-longer nascent form of *reverse-engineered* biosigns in product design and messaging. The menagerie of beings here is no longer largely populated with the furred and feathered,

but there is new dominant crop of buzzing, electric, volt-charged and computerised beasts with the visual echoes of their organic forebearers: it is the age of the mechanised biosign.

To compare the numbers, the 1985 catalog features 40 pages of some form of mechanical version of anthropomorphic or zoomorphic design, whereas the 1970 and 1955 catalogs only include 4 (1970) and 1 page (1955) of robots, respectively: this is major shift in attention to these human-developed “beings”.

While the personification of animal, plants, and even other natural elements (like the sun, moon, and stars) has already been well represented and discussed in the preceding chapters, this is something shiny, loud, and altogether new. Call them what you will; anthropomorphised machines, or the more colloquial *robots*, the products at this stage aren’t as much as reimagining of the natural world in the guise of the familiarly human (personification), but a physical engineering and creation process whereby our self-arranged material culture is molded and manufactured to imitate ourselves. It’s as if like a crafty and species-wide Narcissis hyponotized by the smouldering gaze of his own watery self-reflection determined he needed to see that self-image all his tools, the machine became humanised, visually by 1985. If animism can roughly be described as the projection of human traits onto the animal kingdom, then robotism could be the prefabricated design of the human-built world to take on our own species’ physical and social qualities. As we see below, this Faustian-level logic can then extend backwards to give mechanical qualities to the natural world or even to ourselves (see figures below), with seemingly no visual limitations or even clear logic.

Though the robot sprang into the lexicon of science fiction literature as far back as the beginning the 1920s, it wasn’t until the 1940s and Isaac Asimov’s shortstory “Strange Playfellow” (1940), and later collection *I Robot* (1950), that is became a fixture of the genre and household name (ABNET, 219-220). These stories set the tone for the ambivalent relationship that would play out over the year between the two sides of the robotic conundrum and concerns: the excitement and possibilities surrounding these utilitarian entities, versus the vivid uncanniness and even potential danger of having

them in our social and working lives. Both sides of this cultural ambivalence are on display in the 1985 catalog offerings.

Truth be told, as far back as the 1955 catalog, robots in their most iconic and recognizably anthropomorphic form are up for sale. (FIG) Mr. Brain *really smokes* and Explo literally *explodes into pieces;* both clunky playmates seem to be poorly prepared for their respective day jobs. Then we have Mr. Amaze-a-Matic, who carries dumbbell-like weights, TV Robot who entertains via a torso-embedded hi-fi television set, and Gofer Robotron delivering drinks on a small, plastic serving tray to round out the collection. All these robots have typically masculine names and traits (something that will not change in robot tendencies along and up until the present), and more than half are shown in a outerspace-like environment. Perhaps more tellingly the large, red caption at the top of the page reads, “WATCH OUT! All kinds of robots are on the move.”

What exactly should we be watching out for? After all, aren’t these indeed task-fulfilling, human-designed contraptions bidding our doing? Why so much precaution? And if these are new, first non-organic beings are so problematic, why do they make good choices as the themes for children’s toys? Clearly, even in 1955, the uneasy ambivalence is in play.

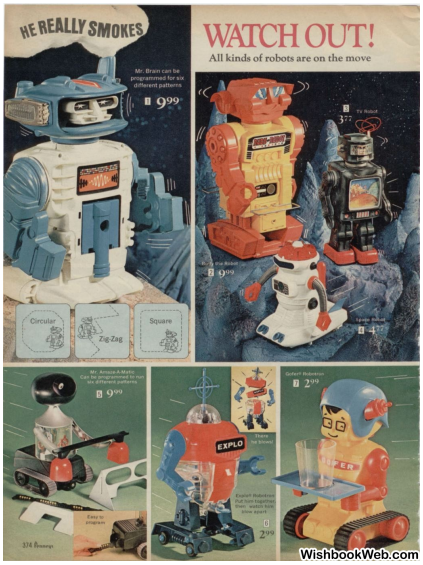


Figure 44: Not quite human, not quite beast…
Source: Spiegel’s 1955 catalog, p. 377

Mr. Brain, *Gofer* and the other 1955 examples of material culture robots (all toys) represent the entire offer of robot-themed products in that year's catalog. By comparison, in the 1970 catalog there are only10 products on four pages. In contrast, the 1985 catalog includes more than 50 unique anthropomorphic-machine stylised products spread over 35 pages, as well another 10 products representing zoomorphic machines, or roboticised animals (depending on the explanation); a specifically novel kind of mix between machine and biosign not appearing in the subsequent catalogs.

One of the earliest examples of a genuine meshing of machine with the human form is Zardoc Dederick's 1868 'Steam Man' creation. Essentially a metal skeletonal frame sporting a top hat and tuxedo jerryrigged to the front of a small steam, it neither worked nor seemed to serve any practical purpose, but caught a lot of attention (ABNET, 50-54). Though we consider Dederick's bizarre creation something of a novelty, both considering its early time and gruesome inutility, it brings us to the consideration of why exactly do are machines and tools (ever increasingly) take on or are given these human forms. By using Gabriella Airenti's explanation of anthropomorphism as "a non-human entity (that) assumes a place that generally is attributed to a human interlocutor" (2018), we can understand these bespoke human characteristics incorporated into the design of the machines as means of prepping their use in a social setting. In that sense, we can see Zadoc's 'Steam Man' as a very clumsy, perhaps downright disastrous effort at humanising a steam locomotive — or perhaps, just a anacronistic non-sequitor in the history of 'product design'.

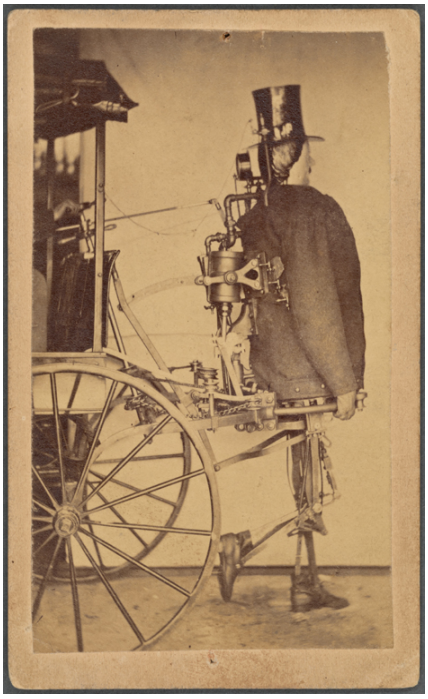


Figure 45: Zardoc Dederick's 1868 'Steam man' invention -
one of the earliest anthropomorphic *'robots'*
Source: https://digitalcollections.nypl.org/items/2a1096e0-2289-0132-b3b6-58d385a7bbd0

Given that this innate desire to anthropomorphically 'socialize' our environment leads to such kneejerk psychologically phenomenon as paredolia, or 'seeing human faces everywhere' (GILBERT, 202), it seems a logical step to design these friendly features right into the inanimate materials themselves; offering an automatic veneer of socialiability if done effectively. In an article for the *International Journal for Social Robotics,* Airenti (2018) divides the process of successful design-based, anthropomorphism into the two cognitive stages of *relatedness,* followed by *empathy.* Using the neurological basis of concepts like mirroring neurons and the psychological result of being able to the relate to the emotional conditions of *the other*, what better way to get a robot into a child's heart than provide it with a heroic protective gestures (a sense of paternal security), a goofy grimace (amusement), or an endearingly pathetic visage (sympathy). Here we find the deeply ingrained 'semiotics' of the human *face* playing a major role in robot design (and their toy analogues). If the designers can get the key measures of the essential parts (eyes and mouth generally), without veering into

the frightening abyss of the uncanny valley, they have succeeded in the production a mechanical tool presenting itself as being casually ‘on the level’ of human social interaction.

In this sense the anthropomorphism of utilities, such as machines, acts as a way to make otherwise cold, unfriendly objects more benign, friendly, and relatably. This is the same design strategy being implemented today in the fleets of delivery and assistant robots now being deployed in pilot programs internationally (DEMPSEY, 2022). This ‘cute’-ification strategy would be especially apropos for toys that a preparatory devices for grooming children into a new, machine-centered world that requires cool-headed navigation. As Abnet points out, “The child-friendly robot was a key midcentury innovation. Earlier Americans had imagined that machines’ lack of souls made them incapable of the love necessary to befriend a child.” (p. 210) Even while acknowledging these earlier, mid-century incarnations of combining a child relations to animated machines, it is the sheer variety and flexibility of the forms that confronts us in the 1985 range of available products. An educational machine, for example, can work more effectively if given friendly a human-esque face, limbs, and a naturalised voice. The use of the semiotic operation of transformation, *addition* (adding anthropomorphising features) is in play here.

9. Casey is a special friend your preschooler will love. He's a cassette player that tells a story as your child reads along. Casey looks like he's reading too! His expressive, animated face lip syncs while the tape plays. 3-second pauses in the tape automatically shut Casey off, allowing your child to comprehend and respond at his or her own pace. Push Casey's "go" tie to reactivate him. Tapes store in his handy backpack. Warranted by Playskool.** Requires 4 "D" batteries, not included, see page 459. Order additional tapes below. For ages 3 years and up.
49 C 17635—Shipping weight 2 lbs. 8 oz. . . **$58.99**
"Seashore Adventure" cassette/book set for Casey.
49 C 17636—Shipping weight 8 ounces. . . **$7.99**
"Color Surprise" cassette/book set for Casey.
49 C 17637—Shipping weight 8 ounces. . . **$7.99**
"Gingerbread Man" cassette/book set for Casey.
49 C 17638—Shipping weight 8 ounces. . . **$7.99**

10. Alphie II teaches children math, spelling, colors and problem solving. He provides music for a sing-along or a game of musical chairs. 4 two-sided activity cards provide loads of things to do. Additional activity sets sold below. Requires 4 "AA" batteries sold separately on p. 459. Warranted by Playskool.** For ages 3 to 8 years.
49 C 17631—Shipping weight 2 pounds 8 ounces. . . **$24.99**

Package of 2 activity sets for Alphie II (not shown). Provide lessons for overlapping age levels. With 4 double-sided activity cards, game board and playing pieces. You get "basic Numbers & Shapes" for ages 3 to 5 years and "Get Ready to Read" for ages 4 to 6 years.
49 C 17632—Shipping weight 1 pound. . . Pkg. **$9.49**

11. Vinyl case is perfect for carrying cassettes for Casey, Talk 'n Play and other cassette/book sets. 15¼x9¼x3¼-in. case holds up to 16 loose cassettes or 8 boxed cassettes. For ages 5 and up.
49 C 17649—Shipping weight 2 lbs. 8 oz. . . **$6.99**
*Trademark Children's Television Workshop
**Write for free copy, see page 335

Figure 46: *Casey* and *Alphie II* -
anthropomporphic educational and story-telling robots
Source: 1985 Sears Wishbook, p. 535

Aside from simply casting computers into the physical mold of a friendly human playmate, as Casey above exemplifies, inanimate objects can also be anthropomorphised seemingly somewhat arbitrarily (such as the telephone below), or even more curiously, animal forms can be both roboticised and anthropomorphised simultaneously, such as the Robot Puppy featured here. This toy allows for the familiarisation with technology, the companionship and control of pet ownership, and the mobility of a remote controlled, four-wheeled vehicle in one bizarre combination, that is almost impossible to image in the ontological context of either the 1955 or 1970 catalogs.

The description tells us that this plastic, faux-metal, puppy-shaped toy also barks something generally considered an unwanted nuisance in its warm-blooded counterpart. Here we have something quite complex: the anthropomorphic qualities developed alongside and upon a wild animal through the process of canine domestication over tens of thousands of years, repurposed and integrated into the design of a educational toy in a technological regime that is attempting normalize social interactions with electronic devices. The child likely will not consider whether it interactions it is having are in partnership with a dog, a toy, a robot or all three, and perhaps it is that fever-pitch level of ambiguousness of the product that will make it all seem so matter-of-fact.

Figure 47: Any combination of inanimate object, human features, and animal forms seems possible, and explicable, by the standards of 1985
Source: 1985 Sears Wishbook, p. 559

7.3.1 SEMIOTIC ANALYSIS: *THE VERIDICTORY SQUARE*

A large portion of the anthro or zoomorphic machine-forms appear alongside their association (implied or explicit) with the activity of war or accoutrements of the war industries. The *Transformers* robots (launched in 1984), for example, take the form of fighter jets, satellites, military vehicles, and rocket launchers. These 'characters' humanise the anxiety of the continuing arms race, space race, and Cold War tensions that continued to loom large in the United States of Ronald Reagan's socially conservative, military-forward, economically booming society. As toys, they allow young boys to play out the battles of political ideologies, large-scale, hi-tech warfare, in the safe space of action dolls and the associated storytelling of comic books and cartoons. It's no coincidence that the other major male-oriented franchise of the era was the G.I. Joe.

Figure 48: 'Cold War' playtime is hi-tech and mechanized
Source: 1985 Sears Wishbook, p. 437

The fact that there is a heavy dose of semiotic dissonance or ambiguity at work here can be analysed using the *veridictory square* (HERBERT, L., p. 58). The product below is a prime example of the cross-pollination between machine-ness and clinging humanity that are combined in many of the products, especially toys, considered here. Considering that the, “The veridictory square applies especially to texts in which truth/falseness is a prominent theme,” it should seem befitting for a product that acts as a disguise of the user, while still allowing for the anthropomorphic. The ambiguity of the visual vocabulary leaves man ontological questions hanging in the air: Does the boy want to be a machine? Or is the machine using the boy to feign it’s humanity?

Figure 49: A child at play gets ‘incorporated’ into a war machine
Source: 1985 Sears Wishbook, p. 438

The veridictory square:

SUBJECT S	OBJECT O	SEEMING	BEING	CHARACTERISTIC
Child	Machine	seeming	not-being	machiness
Machine	Human	seeming	not-being	humanity
Human form	Machine	seeming	not-being	machiness
Machine	Child	not-seeming	being	childness

By looking for the qualities of humanity, child-ness, and machinery in each of the relationships between the child wearer, the machine, and the form of an adult male that the machine takes, we can see that the only victim ‘lost’ in this exchange is the child; who has become both an adult male and a machine of war in this mode of play. It is a haunting and foreboding metaphor, perhaps preparatory in nature, being offered as seemingly benign adventurous fantasy. The machinery costume, in the form of a human, is hiding a small child under two forms of fakery; this is a product of total obliteration of the natural order and the truth.

One way of dealing with this seemingly obliteratory quality of the robot is to consider it not as an individual entity at all, but as an appendage in the wider systems constructed to fulfill humankind’s own undertakings. In this way, it looses a certain degree of the eeriness and the nauseating ‘uncanny valley’ veneer, and can be seen simply as an anthropomorphized tool. This is easier said than done of course, since the many abilities, skill sets, character traits, and physical attributes designed into these ‘tools’ are exactly there to disguise their machine-like nuts and bolts and fit them seamlessly into our social fabric, as emotive-inducing beings. It’s seems to be asking too much when anthropologists ask us to change the abstractions in which we view the robotisation of our world, when the facts belie a different guttural reality: (...)

> Alexandra Mateescu and Madeleine Clare Elish like to use the term “integrate” instead of the more commonly used word “deploy” because, as Elish says, “integrate” prompts the question “into what?” In our conversations around

> automation and labor, we often have the wrong idea that robots are individual machines that are dropped into a workplace to do William or Betsy's job, when, really, they're part of more complex practices and systems. Like animals have in the past, robots not only alter the way we work and the nature of our jobs, but also the distribution of labor and wealth more broadly, and even the architecture of our environments (DARLING, 2021).

7.3.2 VISUAL ANALYSIS

A final example of the total robotisation of human companionship, as well as the zoomorphic menagerie, comes in the form of an image depicting five distinct, yet remarkably lookalike, anthropo-zoomorphic-roboticised hi-tech toys. With the 'robot' veneer now being applied to any being from owls (*Hootbot)* to dogs (*Spotbot*) to vaguely humanoid forms (the others), it becomes clear that the material durability, ability to consistently perform tedious manual tasks, or the computer calculating power is no longer the purpose of these decadent creations. After all, who would purchase a robotic owl based on the premise that it was more durable, hard-working, or mathematically-inclined than the organic owl predecessor; at this point, the robots have a supposed value simply for the sake of their 'robot-ness'. The design of these essentially innocuous toys represents a major change in consumer relationships to the products: technology is no longer valued as a *means to an end*, but as an end to itself.

In the image we see the batterised critters grouped closely together, forming somewhat of a team, each one equipped to perform unique tasks, however useless they may be: you can tell Verbot *when to smile*, Spotbot *bumps into objects*, Hootbot *taps his feet,* and Dingbot *squeals.* Its clear that even the annoyances associated with the challenges of traditional pet ownership, like extraneous noise and accidents, are designed into these products to make them more "lifelike". The excitement is in achieving an accurate recreation of the inconsistencies of organic beings, and not in designing beings that avoid these design flaws. In very much the same way that debates surrounding AI has continued to play out into our current era, much of the attention, concern, and excitement in centered on the programs ability to mimic the very

aspects of the error-prone, idiosynicratic, and inconsistencies of natural human expression, rather than overcome these trifling, but charming attributes; all of this puts humanity into an unnecessary competitive race to out-humamise itself with its own creations; we are left with the image of a programmer chasing their own tail.

Figure 49: Robotic play represented by anthropomorphic (Verbot and Flipbot), zoomorphic (Spotbot and Hootbot), and rather ambiguous forms (Dingbot)
Source: 1985 Sears Wishbook, p. 441

In this 1985 retinue, the designers were rather limited in their abilities, but lean heavily on built-in pareidolia by the inclusion of two, absolutely round, glowing plastic eyes to indicate the presence of a being that 'sees' its own world and therefore, theoretically, has some level of subjectivity and agency. Arms, though mostly funtionless, also help fulfill the order for anatomical basics that elicit familiarity.

The empty grey space that acts as the background is, with no corners or edges to surfaces, is essentially without depth or spatial reference. In fact, between the uniformly smooth-surfaced, glassy expression of the dolls themselves, and the formless space they are placed for the photoshoot, we see a physical foretelling of the equally featureless, organically-devoid digital worlds that games like Roblox and Minecraft offer today; simulated environments, visualized in bits where children purchase toys, interact

with automated playmates, and spend hours of their waking lives. Whereas n 1985, this reality was being piecemealed together with plastic, wires, and batteries, today the “catalog of goods” and all it offers is displayed, offered, selected, and engaged with on one flat surface of 4 x 6 in dimensions; a limitless streamlining of consumer and product engagement.

CONCLUSION AND REFLECTIONS

8.1 THE PROJECT AND IT’S COMPLETION

This exploration began with the recognition that contemporary consumer culture and its adjacent social structures, while being essentially ‘cut-off’ from day-to-day interactions with intact ecological systems, continue to commemorate, represent, and proliferate the varios elements of the natural world in the semiotics of its material culture. The plan, from the start, was to take a test sample of these representations and see what they could reveal about this strange societies attitudes and values towards nature itself, as well as any cultural, political, and historical angles that merit consideration.

The concept of *biosemiotics* was key to understanding the raw or ‘inherent’ original meanings contained within each visual, auditory, olfactory, or emotive symbol or sign that is used in its originally evolved ecological context. Enough cases were explored to allow us to see that inherent use in the ecological context can be accentuated, emphasized, or even subverted in the re-use of the biosemiotic, in the form of a *biosign* tailored for human purposes.

The liminal zones between *material culture* and biological cultural entities were explored in the fascinating case of human domestication and manipulation of organic lifeforms, both plant and animal, for utilitarian and cultural purposes. Examples are found in both the hard reality of living beings, as well as in the mythological and folkloric traditions; both modes of manipulation proliferate up to the present. This unique approach to interpreting the redesign of organic life as a form of material culture made it

much easier to transition to the simpler cases of mere semiotic representations found in the mail-order catalogs.

An overview of the initial background, and then sudden explosion, of consumer cultural practices were untaken whereby the intense rupture with made modes of consumption and exchange of goods and symbols gave way to a proliferating demand for all sorts of objects that can be endowed with value-laden signs and symbols. The target data pool was the United States consumer class at the middle and late-middle 20th century; prior to the internet, the mail-order catalogs utilized by the major department stores acted as the conduits of product display and procurement, and therefore, they were considered excellent sources of representative data.

After choosing three catalogs, spaced apart chronologically, the task of image collection and analysis was undertaken, with each case of biosign appearance being registered and classified for style, form of product, and frequency. The most prolific and telltale biosigns for each catalog year—1955, 1970, 1985—were used as case studies for the political, cultural, and social moment in time. This allowed for a multi-pronged explanation to understand the wide use of each biosign—leather, flowers, anthropomorphic machines—in the context of that particular national ‘moment’ in history, and how the consumer class my be reflecting those issues in the forms of design and goods. This section was particularly rewarding in its discoveries, that the *inherent* ecological meaning of a biosemiotic—leather for protection, flowers for procreation, etc—continues to reverberate, profoundly, the new area of visual semiotics being utilized for social, political, and psychological responses towards historical realities. In other words, the understanding of biosigns as proved to be essential to understanding the deeper content of material cultural as a whole; even in the misled familiarity with which we approach our own contemporary material register.

8.2 TELEOLOGICAL CONSIDERATIONS

It is hoped that the development and purposefulness of biosemiotics in their “natural” settings was laid out plainly in the initial chapters preceding the subsequent

historical analysis: in an ecologically co-dependent environment composed of individual organisms, their relationships with one another are only made possible with these bodies of coded signals. Without biosemiotics, life as we know it would not function and therefore wouldn't have evolved. The biosemiotic exchange should be seen as a core mechanism in the process of organic evolution itself, as Wendy Wheeler explains:

> (...) evolved life has the encounter between similarity and difference, the self-identical and the other, written into it from the beginning. On this increasingly widely accepted view of evolutionary biology, the motor of evolution is, thus, the encounter of identity with an otherness which is, nonetheless, sufficiently semiotically recognisable to allow of a productive encounter and negotiation, expanding a semiotic *Umwelt*, out of which new strata of complex life can emerge (WHEELER, 2006, p. 133).

It is one of those slight-of-hand-like processes of the natural world that can become overlooked or obscured in the smoky haze of their sheer elegance. That evolution produces these biological parts coming out the whole cloth of organic material produces the diversity of life, which then become concreticized and sealed off as the species or organic "types" that human organisational models are so endeared to. In reality individual species are only functional as "parts of a whole" —no flowers with no bees, and vice versa —but most western and contemporary cultural representative models (biosigns) have continually emphased the separateness or uniqueness of individual organisms or bodies of organisms (landscape 'types') in their abstracted and symbolic visual vocabularies. Perhaps our own species development can help explain this on-going tendency, even in the face of rational, ecologically-minded models that acknowledge the essentially co-dependent, co-emergent truth of biological systems.

The organizational and categorizing abilities made possible by the human language were clearly a major break from previous internalized, and non-descriptive, ontological models of the world. How this might have originally come about is conjectured, convincingly, by philosopher Julian Jaynes in his theories on the advent and expansion of spoken languages:

> Once a tribe has a repertoire of modifiers and commands, the necessity of keeping the integrity of the old primitive call system can be relaxed for the first time, so as to indicate the referentsof the modifiers or commands. If ‘wahee!’ once meant an imminent danger, with more intensity differentiation, we might have ‘wak ee!’ for an approaching tiger, or ‘wab ee!’ for an approaching bear. These would be the first sentences with a noun subject and a predicate modifier, and they may have occurred somewhere between 25,000 and 15,000 B.C. (JAYNES, 1976, p. 133).

If Jaynes’ model is even approximately correct, we see that the arrival of naming the elements of the environment, grammar strcuture, and formal categorical models would have been concurrent developments. The ability to represent an ‘archetype’ of an named entity in visual art, and begin the storytelling processes that birth collective, and multi-generational cultural beliefs, would not have been far behind.

In this dynamic, three-dimentional organically and elementally-oriented environment, it would have made functional sense for humans to bestow humanized ‘identities’ on their non-human intimates; these anthropomorphic ‘personalities’, whether malevolent, benign, or friendly, were dealt with on an on-going basis, and being able to ascertain and share common ideas regarding the nature of their inter-relatedness would be facilitated in the form of storytelling (Cite: VIVEIROS). In the same we our contemporary culture attaches archetypical, blanket ‘personalities’ to makes of cars, styles of clothing, and even career “types”, this short-hand anthropomorphising helps order the unfathomable complexity and diversity of the messy real world.

With this application of anthropomorphism in mind, it is not difficult to understand why a society more “in touch” on a day-to-day basis with the natural world would bestow or highlight the *human*-qualities of their plant and animal counterparts: a practice that has sometimes been associated with or termed *animism.* Since, as Airenti points out, we tend to adopt an anthropomorphic attitudes towards, “(...) any object that can cooperate with us or hunder our activity”, one would expect and certainly not be surprised by such an ontological stance in a ecologically-embedded society (p. 2).

Whatever the degree of anthropomorphising in a given culture, this characterisation offers a storytelling aspect and facilitates passing on this essential subjectively-charged ecological map of flora, fauna, and climatic elements to subsequent generations whose survival and psychological sense of well-being will depend on knowing their place in the network of interactions.

Perhaps more baffling, as this research project is placed firmly entrenched in the patently non-intergenerational, constantly reinvented environments of human-conceived urban and suburban surroundings, what can explain the continued presence of these ‘naturally’-derived entities in contemporary consumer culture?

Due to the multifaceted approach required for the study of biosemiotics in material culture (i.e. history, psychology, archaeology, ecology, and philosophy) its conclusions, likewise, are relevant dependent on the area from which one approaches such results. It is hoped, however, that the conclusions drawn are generally complementary, rather than contradictory. Here in these final sections, varying perspectives on the general conclusions will be outlined, with the hope that more generally, and more usefully, the project can act a guidepost or inspirations for future, targeted studies in the same vein.

If we take the concept of disembeddeness (describing in detail above) as a mostly valid description of our current state of ontological, ecological, and socio-psychological conditions, than the continuing presence of biosigns in consumer culture seems to be a culprit in a coded ‘cover-up’ of our actual pre-dystopian reality. This version, relying heavily on structuralism principles, sees biosign usage in a starkly cynical light; the images and connotations of the disappearing and nearly-extinct natural world in our product design completely distract and obfuscate from the facts on the ground; their presence contributes to the industrial and commerical engines of alienation that, in the end, prevent us from taking stock of and solving the very real problems of ecological degradation and its eventual, and inevitable, resulting devastation.

Unapologetically pessimistic, this view aligns with that of many post-modern thinkers who fail to see any valid links to the interconnectivity of humanity and nature that history or anthropology may point to. Their view of post-industrial consumerist society is generally that of a victimized population, living in a abstract system of signs, developed by special interests bent on maximizing profits at all costs; biosigns figure into the picture only at the servic of these special interests necessity to keep a consumer population feeling nostalgic, emotionally connected, and analytically distracted. In this sense, the consumerist society, along with its relationship with "nature", is largely based on fictions:

> Advertising in its entirety contributes a useless and unnecessary universe. It is pure connotation. It contributes nothing to production or to the direct application of things (BAUDRILLARD In: BERGER, 2010, p. 46)

Despite the cynical tone of this analysis, it is not to say that the placement of biosigns doesn't have real effects on ourselves as individuals at the phenomenological level; it is exactly because these signs result in genuine feelings of comfort, awe, relaxation, and happiness that they would be so effective in the arsenal of product design motifs. They provide a sense of 'place' in the alienating soup of post-modernity, or as Wheeler puts it, they align with the universal desire"(..) to live in a *real* and effective world and not in an illusion" (WHEELER, W. p. 96).

8.3 CLOSING CONSIDERATIONS

As has been thoroughly explained in the earlier section on the development of biosemiotics in their natural setting, it is exactly because species and individual organism must share a biosphere/semiosphere with other beings that biosemiotics evolved in the first place; they are co-emergent with ecosystems: no flowers, no bees, and vice versa. So what happens when individual organisms or bodies of organisms (landscapes), become symbols separated from the context of their environment. Each biosign typically represents only one side of a multi-faceted exchange of energies, and

even then, only on an abstracted and rationalised level. In a sense, the ecology is dismembered, neautralizing its functionality in the process and pointing towards a paradigm shift, either imagined or real.

At the most optimistic end of analysis, it could be argued that a ecological stasis is in the making, with humans at the center and the other natural elements involved at our behest. This is the Fasutian model, but not a very promising one.

Our everyday headlines don't support confidence in a belief that humanity has any kind of absolute grip on the natural elements, and it could even be argued, quite convincingly, that our attempts to control nature with engineering projects, bio-sciene, atomic physics, oceanography, and astronomy, have caused more problems than they have solved. If one, in any case, insisted on belief in the 'naturalness' of our current situation and wanted to likewise posit the development of a new ecological stability in the distant future, biosigns would be seen as playing an imperatively supportive role in this messy transition. They would be viewed as a series of coded rings in a chainlink bridge, connecting the past world of the 'old natural' with the developing horizon of a human-technology-based world model; a semiotic salve to lubricate the anxiety of the nobel unknown.

This rose-tinted model of hopeful humanitarism seems to fly in the case of most measurable metrics; even the most ardent supporters of unchecked market growth and faith in human ingenuity can no longer afford to whole-heartedly ignore the genuine short-term and existential dangers that unchecked social and technological acceleration have produced. Time, land, space, and all resources are limited in a way that early capitalists failed to acknowledge or understand, and as they shrink in direct opposition to the growing market demands, economic, energy, ecological, and political systems will feel the pressure, perhaps to breaking points:

> (...) modern technology is largely an index of accumulation, rather than ingenuity itself, and that its capacity to locally save time and space occurs at the expense of (human) time and (natural) space lost elsewhere in the world. This can be illustrated by calculations showing that the Industrial Revolution in England was

> founded on “time-space appropriation”, a concept which combines the Marxist focus on the unequal exchange of embodied labour with more recent, ecological concerns with the unequal exchange of embodied land (HORNBURG In: HARVEY, 2013, p. 245).

In this view, the continued presence of biosigns in contemporary material culture are — besides being misleading — are anachronistic, hollowed-out echoes of our collective past as environmentally-situated organisms. They are what E. B. Tylor would have identified as a cultural ‘survival’, in his anthropological lexicon (In: SEGAL, R. A. p. 53-55). By this, Tylor indicates the abundance of beliefs, opinions, artifacts, and practices that have only continued to proliferate out of a society’s collective force of habit. If symbolised representations of the non-human entities were not proven to have measurable emeliorating, therapeutic and, therefore, active effects, we could consider their continued presence a possible force of habit, but it appears to be much deeper than simply that. This complexity, however, doesn’t disallow the possibility their immediate and on-going role in cultural, social, and environmental networks is dramatically different from the chronologically earlier models.

Anthropocentrism, in this view, is seen to be detrimental in effects; not only the survival to the preservation and well-being of non-human beings, but also, as Plumwood points out, to humankind as well. She reminds us that it’s not a simple bellicose vision of humanity *conquering* the natural world, but an ecologically-alienated inability, “to situate ourselves as part of it”, that produced self-inflicted, “damaging forms of epistemic remoteness” (p. 98):

> Dependency on nature is denied, systematically, so that nature’s order, resistance and survival requirements are not seen as imposing a limit of human goals or enterprises. For example, crucial biospheric and other services provided by nature and the limits they might impose on human projects are not considered in accounting or decision-making. We only pay attention to them after disaster occurs, and then only to restore the status quo, to fix things up. Where we cannot quite forget how dependent on nature we really are, dependency appears as a

> source of anxiety and threat, or as a further technological problem to overcome (PLUMWOOD, 2002, p. 108).

Through biosigns we permit ourselves to “take” nature, culturally, aesthetically and socially, but we don’t take it seriously. In Marxist economic and behavioral theory, this could be considered a form of *commodity fetishism* or ‘ecological’ fetishism, which trivialises the real value of such elements from the natural world and turns them into consumable goods (MCDONALD, M.; WEARING, S. p. 23). The products featuring biosigns actually act to disengage their users from the ‘real’ world versions of the elements being represented, much like a good horror or action film allows its viewers to ‘play out’ or ‘act out’ the fears and excitments of danger without having to take any risks.

In this model, our house pets, flower bouquets, and desktop backgrounds of mountain landscape are playing an obfuscating, distorting function. They are the props in the performance implied in Baudrillard’s description of the *magical thinking* involved in all contemporary consumption:

> (...) consumption is governed by a form of *magical thinking;* daily life is governed by a mentality based on miraculous thinking, a primitive mentality, in so far as that has been defined as being based on a belief in the omnipotence of thoughts. ‘Affluence’ is, in effect, merely the accumulation of signs of happiness (BAUDRILLARD, ed. 1998, p. 32).

In the end, it is also important to acknowledge the short-term, practical values of this project’s purpose and successes. Regardless of whether the prolific presence of these natural symbols in contemporary life points to a disastrous or hopeful historical teleology, their surprising ubiquity and the variety of their diversity exhibit all sorts of interesting and analytically useful conclusions and leads from the perspective of the historian.

Serious history is always undertaken in a non-binary and with non-teleologically predetermined solution.The historian is aware of the creative, reactive, self-emergent exchanges between actors of agency—in this case humans, organisms, and the environment—and those effects on human culture.

This *open-systems* approach is refreshing in that it allows for a non-binary complexity, but also avoids any pretense to conclusivity or utility; it doesn't offer any proscriptive claims.
In this ontological perspective, the whole of human activity as a creative, and also therefore destructive, energy. It is akin to what Brunto Latour said when describing the deployment of animism in human culture as part of, "the task of composing a world that is not yet common". (LATOUR, B. In: HARVEY, G. p. 75)

The presence and forms of biosigns in material culture are incredibly revealing, and terribly understudied; material culture studies, archaeology, image analysis, semiotics, and general history can all benefit from their greater application in targeted, specified inquiries.
Because symbols can be use in a wide variety of ways, biosigns would be playing role in almost every socio-historical or cultural scenario. They are, as demonstrated in the case studies, measurable historical indicators of attitudes towards nature, but also barometers of generally felt social 'moods', like anxiety, hope for the future, stances towards sex, escapism, nostalgia, fear and political agitation. Besides, biosemiotics in material culture have proven to be are also richly informative and captivating in their continued presence, albeit sometimes so ubiquitous their meanings have become obscured by their familiarity and must be rediscovered. This project hopes to rescue their telltale pertinence from inexcusable obscurity in the historical record.

BIBLIOGRAPHY

ABNET, D. A. **The American Robot**: A Cultural History. Chicago: The University of Chicago Press, 2020.

ABRAM, D. **Becoming Animal**: An Earthly Cosmology. New York: Pantheon Books, 2010.

AGAMBEN, G. **The Open**: Man and Animal. Stanford: Stanford University Press, 2004.

AIRENTI, G. The Cognitive Bases of Anthropomorphism: From Relatedness to Empathy. **Int J of Soc Robotics** 7, 117–127 (2015). https://doi.org/10.1007/s12369-014-0263-x

AIRENTI, G. The Development of Anthropomorphism in Interaction: Intersubjectivity, Imagination, and Theory of Mind. **Frontiers in Psychology**, nov. 2018. Doi: 10.3389/fpsyg.2018.02136 Accessed on: 24 aug. 2022.

AVILA, E. **American Cultural History**: A Very Short Introduction. New York: Oxford University Press, 2018.

BAUDRILLARD, J. **The Consumer Society**: Myths and Structures. London: Sage Publications, ed. 1998, org. 1970.

BERGER, A. A. **The Objects of Affection**: Semiotics and Consumer Society. New York: Palgrave Macmillan, 2010.

BOWER, B. A new origin story for domesticated chickens starts in rice fields 3,500 years ago. **Science News**. June. 2022. Available at: https://www.sciencenews.org/article/chicken-domestication-bones-origin-asia-rice-fields-exotic-animals Accessed on: 6 june. 2022.

BUCHANON, B. **Onto-Ethologies**: The Animal Environments of Uexkull, Heidegger, Merleau-Ponty, and Deleuze. Albany: State University of New York Press, 2008.

CHERRY, R. **Catalog**: An Illustrated History of Mail-Order Shopping. New York: Princeton Architectural Press, 2008.

COBLEY, P. **Cultural Implications of Biosemiotics**. New York: Springer, 2016.

COSTELLO, M. J. Rewriting *High Noon*: Transformations in American Popular Political Culture during the Cold War. In: ROLLINS, P. C.; O'CONNER, J. E. (Org.) **Hollywood's West**: The American Frontier In Film, Television & History. Lexington: The University Press of Kentucky, 2005. Cap. 8, p. 175-198.

CSIKSZENTMIHALYI, M.; ROCHBERG-HALTON, E. **The Meaning of Things**: Domestic Symbols and the Self.Cambridge: Cambridge University Press, 1981.

CUORDILEONE, K.A. **Manhood and American Political Culture in the Cold War**. New York: Routledge, 2005.

DARLING, K. **The New Breed**: What Our History With Animals Reveals About Our Future With Robots? New York: Henry Holt & Company, 2021.

DEACON, T. W. Beyond the Symbolic Species. In: SCHILHAB, T.: STJERNFELT, F.; DEACON, T. W. (Org.) **The Symbolic Species Evolved**. London: Springer, 2012. Cap. 2, p. 9-38.

DEMPSEY, M. Are we falling in love with robots? . aug. 2020. Available at: https://www.bbc.com/news/business-62007675 Accessed on 9 aug. 2022.

DERR, M. New views of Neanderthal are reshaping prehistory. **Psychology Today**, 11 dec. 2022. Disponível em: https://www.psychologytoday.com/us/blog/dogs-best-friend/202212/new-views-neanderthal-are-reshaping-prehistory Acesso em: 12 dec. 2022.

GELL, A. **Art and Agency:** An Anthropological Theory. New York: Oxford University Press, 1998.

GIDDENS, A. **The Consequences of Modernity**. Stanford: Polity Press 1998.

GILBERT, L. Why the brain is programmed to see faces in everyday objects. Aug. 2020. Available at: https://newsroom.unsw.edu.au/news/science-tech/why-brain-programmed-see-faces-everyday-objects Accessed on: 7 sept. 2022.

GOETHE, J. W. V. **Faust**: Part One. Translation David Luke. Oxford: Oxford University Press, 1987.

GORVETT, Z. How humanity created ‘sky puppies’. **BBC Future**. Nov. 2022. Available at: https://www.bbc.com/future/article/20221111-how-humanity-is-changing-the-worlds-insects Accessed on: 18 nov. 2022.

HARVEY, G. (Org.) **The Handbook of Contemporary Animism**. London: Routledge, 2013. Introduction, p. 75-76.

HEBERLEIN, T. A. **Navigating Environmental Attitudes**. Oxford: Oxford University Press, 2012.

HÉBERT, L. **An Introduction to Applied Semiotics**: Tools for Text and Image Analysis. London: Routledge, 2020.

HORNBORG, A. In: HARVEY, G. (Org.) **The Handbook of Contemporary Animism**. London: Routledge, 2013. Cap. 19, p. 244-259.

HUGHES, T. P. **Human-Built World**: How to Think About Technology and Culture. Chicago: The University of Chicago Press, 2004.

ISSERMAN, M.; KAZIN, M. **America Divided**: The Civil War of the 1960s. New York: Oxford University Press, 2000.

JAYNES, J. **The Origin of Consciousness in the Breakdown of the Bicameral Mind**. Boston: Houghton Mifflin Company, 1976.

JC PENNYS. **Pennys**: The Christmas Place 1970. Plano, Texas, 1970. Accessed at: http://www.wishbookweb.com/FB/1970_JCPenney_Christmas_Catalog/files/assets/basic-html/page-3.html

KEULARTZ, J. **The Struggle for Nature:** A Critique of Radical Ecology. London: Routledge, 2003.

LAKOFF, G.; JOHNSON, M. **Metaphors We Live By**. Chicago: The University of Chicago Press, 1980.

LE BON, C. **Fashion Marketing:** Influencing Consumer Choice and Loyalty with Fashion Products. New York: Business Expert Press, 2015.

LERBERG, M. Jabbering *Jaws*: Reimaging Representations of Sharks Post-*Jaws*. In: GEORGE, A. E.; SCHATZ, J. L. (Org.) **Screening the Nonhuman**: Representations of Animal Others in the Media. Lanham: Lexington Books, 2016. Cap. 3, p. 33-46.

MARAN, T. **Emergence of the "Howling Foxes"**: A Semiotic Analysis of Initial Interpretations of the Golden Jackal (Canis aureus) in Estonia. Biosemiotics, 2015. DOI 10.1007/s12304-015-9244-1.

MAZIS, G. A. **Humans Animals Machines**: Blurring Boundaries. Albany: State University of New York Press, 2008.

MCDONALD, M.; WEARING, S. **Social Psychology and Theories of Consumer Culture**: A Political Economy Perspective. London and New York: Routledge, 2013.

MCKENDRICK, N.; BREWER, J.; PLUMB, J. H. **The Birth of a Consumer Society**: The Commercialization of Eighteenth-Century England. Bloomington: Indiana University Press, 1982.

MORRISON, K. M. **The Handbook of Contemporary Animism**. London: Routledge, 2013. Cap. 3, p. 38-52.

MUMFORD, L. **The Myth of the Machine**: Technics and Human Development. New York: Harcourt, Brace, & World, Inc., 1966.

NAVEH, D.; BIRD-DAVID, N. In: HARVEY, G. (Org.) **The Handbook of Contemporary Animism**. London: Routledge, 2013. Cap. 2, p. 27-72.

NIELD, D. The Lost History of Cat Domestication Can Finally Be Told. **Science Alert**. Dec. 2022. Available at: https://www.sciencealert.com/the-lost-history-of-cat-domestication-can-finally-be-told Accessed on: 18 dec. 2022.

PANDAY, M. Pug health so poor 'it can't be considered a typical dog' - study. **BBC News**. May. 2022. Available at: https://www.bbc.com/news/newsbeat-61494094 Accessed on: 18 may. 2022.

PARSONS, G. **Aesthetics and Nature.** New York, Continuum International Publishing Group, 2008.

PLUMWOOD, V. **Environmental Culture**: The Ecological Crisis of Reason. London: Routledge, 2002.

ROSE, G. **Visual Methodologies**: An Introduction to the Interpretation of Visual Materials. London: SAGE Publications, 2001.

RUSKIN, J. **Praeterita**: The Autobiography of John Ruskin. 4. Ed. Oxford: Oxford University Press, 1985.

SANCHEZ-VILLAGRO, M. R. **The Process of Animal Domestication**. Princeton: Princeton University Press, 2022.

SEARS ROEBUCK & CO. **Wishbook '85**. Chicago, 1985. Accessed at: http://www.wishbookweb.com/FB/1985_Sears_Wishbook/files/assets/basic-html/page-649.html

SEGAL, R.A. In: HARVEY, G. (Org.) **The Handbook of Contemporary Animism**. London: Routledge, 2013. Cap. 4, p. 53-62.

SMITH, H. N. **Virgin Land**: The American West as Symbol and Myth. New York: Vintage Books, 1950.

SPIEGEL. **Spiegel:** The 1955 Christmas Catalog. Chicago, 1955. Accessed at: http://www.wishbookweb.com/FB/1955_Spiegel_Christmas_Catalog/files/assets/basic-html/page-3.html

SKVORECKY, J. **The Engineer of Human Souls**.Translation by Paul Wilson. London: Vintage, 1994.

TILLEY, C. **Metaphor and Material Culture**. Oxford: Blackwell Publishers, 1999.

TOADVINE, T. **Merleau-Ponty's Philsophy of Nature.** Evanston: Northwestern University Press, 2009.

TSING, A. L. Nine provocations for the study of domestication. In: SWANSON, H. A.; LIEN, M. E.; WEEN, G. B. (Org.) **Domestication Gone Wild**: Politics and Practices of Multispecies Relations. Durham: Duke University Press, 2018. Cap. 11, p. 231-251.

VIVEIROS DE CASTRO, E. Cosmological Deixis and Amerindian Perspectivism. **The Journal of the Royal Anthropological Institute**, v. 4, n. 3. sept, 1998. p. 469-488. Royal Anthropological Institute of Great Britain and Ireland

WARNER, Jr., S. B. **The Urban Wilderness**: A History of the American City. Berkeley: University of California Press, 1995.

WHEELER, W. **The Whole Creature**: Complexity, biosemiotics, and the evolution of culture. London: Lawrence & Wishart, 2006.

ZEKI, S. **Inner Vision**: An Exploration of Art and the Brain. New York: Oxford University Press, 2000.

Pontifícia Universidade Católica do Rio Grande do Sul
Pró-Reitoria de Pesquisa e Pós-Graduação
Av. Ipiranga, 6681 – Prédio 1 – Térreo
Porto Alegre – RS – Brasil
Fone: (51) 3320-3513
E-mail: propesq@pucrs.br
Site: www.pucrs.br