Green

by

Laura Marianne Knap

A thesis
presented to the University of Waterloo
in fulfilment of the
thesis requirement for the degree of
Master of Architecture

Waterloo, Ontario, Canada, 2013

© Laura Marianne Knap 2013

I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

I understand that my thesis may be made electronically available to the public.

ABSTRACT

We insist upon "green space", but the term's vague cast brings little into focus. In this thesis I search out what it is that we look for in green space. I consider some ways, within our North American context, that we interact with it, represent it, speak about it and write about it. Drawing together evidence from a diverse range of sources in myth and mapping, poetry, classical philosophy, feminist theory, language, and personal experience, I find enigmatic but persistent geometries of desire binding us to the notion of green space.

These desires for green space manifest themselves in relationships of practical dependence, imaginative dependence, violence, and love. But most of all green space is at work, wherever it emerges, at the core of our becoming-other.

ACKNOWLEDGMENTS

To Dereck Revington, who supervised this thesis, patiently accompanying it along the length of its journey with great commitment to the material.

To Anne Bordeleau and Adrien Blackwell, thesis commitee members, for their insightful and focussed reading and commentary.

To Karen Houle, for bringing her unique and broad interests to the conversation in the role of external reader.

Finally, to friends and colleagues who, through many conversations, engaged, prodded, ignited, critiqued and encouraged the work and ideas along the way.

Thank you.

TABLE OF CONTENTS

iv List of Illustrations

9 Preamble

11 Introduction

green: not dried, cured, seasoned or otherwise prepared for use

green: recent; fresh; new

17 Euphemism

green: easily fooled; easy to trick or cheat

greens: fresh leaves or branches of trees, shrubs, etc., used for decoration

green: (of sand) sufficiently moist to form a compact lining for a mold

green: (of a casting) as it comes from the mold

31 Eros

green: a colour intermediate in the spectrum between yellow and blue

green: the colour of most leaves while growing, of some fruits while ripening

green: the colour of the sea

119 Eden

green: (of a memory) not fading

green: freshly slaughtered or still raw

137 Epilogue

green: covered with herbage or foliage; verdant

green: to become or make green

147 Bibliography

LIST OF ILLUSTRATIONS

4 0.1 Roadside hedge photo by Author

12 1.1 Dead lawn photo by Author

16 1.2 Overgrowth/undergrowth photo series by Author.
17 1.3
18 1.4
19 1.5
20 1.6
21 1.7

26 2.1 Sample Greenness Map of North America USGS EROS
source: http://eros.usgs.gov/#/About_Us/Virtual_Tour

28 2.2 Greenness Maps derived from USGS Integrated Vegetation Viewer, 19 August 2012.
30 2.3 source: http://ivm.cr.usgs.gov/viewer/viewer.htm
32 2.4
34 2.5

36 2.6 Remnant Ridges across the Grid; Reynolds, North Dakota Alex McLean
source: *Taking Measures Across the American Landscape*

38 2.7 Large Pivot Irrigators Alex McLean
source: *Taking Measures Across the American Landscape*

44 2.8 Planetary Diagram after Macrobius (altered) c. 9th century
source: http://en.wikipedia.org/wiki/File:Macrobian_Planetary_Diagram.jpg

49 2.9 Landscape with the Fall of Icarus Pieter Bruegel/ after original by Bruegel (unknown)
source: www.metmuseum.org/toah/hd/brue/hd_brue.htm

59 2.10 Bingham Canyon Mine image by Author
sources: http://ivm.cr.usgs.gov/viewer/viewer.htm; www.mapquest.com

76 2.11 Roadside Seas photo series by Author.
80 2.12
84 2.13
86 2.14

122 3.1 Adam and Eve Albrecht Durer.
source: www.metmuseum.org/toah/works-of-art/19.73.1

131 4.1 Roadside landscape photo by Author

136 4.2 Fallow field (1, 2) photo by Author
137 4.3

PREAMBLE

This thesis springs from many beginnings. Two stand out sharply.

One is a canola field in bloom that I encountered one drizzling morning, while cycling through rural Finland. Its plane of yellow-green flower heads seemed to fluoresce in the grey atmosphere, and the way that they floated on descending stalks elicited a spectral greenness of limitless depth. That shocking, thick colour has remained with me always.

A second point of departure was my discovery, some summers ago, of an otherwise non-distinctive parkette in Montreal that had, in a rare gesture, been named after a feminist. Through luck, that act of naming opened for me a new world of thought.

When I returned to that Montreal neighbourhood, some years later, to remind myself of the parkette's name and nakesake, I found instead a building being constructed in its place.

And who could say what is happening in that Finnish field?

INTRODUCTION

When green space is mapped as a political condition, it appears as polygons of nature preserve or city park, perhaps neatly divided from city or suburb; or as sections of explicitly purposed rural lands, or lands reserved from development. Sometimes green spaces are given names. They may be private or public or both, or ownership may be unclear. They may be openly accessible, or access may be limited to particular interests (such as military or scientific research), or according to factors like money, mobility, time of day, or season. These familiar models compartmentalize and categorize green spaces, setting them apart within negotiated margins. They offer a picture of those specific parcels of "green" land whose identities and borders are (at least provisionally) documented, declared, and fixed. If the word for "garden" derives from notions of enclosure—describing a delineated, vegetated space that is set apart—then in a broad sense these parcelled green spaces follow in the garden's wake.[1]

But besides these formal green spaces, which can be mapped with some certainty and with clearly-surveyed edges, there are those casual or accidental green spaces that elude any such sharp representation. Often nameless and declaring no permanent footprint on the landscape, informal green spaces emerge at edges and peripheries, transitional or marginal zones. As Michel Serres identifies in his book Detachment, they take up "the fringe, the fuzzy area, the refuse, the wasteland, the open-space."[2] And despite—or more correctly, because of—their nebulous identities, Serres identifies that these marginal and peripheral spaces are crucial to the Western experience of landscapes. Indeed, their cultural importance cannot be overstated: he muses that, as malleable spaces of potential, they are responsible for engendering our sense of history and time.[3] It is in "that little bushy grove, that humid low tract through which we wade awkwardly or that abandoned field with weeds and little thickets of low bushes, all these deserted fields" that he finds the locus of our wisdom.[4] Unassuming, awkward and abandoned, overgrown or underdeveloped, these wildly vegetative spaces are the somewhat-forbidding but appropriable territories of Earth's celebrated surplus.[5] Their presence—their texture—provides

1 European, Indo-European, and Slavic languages derive their words for "garden" from words signifying "enclosure", including garden (gard - twigs) and paradise (pairidaeza, compound of pairi- "around" + diz "to make, form (a wall).") John Dixon Hunt. *Greater Perfections,* (Philadelphia: University of Pennsylvania Press, 2000), 19-20.
2 Michel Serres. "China Loam" in *Detachment*, (Athens: Ohio University Press, 1989), 5.
3 Ibid., 8-9.
4 Ibid., 7.
5 Ibid., 9.

us with a reassurance that "something remains for an upcoming project."[6] That they are spaces outside of control and often outside of consciousness, spaces outside the grip of civilization itself, is an old idea: our word "forest" derives from the Latin *foris*, meaning outside.[7] In an even more ancient formulation, we find that the Greek word meaning "wood" or "forest", *hyle*, is re-appropriated by Aristotle as the name for "matter": the raw substance of chaotic stuff that unites with form (*morphe*) to make "things."[8] "We push our goats toward the brushwood,"[9] Serres says, quite perfectly describing our stubborn inclination to press ever toward new territories and to make use of the resources they offer. But indeed, he affirms, we depend on the "brushwood" not only as goatherds. We also rely on it for the sense of possibility that it promises, the air that it allows in, the claustrophobia that it alleviates—whether or not we ever make physical use of it, bring it under control, or attempt to use it up.

While I have set apart these two typologies of green space—that which stems from the garden and that which stems from the forest—that vegetative space that is "under control" inside the fence and that found "out of control" outside of it—they cannot, in fact, be sharply divided. Nancy McKinnon, a Canadian architect and writer, notes that as the notion of "green space" has swallowed up that of "garden", its vague territories have also digested the garden's particular value and meaning:

> *The garden initially representing an "accommodation" between rationality and spirit, offering to the individual a place to express the spirit, a loosening, has become "green space," the very words suggesting a lack of value and meaning, the need only for something green regardless of what it is.*[10]

Even in this criticism, however, McKinnon hints that green space possesses some seemingly irreducible and mysterious value. For it fulfills a certain "need only for something green," even "something green regardless of what it is." Here, McKinnon's observation raises some critical questions. What is it that this indistinct "something green" seems to promise? What do we feel we need from that which is green; what do we want it for?

Loose and multihued, contradictory and unstable, we find green space occupying heartlands and haphazardly filling margins. It emerges bidden or not, controlled or not. It is variously championed, overlooked and wasted, and—as Serres hints—easily underestimated.

6 Serres, "China Loam," 9.
7 Robert Pogue Harrison, *Forests : The Shadow of Civilization* (Chicago: University of Chicago Press, 1992), 61.
8 Ibid., 28.
9 Serres, 9.
10 Nancy McKinnon, "The Issue of Control in the Contemporary Urban Frontier: Swimming in the Sea," in *Feminist Reconstruction of Space,* ed. Louise May (St. Norbert, Man.: St. Norbert Arts and Cultural Centre, 2000), 110.

GREEN :

– *adjective*

not dried, cured, seasoned, or otherwise prepared for use: green tobacco.

recent; fresh; new: a green wound.

THE CHILDREN

Once in a while
we'd find a patch
of yellow violets

not many
but blue big blue
ones in

the cemetery woods
we'd pick
bunches of them

there was a family
named Foltette
a big family

with lots of children's graves
so we'd take

bunches of violets
and place one
on each headstone

William Carlos Williams. "The Children" in *Pictures from Brueghel and other poems* (New York: New Directions Publishing Corp, 1962), 26.

01 : EUPHEMISM

GREEN :

- adjective

easily fooled; easy to trick or cheat.

- noun

greens *(plural): fresh leaves or branches of trees, shrubs, etc., used for decoration; wreaths.*

One spring the frost left the ground and the lawns greened up until they oozed emerald. Not ours. I watched it fade for days until its lifelessness became as singular as the neighbour's perfect green plane.

"There were so many weeds that I decided to just start over," my landlord explained, as absolute as lawn. What a phrase, to start over. It draws a thick black line in time and draws the future over the past like a curtain. It sees the hand poised over the now straw-coloured canvas, ready to lay down new verdant hues. It clamours out as a euphemism to muffle the eerie crunch of dead vegetation in spring.

The Greek root of the word euphemism is "eu" + "pheme", meaning well-speaking.[1,2] We most often think of it as a tool for speaking gently about a rough matter: a minced word, a politeness or political correctness, a deliberate softening of a scene to render it more palatable to conversation. We have invented a remarkable number of euphemisms to dilute descriptions of death and erasure, brutal delicacies that we place over the sharp edges of mortality to shield the tender sensibilities of a listener. But a euphemism can also function as a linguistic guard for the speaker. In this case, its practice of well-speaking is a hedge against the potentially bad consequence of uttering a negative word. In ancient Greek tradition the Erinyes are given the epithet Eumenides, or "pleasant ones" in a gesture to woo the vengeful goddesses to favour.[3,4] The point of this conciliation remains plain. When we are concerned for our good fortune, we still take care to name things well, willing to at least play along with the notion that there may be a material relationship between the nature of things and what they are called. Well-speaking is a rose glass. Whether it is set before the listener or the speaker, it recasts the world in a warmer tone. And as it changes the light that falls on the object in view, does it not alter the object as well?

1 "euphemism." Online Etymology Dictionary. Douglas Harper, Historian. accessed 26 April 2010, http://dictionary.reference.com/browse/euphemism.
2 "eu." Online Etymology Dictionary. Douglas Harper, Historian. accessed 26 April 2010, http://dictionary.reference.com/browse/eu.
3 J.D. Sadler. "Weasel-Words, Weasels, Woodpeckers, Et Al," *The Classical Journal*, Vol. 68, No. 2: 166, accessed 26 April 2010, http://www.jstor.org/stable/3295832.
4 Matthew S. McGlone and Jennifer A. Batchelor, "Looking Out for Number One: Euphemism and Face," *The Journal of Communication,* Vol 53, No. 2, pp. 251-264, 2003, accessed 26 April 2010, http://dx.doi.org/10.1111/j.1460-2466.2003.tb02589.x

The red glass, says Goethe, exhibits a bright landscape in so dreadful a hue as to inspire sentiments of awe.[5] But in time, I lost track of where we had stood that day on the crackling lawn, just looking through those sharp words "start over". There were new dustings of soil, seed, fertilizer. Gradually green tips crept in. For a while the old surface of thatch sat in a crumpled pile at the curb.

By midsummer, those reupholstered margins between house and street and sidewalk again bristled wholly green. Perhaps, I softened, there had been no euphemism here. Perhaps starting over is simply one of the things that a green space is for.

5 Johann Wolfgang von Goethe, *Theory of Colours*, trans. Sir Charles Lock Eastlake, (London, Frank Cass and Co. Ltd, 1967), 315.

GREEN :

- noun

(foundry)

(of sand) sufficiently moist to form a compact lining for a mold without further treatment

(of a casting) as it comes from the mold

OF SAND :

becoming-formwork:

matter to be taken up and used now,
ready now;
grains clinging together in weak bonds.
grains that (will) nest together,
capable of taking provisional form,
provisionally structural.
matter that can be worked to inscribe a void.
formable matter (that may be) used to produce an imprint,
a negative, a formwork, a vessel
for now.

OF A CASTING :

becoming-form:

the casting as it is lifted from the (now, no longer green) sand;
a provisional quality of this cast form or object as long as
it is damp or rough or new

O2 : EROS

GREEN:

- noun

a colour intermediate in the spectrum between yellow and blue, an effect of light with a wavelength between 500 and 570 nm;

found in nature as the colour of most grasses and leaves while growing, of some fruits while ripening,

and of the sea.

FINDING GREEN

What is green? This definition gathers together three descriptions. It stages leaps from one facet of green to another, reading as though three voices speak in turn. Each voice, brandishing its unique set of tools, brings a fresh image into view. The voices are those of a cartographer, a hunter, and a lover.

> *Green [is] a colour intermediate in the spectrum between yellow and blue, an effect of light with a wavelength between 500 and 570 nm;*

The cartographer speaks first, revealing green by mapping it. She marks it out according to its borders: its approximated margins along the spectral bleed of visible light, and the territories (yellow and blue) that lie outside of it. She finds out its quantity and scale.

> *Green [is] a colour . . . found in nature as the colour of most grasses and leaves while growing, of some fruits while ripening . . .*

The next observation has the tone of a naturalist, an explorer—one who discovers what is green by way of a hunt. "I spy," the children's game declares, "something that is green"—and the hunter looks out after it. He finds the greens of growing things and unripe fruits to be familiar phenomena: at least sometimes ubiquitous, if scattered at other times, and inevitably prone to emergence, disappearance, and interruption. His description does not form a coherent territory that can be encircled with a sharp line; rather, its greens can only be captured as with a net which, passing in a moment through the air, entraps some things and allows others to slip through.

> *Green [is] . . . the colour . . . of the sea.*

The third voice speaks with the singular focus of someone in love. To remark (only, simply) that the sea is green is to speak from a position of immersion, to float in greenness, insensible to where its sensation might end in space or time. To see only the sea's greenness is to risk becoming stranded in it. For the lover green stretches out all around, as far as the eye can see.

An example Greenness Map of North America from the EROS website. The red square (my addition) indicates the approximate location of the EROS facility, which is centrally-located on the continent near Sioux Falls, South Dakota.

MAPPING GREENNESS

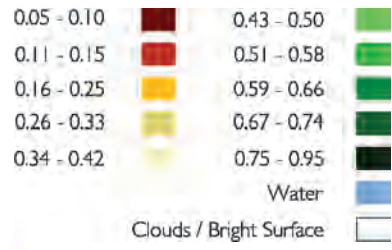
The colour green often appears on maps as the shades of nature preserves or parks, or to indicate land with a vegetative covering. In these cases it stands for rough blocks of land where non-human processes predominate, or for areas where vegetation maintains a dominant footprint. But lost to these conventional mapping approaches are those informal green realms: those spaces where vegetative processes coexist with various built conditions, where they stage incidental or cyclical emergences, disappearances, elaborations, and witherings.

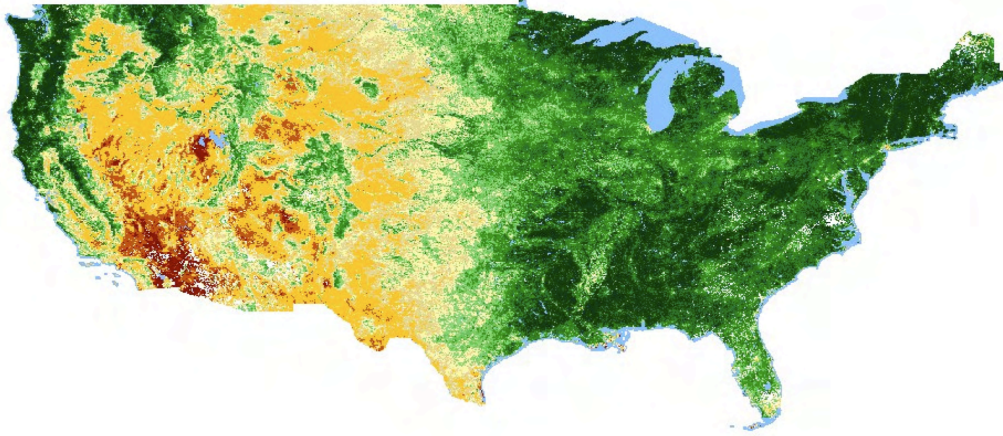
But there is an ongoing mapping project by the United States Geological Survey (USGS) that seeks to represent just these nuances: the way that greenness, as an ever-shifting quantity, occupies the landscape at large. The "Greenness Map" is produced by USGS EROS (Earth Resources Observation and Science) to register the vigour and extent of the earth's vegetative covering; in their words "the quantity of actively photosynthesizing biomass on the landscape."[1] Greenness is measured using satellite imaging: with an Advanced Very High Resolution Radiometer (AVHRR) that is continually aloft aboard a weather satellite, EROS captures snapshots of solar radiation as it is reflected back from the earth's surface. Red light (580-680 nm) is absorbed in highest quantities by the liveliest chlorophyll-laden leaves. Near-infrared radiation (725-1100 nm) is reflected by the healthy, spongy-mesophyll layer in leaf structures. By tracking the quantity of radiation reflected in these ranges, an image of vegetation health, or Greenness Map, can be generated. At a glance, its radiometric image resembles an aerial photograph.

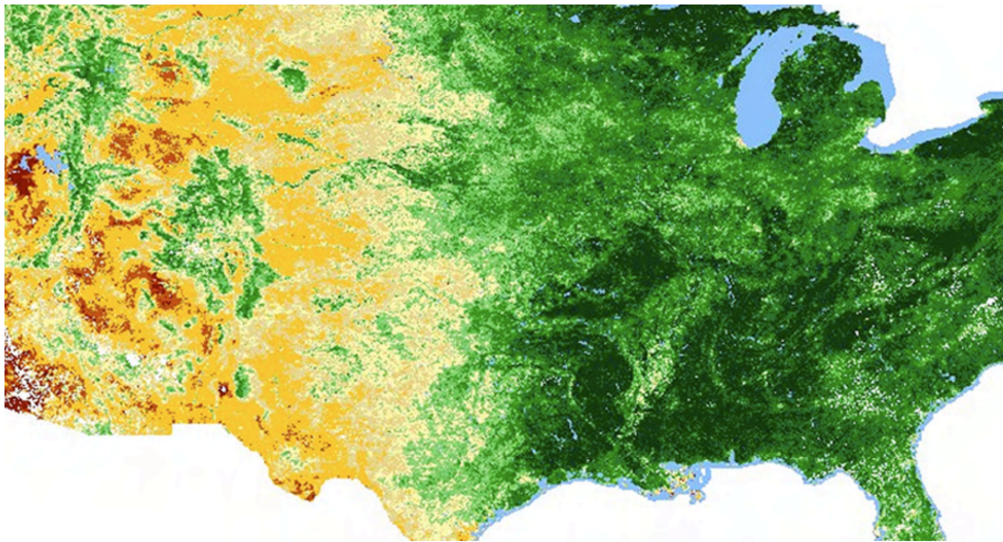
EROS produces weekly and biweekly Greenness Maps of the United States (and sometimes of other land regions as well.) Since greenness data for the United States has been collected since 1989, maps can also be produced to show the "departure from average greenness" for any given week. Another analysis of the data shows "relative greenness;" that is, how the current greenness level of any particular place compares to its maximum greenness potential. Relative greenness calculations acknowledge that the greenness potential of lush New England, for example, is different than that of arid Nevada.

The Maps show mottled, shifting masks of green that ripple over the American landscape. Some areas appear intensely green, some desaturated, others register only a hint of verdure. But

1 "Greenness of the Coterminous US," USGS, accessed 25 april 2012, http://ivm.cr.usgs.gov/index.php.







Greenness Maps for the week of August 19 2012, captured from EROS's interactive online viewer.
The following series of maps zooms in toward the EROS site at Sioux Falls.

clear across America, the Maps say, green is the rule. Contemplating the intensity with which we inhabit the landscape—with cities and suburbs, highways and shopping centres, airports and strip mines—this is a surprising imaginative leap.[2] It is astonishing to consider that it is possible (or meaningful, or useful) to picture the land solely in terms of its greenness. Dwelling in these landscapes, it seems that there are enough places that are *not verdant at all* that to represent America as one vast, varied green space would be a fragmentary project at best. But here are the canvasses that proclaim green's totalizing reach. There may be more to the landscape, the Maps say, but greenness is everywhere. In this August series, the only areas that register as entirely "not green" are the patches of cloud caught floating between the satellite and the earth. During winter and spring, incandescently-reflective snow-fields are the other notable landscape that reports no greenness values.

What are these maps getting at? EROS explains their purpose:

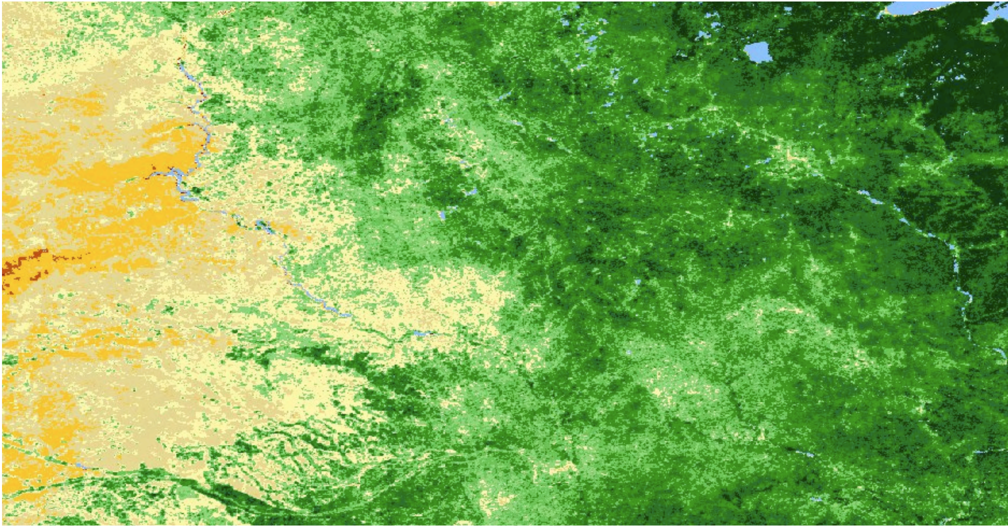
> *The greenness maps are used by government agencies and private industry for a wide variety of applications. Some examples are agricultural assessment, grazing land management, grassland and forest fire danger assessment, and drought monitoring.*[3]

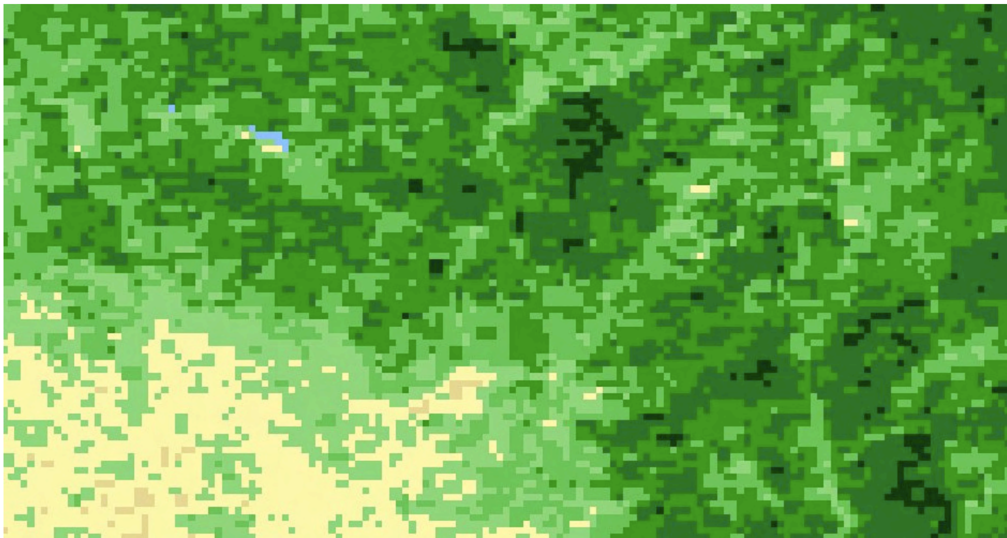
The Maps, then, capture green's fluctuating value as a natural resource for the interests of land management: in each of these readings, green stands for abundance. It promises good crops and profitable pasturelands. It is also valuable as a kind of organic insurance policy against various natural catastrophes; and like a coal-mine canary, alerting us to imminent overturnings in the landscape. The Maps are a kind of early warning system to help us anticipate and manage these natural threats.

With these gravities in mind, it is easy to understand the Map's frequent (weekly) iterations. The images become weighty: forest-coloured tracts seem promising and comforting, while dull spots are disquieting. The lack of permanence of each successive image cuts with a double edge. On one hand, the greenness (lushness) that we count on to sustain and protect us could, at any time, begin to slip away. On the other hand, the Maps harbour hope: if there is already some amount of greenness everywhere, then with a few more trees, or a little more rain, we could see

2 Another description of the colours of the earth from above, appearing in Anne W. Spirn's book The Granite Garden, provides an interesting counterpoint: "Seen from space, the earth is a garden world, a planet of life, a sphere of blues and greens sheathed in a moist atmosphere. ... blue seas and green forests and grasslands emerge, surrounding and penetrating the vast urban constellations. Even from this great distance above the earth, the cities are a gray mosaic premeated by tendrils and specks of green, the large rivers and great parks within them. (3-4)

3 "Greenness of the Coterminous US," USGS, accessed 25 april 2012, http://ivm.cr.usgs.gov/index.php.





The greenness of the Earth's surface is given as an amount of reflected solar radiation, measured from a distance of thousands of kilometres away.

it increase. Perhaps, the Maps seem to suggest, in this expansive green space that we aim to tend and keep, we may not be so far from the Garden after all: a walk in its shade in the cool of the day seems within our reach.

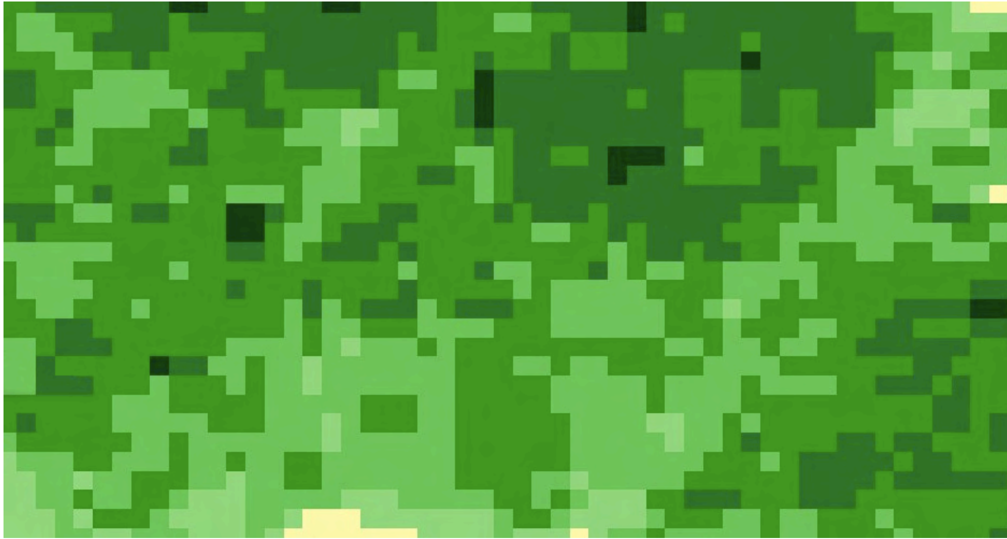
However, trying to lose ourselves in the shade of the Greenness Map's garden is no easy task. To start with, the Map gives no indication of where to find the shade. Since greenness is captured from above, what is registered is just the uppermost layer of vegetation: that rare, thin surface of matter that touches the sky. We can never be sure if we are looking at a carpet or a canopy, or an impenetrably dense volume of vegetation like a cornfield or tangled scrub. It seems intuitive to imagine that the darkest greens would represent deep forests; but the reference for extreme greenness values, EROS explains, is instead likely to be an alfalfa field in the climax of its growth.[4]

In this way, the Map upheaves expected topographies of greenness, placing us in an entirely new terrain. It builds a kind of looking-glass world whose unexpected features and instabilities are both unsettling, and exciting, seductive. Rather than the compartmentalizing, strictly spatial chartings of green space with which we are most familiar, it suggests a borderless greenness that swells and recedes, that can billow like a cloud or wither and dissipate.

This way of thinking about greenness as a quality bound irrevocably to time conjures more clearly the way that we experience green in our landscapes. It calls to mind the swift transformations that can catch our breath: the hot spring day that forces leaves to burst from bud, the sudden hail storm that pulverizes crops, the way that a field can seem to sprout all at once as if on cue. It also conjures the slow changes, such as the the subtly-shifting hues in the tree canopy from the greens of spring to those of late-summer.

But in fact, the dimensions of green's liveliness in time are rather loosely-rendered in the Greenness Maps. The Maps, as we have noted, are produced only in weekly or bi-weekly intervals. Furthermore, each Map is assembled as a collaged, composite image, knitted together from the most cloud-free snapshots captured over the given period of study. Setting aside the practical conditions that must determine the pace of the Greenness Map's production—such as the schedule for mapping that is functional for fire marshalls and reasonable for the research institution—the Maps provoke questions about the measurement of greenness's temporality. What is the appropriate unit of time for measuring changes in greenness? Or perhaps—is it

4 "Conterminous United States Forecasted Fire Potential," USGS, accessed 25 april 2012, http://ivm.cr.usgs.gov/viewer/metadata/FPI-FP_meta.xml



Each pixel is equal to one square kilometre.

reasonable to consider all types and transformations of greenness according to a single unit of time?

And what of its unit in space? To make the Map, greenness is calculated by measuring reflected radiation: in this frame of reference, it is a quantity appraised in nanometers. At another scale, greenness is given as vegetative health, or the general condition of plants in a region. How big is a region of greenness? Zooming in, we see that the Maps are in fact coarsely gridded. This graphic patterning is an effect of the radiometer's resolution, which pixelates the landscape into 1x1 kilometre squares; in other words, it registers an average greenness value over each square kilometre of land area. Finally, embedded in the map's processes is another leap of scale: greenness data is collected by orbiting satellites from a distance of thousands of kilometres away.

Among the Map's collage of scales–its overlay of the imperceptibly minute and the impalpably big—the value of greenness becomes dizzyingly abstract. Indeed, as it is derived across multiple orders of space and several different times, it is hard to say exactly what we are seeing in the Map's rough pixels. Within its schema, all landforms except the very large are blurred to the point of erasure. Its gros-grain approach to picturing greenness is blunt; and its effects, likewise, are blunting.

It is striking that the greenness depicted in the Map is nothing that we can bring up against our senses, our bodies, or the scale of our experience—everything familiar in the landscape, even the relentless gesture of the Jeffersonian grid, is subsumed by the satellite's arbitrary geometry. But what the Map sets out to quantify, as we have seen, is greenness's value as a resource. In particular it seeks to determine, for the sake of managing greenness, the ways that living vegetation might fail us: where its weaknesses might bring about hardship, destruction, or economic loss if it is overcome by drought or fire. The Map's portrait, then, interposes itself between us and greenness; between our senses and the sharp edges of these green catastrophes. The remarkable organizing figure that it strikes on the landscape, superceding even the rigour of the grid, smoothes over the complexities of the living landscape that we inhabit. It regularizes differences and changes, appearing to mitigate the threats of green space—and likewise, dampening its myriad effects.

Amid our increasingly unstable environment, with its shifting climatic and weather conditions, the Map's standardizing rubric offers a pacifying promise: since any future transformations of greenness can be interpreted according to its existing system, variations automatically appear to be matters of degree, and never of kind. Anything new in greenness can be interpreted by the

Map's algorithms; any future conditions will be representable using its existing tools. At least in our near future—whatever occurs next month, or in the next few years—seems "under control" in the sense that it is rendered directly comparable to our information about greenness's present and past. In this sense, the Map tempers the future's potential to surprise us, or to bring about new things that we cannot understand or incorporate in our current models. This aggressive softening of greenness's complexity and unpredictability seems to mute the force of greenness, dulling its apparent capacity for change.

From its position of remove, with its touch out-of-touch, the Greenness Map project wields a refiguring influence on the landscape, reconstructing and restraining the phenomena of living and dying vegetation. As such, it stands for much more than its masses of accumulated data and estranging images. The Map is a compelling piece in the relationship between humanity and greenness: a complex relationship characterized, as we have begun to explore, by curiousity, dependance, anxiety, and hierarchy. The Map makes of the landscape a wild chess match where we two are at play—and not all in fun. Through the long arm of its aerial view it reaches out to understand, but also to mediate and control the oscillations of greenness in the landscape.

Setting aside for a moment the particular parameters of the Greenness Map project, and whatever ways its portraits satisfy or frustrate, it is the role that the Map inhabits in our relationship to greenness that demands further inquiry. Where do its cartographic processes place us relative to the greenness that we seek to quantify and evaluate? How closely can such a map allow us to approach an understanding of green space? To find some answers, we will turn away from the particular content of the Greenness Map, and instead consider cartographic processes in general: the particular agencies produced by the constellations and geometries that are inherent in its modes of seeing.

Remnant Ridges across the Grid; Reynolds, North Dakota, by Alex S. McLean.

". . . the Jeffersonian grid, projected unconditionally over the open territories of the western United States is at once a symbol of democratic equality and an expedient means to manage vast quantites of territory; an attempt to impose measure on the immeasurable."

- Stan Allen, *From Object to Field*. accessed 16 February 2013, http://crisisfronts.wikispaces.com/Readings.

FLIGHT CAN BE EXHILARATING

It is no surprise that the Greenness Map, like most maps, reports an aerial view. Before satellites gathered data for aerial imaging there was the airplane; before these came the hot-air balloon, which was famously used to capture the first aerial photos of Paris in 1858.[5] Preceeding any flight technology, it was common to climb a tower or a tall hill to gain a chorographic bird's-eye view of a town or region. And finally, barring the availability of any of these direct aerial vistas, the imagination—whether furnished with the aid of cartographic tools or not—has put forth aerial representations of the world since the earliest maps we know. We are used to aerial vantage points and imagery.[6]

In his book *Taking Measures Across the American Landscape*, a visually stunning collection of mapping and aerial imagery made in collaboration with photographer Alex McLean, James Corner writes about the powerful agency exercised by the aerial view in America's landscapes. He explains the particular strengths of the aerial view or aerial representation: those qualities which, in his estimation, recommend it as the "best" method to picture and transform the surface of the earth.

He begins by speaking about the experience of airplane flight:

> *[Flight] can be exhilarating, for even the most seasoned pilot, especially in a small plane, from which landscapes unfold with kaleidoscopic grandeur. When one flies close to the ground, horizons, topographies, colors, textures, and gravities shift and turn in unexpected and breathtaking ways.*[7]

This aerial perspective reads like an amusement park ride, an exercise for revelling in physical and visual surprise as the senses lurch to take in the scene. But a moment later, when he is high above the earth and the plane has levelled out, Corner declares that the landscape is "revealed

5 Charles Waldheim. "Aerial Representation and the Recovery of Landscape" in *Recovering Landscape*, ed. James Corner. (New York: Princeton Architectural Press, 1999), 122.
6 Denis Cosgrove's book *Apollo's Eye* provides an exhaustive account of the history of the Apollonian (singular, transcendent) gaze.
7 James Corner, "Aerial Representation and the Making of Landscape" in *Taking Measures Across the American Landscape*, (New Haven, Conn: Yale University Press, 1996), 15.

Large Pivot Irrigators, by Alex S. McLean

with detached and analytical clarity."[8] Viewing the earth from above, he says, one gains the ability "to see and conceive large regions ... with rational and comprehensive understanding."[9]

How then can we characterise the aerial view?[10] One moment it is a spinning kaleidoscope, unexpected and breathtaking; the next moment its coloured tiles fall into a flat order and appear to offer a dispassionate, coherent perspective. Ultimately, Corner asserts, it is the "synoptic rationality" of the aerial view that is most important, and that renders it the best perspective from which to read and write the built environment.[11] Somehow, his experience of sensory engagement becomes one of cerebral detachment as he glides over the landscape—and the levelling-out of the place does not account for such an overturning of perspective. Instead, the perceptual shift that we see here is primarily internal: a movement of his mind.

In his epic *Prelude*—though precipitated by different circumstances—William Wordsworth describes the same kind of mental inversion that Corner seems to experience. In the poem, Wordsworth is walking distractedly through the streets of London when he finds himself startled out of his reverie. He is suddenly overcome by the sight

> *Of a blind Beggar, who, with upright face,*
> *Stood propped against a wall, upon his chest*
> *Wearing a written paper, to explain*
> *The story of the man, and who he was."*[12]

The blind man and his sign give Wordsworth a kind of terror, in response to which he feels his mind perform a twist:

> *My mind did at this spectacle turn round*
> *As with the might of waters*

8 Corner, "Aerial Representation," 15.
9 Corner, "Aerial Representation," 15.
10 Corner's contradictory characterization of flight seems to echo le Corbusier's. The latter says of the Bird's Eye View in his book *Aircraft:* "The eye now sees in substance what the mind formerly could only subjectively conceive. / It is a new function added to our senses. / It is a new standard of measurement. / It is a new basis of sensation." (Corbusier, 123) But while for Corbusier the airplane reveals and indicts, and provides a new (superhuman) scale, I read his characterization of the flight experience as sensory through and through. It is alienating to the familiar human scale, but in contrast to Corner, never "detached".
11 Corner, "Aerial Representation," 15.
12 William Wordsworth. *The Prelude: or, Growth of a Poet's Mind; an Autobiographical Poem*, London and Literature in the 19th Century: Cardiff University, accessed 01/24/13, http://www.cf.ac.uk/encap/skilton/restrict/wworth02.html.

And once, far-travelled in such mood, beyond
The reach of common indications, lost
Amid the moving pageant, 'twas my chance
Abruptly to be smitten with the view
Of a blind Beggar, who, with upright face,
Stood propped against a wall, upon his chest
Wearing a written paper, to explain
The story of the man, and who he was.
My mind did at this spectacle turn round
As with the might of waters, and it seemed
To me that in this label was a type,
Or emblem, of the utmost that we know,
Both of ourselves and of the universe;
And, on the shape of the unmoving man,
His fixèd face and sightless eyes, I looked
As if admonished from another world.

Though reared upon the base of outward things,
These, chiefly, are such structures as the mind
Builds for itself; . . .

- excerpt from William Wordsworth, *The Prelude: or, Growth of a Poet's Mind; an Autobiographical Poem.*

At that instant, Wordsworth no longer sees the beggar with his sign as a man making a personal plea; but rather, perceives him as a poetic symbol for humanity's general state of blindness in the universe.

The alternate title to Wordsworth's poem is *Growth of a Poet's Mind; an Autobiographical Poem*. In the next stanza, he muses upon the poetic utility of his experience, describing how the poet's mind translates such a scene into a poetic image:

> *Though reared upon the base of outward things,*
> *These, chiefly, are such structures as the mind*
> *Builds for itself* [13]

One moment the blind man startles him; the next moment, Wordsworth sees his mind reconstruct his vision in more abstract terms, building on top of its general shape a thing that he can use. This mental inversion and reinterpretation of the scene is a typical example of Wordsworth's Romantic sublime.[14] In his rendering, the sublime occurs when the poetic mind—and more broadly, the human mind—executes this kind of rereading or reconfiguration of an event to gain "mastery over an experience that had seemed overwhelming."[15]

Recalling Corner's flight experience, we can see a likeness to the cerebral reconstruction that Wordsworth describes. It is through the mind's ability to give an intelligible structure to an overwhelming scene that Corner is able to reinterpret the kaleioscopic landscape as a rational image, and to feel in the place of his original sense of vertigo an intellectual detachment.

There are other writers within the sublime tradition whose ideas illuminate Corner's sense about the experience of flight. As Barbara Freeman describes, Kant finds the sublime experience in the moment when, in the presence of overwhelming (natural) might or vastness, the imagination collapses and "[r]eason finds in the moment of chaos the opportunity to exercise its superior ability."[16] For Kant, the sublime is an exercise of the mind as it recognizes its superiority over nature, in the face of nature's relative physical omnipotence.

13 Wordsworth. *Prelude*
14 Barbara Claire Freeman, *The Feminine Sublime: Gender and Excess in Women's Fiction,* (Berkeley: University of California Press, 1995), 8.
15 Ibid., 8
16 Ibid., 71

Samuel Taylor Coleridge, a contemporary of Wordsworth, takes a different tack. His poetic sense of the sublime experience is one of annihilation rather than victory. He writes, on entering a Gothic cathedral: ". . . I am filled with devotion and awe . . . and the only sensible expression left is, "That I am nothing!"[17]

"Paradoxically," Corner notes, "the view from above induces both humility and a sense of omnipotent power."[18] Steeped as we are in the culture of enduring Romantic landscape traditions, perhaps it is not surprising that we report the range of their sublime sentiments. Looking at the vast landscape from above and trying to understand our relationship to it, we, like Wordsworth or Coleridge, have trouble generating a measured response. Instead, we tend toward extreme conclusions of arrogance or humility.

But what, in particular, does this response have to do with the aerial view? It is clear that, for the sublime machinations of the mind that we have explored, flight in an airplane is not required. To understand our relationship to different aerial views, then, we can begin to make an important distinction: an aerial view from a plane or from a precipice is similar insofar as provides the same opportunities for a sublime response.

Not all aerial views, however, are this simple. To better understand the precise agencies of different views, we need to keep an eye on their geometries of seeing. In particular, it helps to pay attention to the place of observing bodies.

As Elizabeth Grosz reminds us, "we don't just have bodies but are our bodies."[19] Indeed, it is the way that the body positions itself in relation to its surroundings that underlies our notion of "landscape." As Corner explains elsewhere, the beginning of the landscape tradition is understood as the popular emergence of the subject out of the scene. Whereas people once lived on the land in embedded, embodied, intimate relationships with their working environments, "landscape" as we understand it arose with the practice of picturing or viewing the landscape—of beholding it in a detached manner as a scenic, ideological, and instrumental object.[20]

17 Freeman, *The Feminine Sublime*, 9.
18 Corner, *Aerial Representation*, 16.
19 Elizabeth Grosz. "Cyberspace, Virtuality, and the Real." in *Architecture from the Outside*. (Cambridge, Mass: The MIT Press, 2001.) 86.
23 James Corner. "Eidetic Operations and New Landscapes." in *Recovering Landscape*, ed. James Corner. (New York: Princeton Architectural Press, 1999.) 154-155.

It is this role of a detached, viewing subject looking out over the landscape that Corner assumes while in flight. His experience plays out as a direct negotiation between seer and scene. The prosthesis of the plane facilitates a kind of extended, hovering leap into the air: the body is mechanically held aloft, and allowed to temporarily defy gravity, while its physical needs are provisionally met by the regulated environment of the cabin. It is a remarkable technology by which the body can gain alitutude, but it is only this. While airplane flight is an extraordinary experience, the type of seeing it permits—where one casts one's eyes directly over the landscape from above—is not different in kind from an earthbound aerial perspective. In each case, the body engages the scene in a direct fashion.

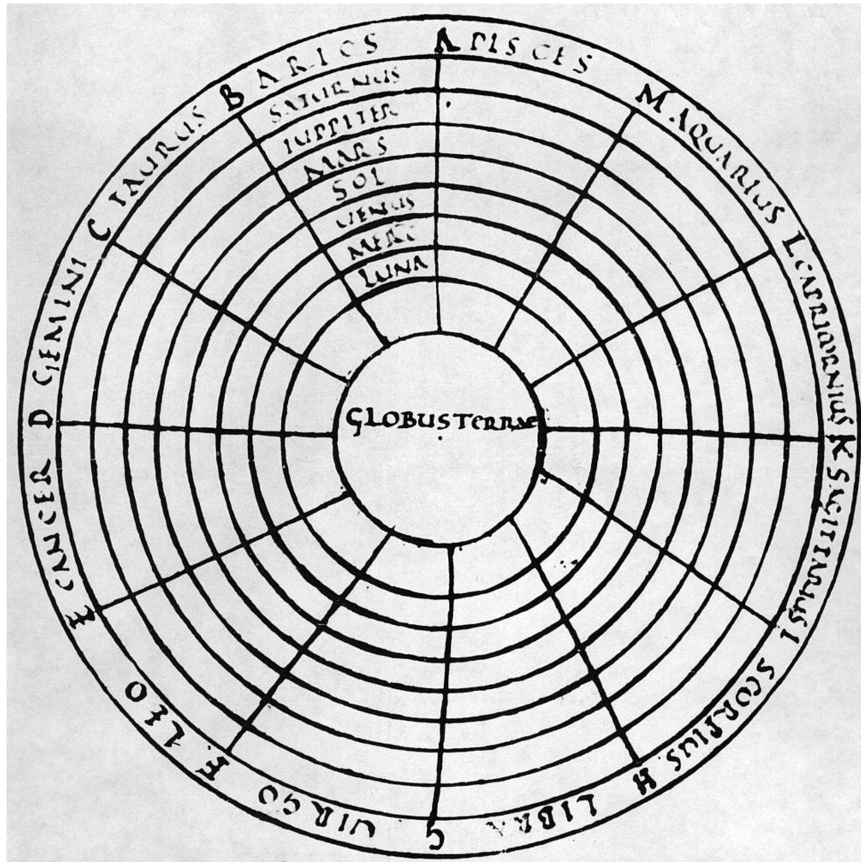
On the other hand, the satellite view—the method behind the Greenness Map—allows us to approach the landscape in a categorically different way. At the simplest level, the satellite is useful because it is able to maintain a position that, for physical or practical reasons, our embodied human eyes cannot. But it also changes the geometry of our view. Inserted into the line of sight between the viewer and the scene, the sensing body of the satellite institutes a middle node through which the gaze must pass. We could say that our vector of sight travels to the satellite, through its eye and back to the earth below; or we could say that we are watching the satellite watch the earth. In either case, the satellite sets our bodies at a distance behind its remote eye, and we see the world vicariously through its technology of surrogate flight. Airplane flight can be breathtaking, but the geometry of the satellite view engages (and disengages) the body in more complex ways.

The difference in the geometry of the satellite view produces unique opportunities and effects; ones that are worth considering on their own, apart from general aerial histories. As airplane flight (and perhaps most importantly, its mass-accessibility)[21] can be seen as a modification and enhancement of the previous ways one could gain a bird's-eye view, the remote-sensing satellite also emerges as the technological fulfillment of a much older history.[22]

Remarkably, we can find the particular advantages of the satellite view explored, exploited and debated many centuries before any spacecraft takes to the skies. In an ancient tale of second-hand flight, its technologies and operations begin to come into focus.

21 Waldheim, "Aerial Representation."

22 Cosgrove makes a similar note that: ". . . for all its radical newness, actually witnessing the globe culminates a long genealogy of imagining and reflecting upon the possibility of doing so." Apollo's Eye. ix.



Planetary Diagram after Macrobius, c. 9th century.

AS FAR AS MAY BE FROM THE BODY

It is as a conclusion to his political treatise treatise *On the Commonwealth* (*De Re Publica*) that Cicero pens the tale known as Scipio's Dream. At the time he is writing, Cicero is a high-profile political figure in his late-middle age, working amid both popular support and powerful enemies.[23]

The time of the tale is set about a century earlier, when the main interlocutor, "Publius" (also known as Scipio Aemilianus, or Scipio Africanus Minor), is a young Roman general poised to follow in the footsteps of his celebrated grandfather. He will, like his grandfather, distinguish himself as a hero of a Punic war (the third Punic war in lieu of the second), and later as a statesman

One night, as the young Scipio's life is poised to unfold, he has a prophetic and omniscient vision. He dreams that he is transported up over the earth to a "lofty perch, dazzling and glorious, set among the radiant stars."[24] There he meets his late father and grandfather, Paulus and Africanus, who set before him the triumphs and challenges that will befall him throughout his political life. His fate isn't an easy assignment. To elucidate the sense of it all, Scipio's ancestors spend the remainder of the Dream—the bulk of it—narrating the scene that extends below and around them in their heavenly seat, laying out a mapping of the earth and the cosmos, of the relationships between mortality and eternity, and between body and soul.

Although he is fascinated by the heavenly spheres of the universe around him, Scipio is continually captivated by his view of the earth at the centre of it all. Africanus chides him for his fascination with the mortal realm, and a glance over its geography confirms the young Scipio's folly. Africanus points to uninhabitable icy realms around the earth's poles, and a torrid region at the equator. Sandwiched between these extremes are two moderate zones that are nonetheless dominated by uncultivated deserts, and only speckled with civilization. From their Apollonian perspective, Africanus brings into focus the tiny extents of earthly kingdoms against the vastness of the universe. Furthermore, the old hero underlines, the mortal realm is petty and perishable;

23 Marcus Tullius Cicero. *On The Commonwealth*. trans. George Holland Sabine and Stanley Barney Smith (New York: Library of Liberal Arts.,1968), 2-4

24 Marcus Tullius Cicero, *The Political Works of Marcus Tullius Cicero: Comprising his Treatise on the Commonwealth; and his Treatise on the Laws,* trans. Francis Barham, Esq. (London: Edmund Spettigue, 1841-42), accessed 28 August 2012, http://oll.libertyfund.org/title/546/83317.

and fame in it is inconsequential and fleeting. Human purpose, Africanus says, is to "guard" or "look after" the earth while the soul is imprisoned in the body, but also to anticipate the soul's final home among the greater, perfect and eternal realm of the stars. He adjures the young Scipio to pursue his life accordingly:

> *Train [the immortal soul] in the noblest ways! Now the noblest concerns of the soul have to do with the security of your country, and the soul which is employed and disciplined in such pursuits will fly more speedily to this abode [among the stars], its natural home. This journey it will make the swifter, if it looks abroad, while still imprisoned in the flesh, and if, by meditating upon that which lies beyond it, it divorces itself as far as may be from the body."* [25]

This final advice from Africanus cleverly twists together the metaphysical imperative of the Dream with both its subject and its approach: for while Cicero contemplates the universe, his body is nowhere in sight. Instead, he sends his gaze out like a line, hooking it over Scipio's heavenly perch before directing it back towards the scene. In this way, Scipio becomes a satellite: an elevated mooring-point for the flight of Cicero's mind, and a set of seeing-eyes that he can calibrate to transmit the image he desires. In the meantime, with his mind free to roam the heavens and twirl the sphere of the earth about in his imagination, Cicero's body remains somewhere at a distance, entirely detached from his contemplations.

Cicero's contrivance to reinforce the message of his treatise by following the metaphysical advice that it offers makes for a tidy piece of philosophy. But there are other persuasive reasons for Cicero, in composing this political treatise, to remain out of view. The first, to which he himself attests, is the personal protection that it offers. Eschewing a first-person discourse for third-party dialogue, Cicero is able to voice his political ideas through some well-loved and long-dead heroes of the republic. "The dignity of the personages len[ds] weight to the discourse," he tells his brother in a letter. [26] Furthermore, it's a strategy that allows him to sidestep any discussions of recent political affairs. This is, he says, "the very thing I wished from the first to avoid, lest in describing our times, I should offend our contemporaries. I desire altogether to escape this danger. . ."[27] It's a prudent consideration: at the time of writing he has recently returned from political exile, and a decade later will be assassinated by a political enemy.

The particular subject matter of the Dream lends Cicero's choice of a satellite perspective further appeal. As Cicero explains in other writings, he sees a temperate, quiet, and restrained

25 Cicero, *On The Commonwealth*. trans. Sabine and Smith, 267.
26 Cicero, *The Political Works,* trans. Francis Barham.
27 Ibid.

mind—one that does not become inflamed with perturbations or violent motions—as necessary to the exercise of wisdom and right reason.[28] And while the other (surviving) content of *On The Commonwealth* can be written as a suitably placid, measured dialogue, easily operating within the domain of reason, writing on the fantastical subject of the Dream presents challenges. The Dream's speaker is obligated to experience a supernatural, otherworldly encounter (for how else could one become privy to such cosmic knowledge?), and such a coup de foudre seems to demand visceral reactions if it is to be plausible to the reader. In this sense, Scipio acts not just as a second set of eyes, ears and lips for Cicero; but as a completely surrogate sensing body, expressing tears, speechlessness, despair, and astonishment in the author's place, and sparing him the problem of becoming personally involved in any of these intemperate reactions.

From another point of view, Cicero's choice of an indirect approach to the sticky subject matter of the Dream is not just convenient, but critical. For as we learn from its text, the heavenly viewpoint that Cicero desires (and that Scipio inhabits) is usually reserved for immortal souls. To write the view as a first-hand account, then, would transgress the very divine orders that Cicero describes. In this way, the satellite view provides a vital position from which Cicero can offer up his physical and metaphysical mapping without undermining its legitimacy.

Here in Scipio's Dream, without the aid of any complex instruments, we can see satellite technology already beginning to exercise some remarkable effects.

28 Marcus Tullius Cicero. "Book IV: On other perturbations of the mind" in *Cicero's Tusculan Disputations.*, trans. C. D. Yonge, (New York: Harper & Brothers, 1877), accessed 29 August 2012, http://www.gutenberg.org/files/14988/14988-h/14988-h.htm.

What, I ask, then, is the principal thing in human life? Not to have filled the seas with fleets, nor to have planted the standard of the nation on the shores of the Red Sea, nor, when land has been exhausted, to have wandered for the injury of others over the Ocean in quest of the unknown. Rather it is to have grasped in mind the whole universe . . . [29]

- Seneca

29 Lucius Annaeus Seneca, John Clarke, Sir Archibald Geikie. *Physical Science in the Time of Nero, Being a Translation of the Quaestiones Naturales of Seneca* (London: Macmillan and Co., 1910), accessed 10 January 2012, http://archive.org/details/physicalsciencei00seneiala,11.

Landscape with the Fall of Icarus, c. 1560.

VEILS

The remote eye of the satellite is a lens that can focus or distort an image; that can read and retransmit what it sees while floating free of the body. It is a tool that can be directed to slice a certain type of information from the scene and to construct a particular set of data. With its mediating eye continuously tethered between the cartographer and the earth, it is both an instrument and an infrastructure for mapping.

In our examination of satellite imaging so far—in Scipio's Dream, the Greenness Map, and Corner's writing—a number of themes carry through. All seek a calculated divorce from direct experiences of the body and its sensations in order to ensure legitimate or factual representations of the world. Further, they all hint at ways in which the synoptic aerial view promotes the agenda of an heroic national project.

But while the scrim of the satellite is an ubiquitous and familiar feature of modern aerial imaging, widely accepted in the era of Corner and the Greenness Map, it seems that some of Cicero's early critics disapprove of the structural distance it produces. We learn this from Macrobius, a sixth-century philosopher who writes a lengthy *Commentary on the Dream of Scipio.*

The problem of the Dream's satellite structure is an important concern for Macrobius. We can guess this because it becomes the first subject of discussion in his Commentary, preceding any debate about the Dream's metaphysical ideas. Macrobius recounts the attack of a critic who denounces the style with which Cicero treats his material: "If you wished to impart to us a conception of the heavenly realms and reveal the conditions of souls," he asks, "why did you not do so in a simple and straightforward manner, instead of defiling the very portals of truth with imaginary character, event, and setting, in a vile imitation of a playwright?"[30]

In Cicero's defense, Macrobius argues that the use of a story to explain the condition of souls should be considered a completely acceptable method for a philosopher, since its *narratio fabuloso* is not a type of fiction that is pure invention; but rather, "rests on a solid foundation of truth,

30 Macrobius, Ambrosius Aurelius Theodosius, William Harris Stahl, and Marcus Tullius Cicero. *Commentary on the Dream of Scipio.* (New York: Columbia University Press, 1952), 84. The criticism here is actually levelled at Plato's *Er,* which takes a similar fable-like approach to its philosophical subject; Macrobius sees that it applies equally to Cicero's *Dream.*

The imaginative power of geography "offers divine intellect to human ingenuity, as if it were by nature celestial, demonstrating how with true discipline, we can leap up within ourselves, without the aid of wings, so that we may view the earth through an image marked on a parchment. [31]

- Francesco Berlinghieri, Italian scholar on Ptolemy, 1482.

31 Cosgrove, *Apollo's Eye*, 109.

which is treated in a fictitious style."[32] But as he expands his argument, it becomes clear that he does not regard the fictive dimension of the story as an inert layer of translation for the metaphysics of the Dream, or as an intermediate screen with absolute transparency through which truths are projected. Instead, the presence of a scrim of fiction has enough substance to take on a moral imperative. Macrobius calls the Dream ".. a decent and dignified conception of holy truths ... presented beneath a modest veil of allegory."[33] And finally, at the climax of his rebuke, Macrobius asserts that this veil of allegory in the Dream is the only natural and appropriate format for the kind of metaphysics it discusses:

> *". . . philosophers make use of fabulous narratives; not without a purpose, however, nor merely to entertain, but because they realize that a frank, open exposition of herself is distasteful to Nature, who, just as she has withheld an understanding of herself from the uncouth senses of men by enveloping herself in variegated garments, has also desired to have her secrets handled by more prudent individuals through fabulous narratives. Accordingly, her sacred rites are veiled in mysterious representations so that she may not have to show herself even to initiates. Only eminent men of superior intelligence gain a revelation of her truths; the others must satisfy their desire for worship with a ritual drama which prevents her secrets from becoming common."*[34]

To Macrobius, then, the veil of representation or fiction in the Dream is a crucial philosophical tool. It preserves the natural distance between Nature's secrets (sacred) and man's sensory explorations (uncouth), but also puts in place a narrative *through* and *in* which a kind of proxy exploration can take place. To read the narrative is to participate in its ritual drama. The drama unfolds as follows: motivated by a desire for knowledge, the reader explores the black-and-white text of the Dream, and peering through its mediating image, can begin to make out the living forms of the universe (and of Cicero) that hover behind it. It is a ritual because, through the fixed object of the text, a conventionalized exploration of the universe can be repeated again and again in a similar format, by many different readers. And as the critic and Macrobius both hint, inscribed in its dramatic arc is a set of sensations: a curiosity that becomes, in parts, whetted, amazed, fulfilled and frustrated by the Dream's revelations, as the text predetermines and limits how and how closely the thing can be grasped. To Macrobius this is just as it should be; to Cicero's critic it's just willful irritation.

What of the critic's accusation that this arrangement is unfair, indeed "vile?" Macrobius would call it sour grapes: he insinuates, without much subtlety, that this critic is simply not among the "eminent men of superior intelligence" who deserve to be privileged with a clearer view.

32 Ibid., 85
33 Ibid., 85.
34 Ibid., 86-87.

'And then came the grandest idea of all! We actually made a map of the country, on the scale of a mile to the mile!'

'Have you used it much?' I enquired.

'It has never been spread out, yet,' said Mein Herr : 'the farmers objected : they said it would cover the whole country, and shut out the sunlight! So we now use the country itself, as its own map, and I assure you it does nearly as well.'[35]

- Lewis Carroll

… In that Empire, the Art of Cartography attained such Perfection that the map of a single Province occupied the entirety of a City, and the map of the Empire, the entirety of a Province. In time, those Unconscionable Maps no longer satisfied, and the Cartographers Guilds struck a Map of the Empire whose size was that of the Empire, and which coincided point for point with it. The following Generations, who were not so fond of the Study of Cartography as their Forebears had been, saw that that vast Map was Useless, and not without some Pitilessness was it, that they delivered it up to the Inclemencies of Sun and Winters. In the Deserts of the West, still today, there are Tattered Ruins of that Map, inhabited by Animals and Beggars; in all the Land there is no other Relic of the Disciplines of Geography.

Suarez Miranda,Viajes de varones prudentes, Libro IV,Cap. XLV, Lerida, 1658"[36]

- Jorge Luis Borges

35 Lewis Carroll. "The Man in the Moon" in *Sylvie and Bruno Concluded*. (London: Macmillan and Co., 1893), accessed 22 July 09, http://archive.org/details/sylviebrunoconcl00carriala, 169.

36 Jorge Luis Borges. "On Exactitude in Science" in *Collected Fictions*, trans. Andrew Hurley. 325.

We, on the other hand, might just see the critic's protestations as unrealistic. As satellite technologies have become ubiquitous, we have become used to the ways that they mediate our view. It seems unreasonable to expect that Cicero should have been able to provide a transparent description of the heavenly realms and the conditions of souls; as it would be unreasonable for us to expect today that a satellite map should be able to capture and make available an uncompromised portrait of the spatial and temporal dimensions of greenness as it extends over a whole continent. The Greenness Map, like the Dream, relies on a particular set of abstractions in order to approach its otherwise unapproachably complex subject. If Cicero's narrative establishes a ritual drama for understanding the universe, the Map could be said to stage a similar kind of re-enactment of greenness: this time re-presented on the proscenium of the computer screen. And where the Dream uses devices of fiction to render the scene, the Map relies on its own set of generalizations and tolerances to flatten, scale, simplify, frame, and colour its subject. These tools, as we have seen, can choose what is revealed, produce opacities, and even allow for deliberate obfuscations. As map-readers, we are left trying to make out the details of greenness through their screen.

When we step back to consider them, these satellite processes—and the maps that they place in our hands—leave something to be desired. But despite their limitations, we would not reason that these maps should not be made. Rather, we rely on their distilling and simplifying effects for the practical and serviceable information that they produce. We find them invaluable because they give us remarkable capacities to represent the world; in particular, to selectively represent information out of the world in a way that's useful to us. The notion of a "perfect" map is a farce: several writers—including Lewis Carroll and Borges—have written amusing fables about the absurdity of creating a 1:1 scale map that exactly reflects its territory. But on the other hand, a perfectly complete understanding of territories seems to be what we are after. Mapping technologies are continually advancing as we invent tools that can take more precise measurements. We are constantly developing representational techniques that reduce distortion and make maps clearer, more easily accessible, more detailed and more expansive. Corner identifies this ongoing evolution in aerial representation as a necessary facet in the continued enrichment of cultural life.[37] And so while maps and their subjects remain at an inevitable distance from each other, they seem to be drawn together in a kind of asymptotic relationship of infinite approach-without-touching. "All men reach out to know,"[38] Aristotle states axiomatically; and the satellite extends and elaborates that reach.

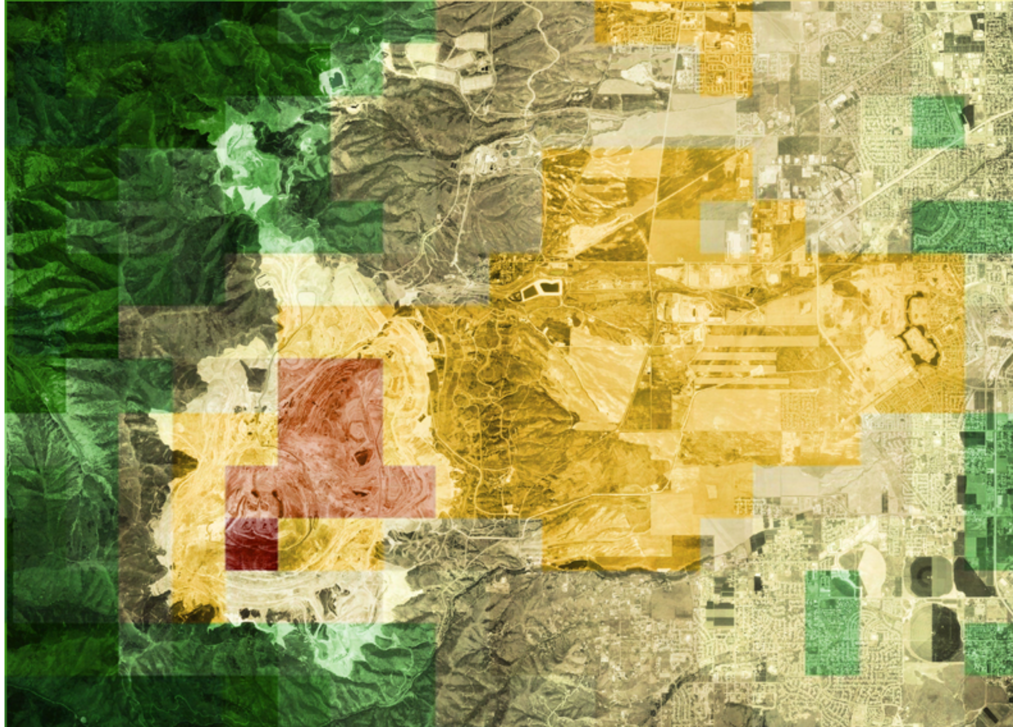
37 Corner.,"Aerial Representation," 19.

38 Anne Carson, Eros the Bittersweet (Champaign: Dalkey Archive Press, 1998.),109.

EROS

The Greenness Maps are just one project of the EROS facility. Hunkered squarely in the centre of the continent in rural South Dakota, it houses massive digital and physical databases of U.S. government aerial and satellite information. Here vast amounts of data—what they refer to as "the raw material of science"—is stored, organized, interpreted and distributed. This work is called, suitably enough, Earth Resources Observation and Science; but the resulting acronym, EROS, comes as a surprise. For an organization committed to providing impartial scientific information, it feels incongruous to see a name for desire brought into view.

The EROS multidisciplinary staff uses their unique expertise in remote sensing-based science and technologies to . . . address the Nation's most critical needs.



Bingham Canyon Open Pit Copper Mine: A Greenness Map overlaid with an aerial photograph. According to mining-technology.com, Bingham Mine is "the largest man-made excavation on earth."

"The Greek word eros denotes 'want,' 'lack,' 'desire for that which is missing.' "[39] says poet and classicist Anne Carson. Carson spends her book *Eros the Bittersweet* hunting out eros' meaning and tracking its enigmatic qualities: she searches out the mysterious circumstances of its emergence, the sensations that tell us that it is there, the ways it seems to act, and what it seems to be.

Although it is often associated with romantic love, Carson finds that eros is not limited to that sort of desire. In one instance, Sappho likens the object of eros to a sweet apple that remains on a high branch after harvest: something that is tantalizing but out of reach. For Sokrates, the pursuit of knowledge is erotic: he talks about having a knowledge "only of erotic things."[40] The way to know Eros, he offers in Plato's Phaedrus, is by its wings:

> *"Now the mortals call him winged Eros*
> *but immortals call him Pteros, because of the wing-growing necessity."*[41]

Sokrates' pun on Eros—Pteros—incorporates the Greek word for wings. It's a playful but potent identification of eros' unmistakable sensation: it engenders a sense of flight, or a need for flight, where previously there was none.

In another poetic fragment about falling in love, Sappho also makes note of eros' wings. "It puts the heart in my chest on wings,"[42] she says; here identifying the impetus to flight as a sensation that emerges inside the lover. The image of wings beating inside a chest is both thrilling and frightening, for their effect is equivocal: promising both liberation and violence.

Carson examines Sappho's poem to understand the conditions that cause the wings to sprout. "It is a poem," she explains, "about the lover's mind in the act of constructing desire for itself."[43]

39 Anne Carson. *Eros the Bittersweet.* (Champaign: Dalkey Archive Press., 1998), 10-11.
40 Ibid., 170.
41 Ibid.,161-163. Carson notes that the translation of this passage is complicated, as it does not make clear "whose are the wings and whose is the necessity."
42 Ibid., 13.
43 Ibid., 16. Carson also argues here that, opposing some other interpretations, the poem is not about jealousy or praise or "the normal world of erotic responses."

He seems to me equal to gods that man
who opposite you
sits and listens close
to your sweet speaking

and lovely laughing—oh it
puts the heart in my chest on wings
for when I look at you, a moment, then no speaking
is left in me

no: tongue breaks, and thin
fire is racing under my skin
and in eyes no sight and drumming
fills ears

and cold sweat holds me and shaking
grips me all, greener than grass
I am and dead--or almost
I seem to me.[44]

Sappho, fragment 31.

The scene of the poem is composed simply of three figures: he, me, and you. "He seems to me equal to gods that man," Sappho begins, measuring up the figure of the unnamed man against herself. We don't learn who he is. What makes him seem divine to her is his position in space, where he is able to sit and listen close to one with sweet speaking and a lovely laugh. This one, we learn, is Sappho's beloved.

Watching the exchange between the man and the beloved, or watching her through his eyes, Sappho feels the emergence of eros' wings. ". . . [W]here eros is lack," Carson explains, "its activation calls for three structural components—lover, beloved, and that which comes between them."[45] In other words, the man completes the figure of eros, making palpable to Sappho that which she is missing. Carson again:

> *"They are three points of transformation on a circuit of possible relationship, electrified by desire so that they touch not touching. . . . When the circuit-points connect, perception leaps, and something becomes visible, on the triangular path where volts are moving, that would not be visible without the three-part structure. The difference between what is and what could be is visible. The ideal is projected on a screen of the actual, in a kind of stereoscopy."*[46]

What becomes visible to Sappho during the erotic poem is the possibility of sitting next to her beloved, of inhabiting the man's place. "For when *I* look at you", she says; and then her gaze hinges, pulled back inside her own body as she is propelled into the space of desire.

Here we learn what kind of damage eros' wings can do to a lover. Senses lose their bearings. Faculties are paralysed, annihilated, overcome. Hot and cold shake her at once; every fibre of her being seems wracked within a hair's breadth of collapse when she takes a last, equivocating look over herself.

Perhaps to her surprise, she does not collapse. Instead, in this precarious centre of eros, the fleeting instant when she finds herself dead—or almost dead, or at least almost seeming dead to herself—she also finds herself surpassingly green.

54 Carson, *Eros*, 12-13.
55 Ibid., 16.
46 Ibid., 16-17.

. . .

and cold sweat holds me and shaking
grips me all, greener than grass
I am and dead--or almost
            I seem to me

But all is to be dared, because even a person of poverty

WHAT IS TOUCHING

This poem of Sappho's, a fragment of a longer poem, does not properly end in the instant of her feeling-green. In fact, in another translation of Sappho's work, Carson reveals that history has conserved one final, partial idea from the poem. It is hard to say where the thought is leading, but its opening imperative reveals the poet's view of what has just happened.

> *"But all is to be dared, because even a person of poverty . . ."*[47]

it declares, and then trails off. If "all is to be dared," Sappho seems to regret nothing of the burning and trembling that eros has caused her, the seeming-risk to her mortality that she has just endured. Instead, she underlines that the imperative of falling in love is to dare everything, to dare completely.

To what end? Fairy-tale endings tell us that what is hoped for when we fall in love is a *happily ever after*: an embrace of the beloved that seems to extend right out of this world and out of time. But Carson argues that for Sappho, eros is not a means to an end but an end itself, or rather, a beginning. "On the surface of it," she says, "the lover wants the beloved." However, in this poem:

> *"Union would be annihilating. What the lover in this poem needs is to be able to face the beloved and not be destroyed; that is, she needs to attain the condition of 'the man who sits and listens closely.' His ideal impassivity constitutes for her a glimpse of a new possible self. . . . That godlike self, never known before now comes into focus and vanishes again in one quick view."*[48]

Carson calls this view a kind of stereoscopy, a "touch not touching." It is clear, in Sappho's poem, what is not touching: the poem is built on the distance between lover and beloved. But something is also touching, for something real is happening: Sappho watches it and tells us about its real destabilizing effects. From the outside, she does not seem to move a muscle; but there is nonetheless a sense of reaching, of sensory contact, of something in her body being drawn out.[49] What touches Sappho is the birth of the notion of *what could be*, a fresh sensation

47 Anne Carson, trans. *If Not, Winter: Fragments of Sappho*. (New York: Vintage Books, 2002,) 63.
48 Carson, *Eros*, 62.
49 Ibid., 36

running through the moment, a rush of wind stirred up by eros' beating wings that momentarily disturbs her equilibrium.

The thing that touches the lover in love is ineffable, difficult to put a finger on. But reading theorist Brian Massumi, it seems that it is our mode of perception that implicitly opens us up to its mysterious sensation. For Massumi describes something similar at work in the way we perceive things in general; and in particular, when we look at art:

> *We never just register what's actually in front of our eyes. With every sight we see imperceptible qualities, we abstractly see potential, we implicitly see a life dynamic, we virtually live relation. . . . It's an event. . . . full of all sorts of virtual movement. It's real movement, because something has happened: the body has been capacitated. It's been relationally activated. It is alive in the world, poised for what may come.* [50]

Usually, he says, we are not aware of seeing this potential, of perceiving this life dynamic (which he also calls vitality-affect, or thinking-feeling.) In everyday life, the life-dynamic is backgrounded by our orientation to action in the world. Art, however, is effective and affective because it engages our bodies to action but suspends the potential to action. This suspension foregrounds our perception of the life dynamic, even when we look at something as simple as a motif:

> *That's why we see movement in a motif. The form "naturally" poises the body for a certain set of potentials. The design calls forth a certain vitality affect – the sense we would have, for example, of moving our eyes down a branch of rustling leaves, and following that movement with our hands. But that life dynamic comes without the potential for it to be actually lived. It's the same lived relation as when we "actually" see leaves, it's the same potential. But it's purely potential.* [51]

Here, Massumi's description of the life-dynamic appears to produce effects similar to those that we have watched arise in the flash of Sappho's eros. For eros' triangulation arrests Sappho in her dawning awareness of potential: while she sits powerless, we see her body seared-through by the impetus to act. Sappho can't actually approach her beloved (as it would annihilate her), she can't switch places with the man, she can't master her emotions like a god; but all at once she feels all of these potentials emerge. In their emergence, Sappho feels something stir up: she sees herself seeing her own drive to action, to change, to become-other. The sensation is both painful

50 Brian Massumi, "The Thinking-Feeling of What Happens," *Inflexions* 1.1 "How is Research-Creation?", May 2008, www.inflexions.org, 5
51 Ibid., 5.

and beautiful: feeling “the current of eros pass through,” she is captivated by its transformative, revealing, and enlivening effects.

“We don’t just look, we sense ourselves alive,”[52] Massumi says; and his words capture perfectly the vitality of Sappho’s gaze. Indeed, it is these same effects that pique Carson’s fascination with eros. “I would like to grasp why it is,” she says, “that these two activities, falling in love and coming to know, make me feel genuinely alive.”[53]

52 Massumi, *Thinking Feeling*, 5.

53 Carson, *Eros*, 70.

TRYING TO FIND OUT AND FINDING OUT VS. TRYING TO FIND OUT AND NOT FINDING OUT

As Carson notes, she finds eros at work beyond the realm of falling in love; in particular, she identifies its sensation when she is reaching out to understand something, or coming to know. Looking to the way that Sokrates describes loving and learning in Plato's Phaedrus, she finds that the erotic currents that drive a lover's pursuit of her beloved follow a similar spatial and temporal structure as the flows that carry an inquiring mind in its search for knowledge. Reaching to understand the world around him, the curious thinker constructs his desire for knowledge in the gap between the known and the unknown, and the awareness of that which holds them apart. The inability to resolve this difference is felt as a gap or lack where eros resonates. It is felt in the imagined future that tears itself out of the "now" and floats like a spectre over the present moment. Like desire for a beloved, it singes through the body of the learner with feelings both sweet and bitter. The pursuit is bliss, but it also torments because the thing that is desired cannot be grasped.

Until it is.

What happens when one comes to know—when the erotic pursuit of knowledge comes to a close—is a subject taken up in a whimsical way by Mark Twain, in a small book called called *Eve's Diary*. Satirical, at times troublesome, but often poignant, *Eve's Diary* is an imaginative recounting of the first days in Eden, narrated by Eve. In the Garden, Twain portrays Eve as the first scientist, one who is interested in reaching out to understand the world around her by watching and experimenting in it. In the process of her self-education, Eve makes some discoveries about what learning is like; and particularly, what happens when she comes to grasp a piece of knowledge tightly in hand.

She is troubled for some time about how a waterfall in the Garden can run continuously without exhausting itself. One day she reports that she has learned (by experiment) that in order for water to be able to flow down into the pool each day, the water must run uphill at night while she can't see it. While she is proud of her discovery, she also mourns it:

Even trying to find out and not finding out is just as interesting as trying to find out and finding out, and I don't know but more so. The secret of the water was a treasure until I GOT it; then the excitement all went away, and I recognized a sense of loss.[54]

There are, of course, more mysteries in the Garden for Eve to work out. She hasn't yet discovered how to prove that rocks float ("like wood, and dry leaves, and feathers, and plenty of other things"); and though she keeps searching for a way to prove her conjecture, she fairly dreads finding it:

I shall find a way—then THAT excitement will go. Such things make me sad; because by and by when I have found out everything there won't be any more excitements, and I do love excitements so! The other night I couldn't sleep for thinking about it.[55]

Twain's Eve is captivated by the pursuit of knowledge, the excitement of hurtling towards knowing. But once she gets the thing she is after, and the space of her desire collapses, she finds that the sense of wonder that once moved in it sorely missed. Her body quickly becomes restless again "to feel the current of eros pass through."[56]

54 Mark Twain, *Eve's Diary* (Project Gutenberg), released 14 June 04, www.gutenberg.net.
55 Ibid.
56 Carson, *Eros*, 62.

For all of its light-heartedness, there is something serious and immensely familiar about Twain's image of Eve in Eden--the way that she tosses and turns one night because she cannot figure something out, and the next night because she thinks she has. For especially during Twain's lifetime, America finds itself grappling with just this insecurity: on one hand driven to unfold and settle the landscape, on the other hand unsettled at the prospect of one day finding nothing new to discover. Indeed, the tension in these paradoxical impulses still agitates: our investment in the sensations of discovery runs deep. We can understand Eve's sense that some serious thing will assuredly be lost when she gets to the bottom of the garden.

In his seminal 1989 book *The End of Nature*, environmentalist Bill McKibben tries to describe the need of the American imagination for unknown realms, in order to feel itself not hemmed in by civilization. His arguments tend toward the mystical and romantic, but he is nonetheless on to something. "The wonder of nature does not depend on its freshness," he asserts somewhat unconvincingly. "But we still feel the need for pristine places, places substantially unaltered by man. Even if we do not visit them, they matter to us. We need to know that though we are surrounded by buildings there are vast places where the world goes on as it always has."[57] He makes the grudging concession that "[i]f we can't have places where no man has ever been, we can at least have spots where no man is at the moment."[58] In other words, we need spaces that we can understand as unequivocally outside of human civilization, and ideally outside of the reach of human impact. Without these spaces, McKibben asserts, something feels terribly wrong: they bear some critical psychic importance.

Indeed, the habit of seeing the world as having an inside and an outside is a very old Western construction. The ancient Greek cosmographer Anaximander may have been the first to define the world in this manner: in his lost treatise from the sixth century B.C.E., he divides the stuff of existence into the circumscribed, bounded body of the known world, and an openly-extending, perhaps infinite external realm. In his book *The Edges of the Earth in Ancient Thought*, James Romm suggests that Anaximander's sense of the world-proper, the *oikumene*, can be defined most closely as "a region made coherent by the intercommunication of its inhabitants." Outside of

57 Bill McKibben, *The End of Nature* (New York: Random House, 1989), 55.
58 Ibid., 55.

the *oikumene*, the world is *apeiron* or boundless: an undifferentiated welter of elements spilling outward without a border; an "uninhabited waste" full of chaotic stuff and perhaps monstrous or noble races. Outside the *oikumene* dwells an immeasureable (or at least unmeasured) expanse for which there is a lack of information. It is not a void; but it will not surprise us that the space outside the *oikumene* is also called by Herodotus *eremos*, or empty space.[59]

In broadest terms, Western mapping practice begins with the Ancient Greeks' puddle of *oikumene* around the Mediterranean and, through time, extends outward. In his book Apollo's Eye, Denis Cosgrove diligently tracks the changing modes and increasing extents of world mapping practices. He notes that the expansion of the known world proceeded with greatest earnestness from the 1500's until around the beginning of the 20th century: in 1904, with the farthest edges of the earth coming into view, British academic Halford Mackinder declares the that world is witnessing the "final acts of a four-century Columbian epoch." Aided by growing global communication and cross-continental transportation networks, Western exploration at this time finds itself in the throes of completing its competitive project to "discover" and incorporate the totality of global space within the framework of modern capitalism. The penetration of continental interiors and the latitudinal encircling of the earth "bringing East and West together within a single imaginative realm," along with polar explorations, represents the final conquests of global frontiers. As the end of a long and defining project, the erasure of these last "unknown" frontiers stirs up the discomforting prospect of an earth with no "new" lands to discover, an earth that can be grasped in its totality.[60]

Such a spatially enclosed globe leaves little room for new heroic voyages or the expansion of empires; no space for new conquests by the march of history. Ironically, the Western imagination's perception that it now exercises a totalizing reach over the globe seems to present a threat to its own identity: following the death of the American frontier, declared in the 1890 census, Frederick Jackson Turner "reflect[s] anxiously on the necessity of open space for the continued survival of American 'civilization.'"[61]

One of America's responses to its newly-closed, now stifling continent is the pursuit of new frontiers. Before the end of the century, America begins its own colonisations: as though still propelled by the inertia of its westward push, it spills out over the terminal edge of the continent to take the Hawaiian Islands. As well, the frontier of outer space gains new importance.

59 Romm, *Edges of the Earth*, 36.
60 Cosgrove, *Apollo's Eye*, 222.
61 Ibid., 221.

Cosgrove reports that the Buffalo Pan-American Exposition of 1901 satirically "offered trips to the Moon, the terrestrial globe supposedly having jaded the geographical imagination:"

> *"The prodigal modern Midway is fairly using up the earth, A few more Expositions and we shall have nothing left that is wonderfully wonderful, nothing superlatively strange; and the delicious word "foreign" will have dropped out of the language. Where shall we go to get a new sensation? ... Behold the world is a sucked orange.""*[62]

The loss of frontier "wilderness" in America also prompts the institution of its first national parks. But these "preserved wildernesses," curated and controlled, contained within the realm of civilized space, perhaps only mythically accommodate that old "unknown". They satisfy some impulse to step away from the built world but, for a frontier mentality, they also leave something to be desired. "[Y]ou can't be the first to explore blank spots on the map or to climb the mountains anymore," a modern-day adventurer tells McKibben, in between trips to encircle Mt. Everest and to row from Tierra del Fugo to Antarctica. "It has a lot to do with style now,"[63] he concludes; and we sense that this is truly a second-rate option. However, even this compromised scope for terrestrial exploration seems to be drying up: in March 2013, a team set out to achieve the historical "first" of crossing Antarctica during the polar winter, describing it as the last great polar challenge.[64]

What is striking about both McKibben's adventurer and the Antarctic team is that they are after nothing in particular: only the reach for new places, territories or territories of experience on which they alone can place their names. As Carson shows us, it is only on the surface that one who desires wants the object of her desire. It is the object that we can watch her pursue, but what she is really after is the desire itself.

If the Columbian epoch of terrestrial exploration is really on its way out, it is not going quickly or without a fight; for as McKibben points out, we feel that something critical is at stake in the loss of these "empty" spaces. Cartographer Alexandre von Humboldt, in his 1844 *Cosmos: A Sketch of the Physical Description of the Universe*, puts as fine point on the problem as I have found. He writes about our psychical dependence on "unknown and unopened" territories:

62 Cosgrove, *Apollo*, 229-230.
63 McKibben, *End*, 46.
64 "Explorer Sir Ranulph Fiennes on historic attempt at crossing Antarctica", on *The Sunday Edition,* Canadian Broadcasting Corportation, 24 March 13, http://www.cbc.ca/thesundayedition/shows/2013/03/24/ranulph-fiennes/.

. . . besides the pleasure derived from acquired knowledge there lurks in the mind of man, and tinged with a shade of sadness, an unsatisfied longing for something beyond the present--a striving towards regions yet unknown and unopened. Such a sense of longing . . . animates the mysterious relation existing between that which the mind receives from without, and that which it reflects from its own depths to the external world.[65]

An intriguing constellation emerges in this passage. Humboldt says that the longing that we feel when faced with "regions yet unknown" animates—makes or keeps alive—some perceived relation between ourselves (our depths!) and the world. But this relation is not just a question of space: our longing for "unknown and unopened" space is somehow conflated with our striving for "something beyond the present." We perceive that our pursuit of "new space" is tied to our access to new time.

For Humboldt then, a future, and perhaps any future, is dependent on the existence of unopened space and its hopeful, slightly melancholic pull. Michel Serres calls the wildish, vegetative spaces in the West, these peripheral or marginal green spaces, "the locus of our sense of history and time."[66] Humboldt would agree.

65 Cosgrove, *Apollo*, 213.
66 Serres, "China Loam." 9.

ABDUCTION, STRONG-ARMING, AND OTHER WOUNDS: HOW TO BE A LOVER

The reach for the beloved, like the reach for new territories, is paradoxical. While it drives toward that which it wants, it must also somehow maintain the sense of lack that motivated its reach in the first place. It is no surprise that this double-headed desire can cause trouble.

As we have seen in the march of global exploration, one way to keep desire alive is to continue to reach toward new spaces--to follow one conquest with another. It is clear that this strategy, a kind of Casanova approach, cannot hold up forever in the Earth's finite space. Indeed, we would say that a lover who seeks to consume all that he desires is troublesome, for such a lover is prone not to notice what he also lays to waste. Likewise, with an eye always fixed on some future territory, the explorer's mentality considers no future in the here and now. And if he is eventually driven to completely replace "coming to know" the earth with "coming to know" the outer, possibly infinite region of space, who knows what may happen to the ground on which he stands?

Following Carson, we have constructed eros around a lover and a beloved, and that which keeps them apart. On one hand, identifying the actors of eros in this way simply speaks to its subjectivity, to the simple fact that the lover says to the object of her affection "I love you." On the other hand, it can suggest a hierarchy, where the lover is the active party (the one who is loving) and the beloved is construed as passive (the one who is being loved). It is the same construction that allows us to say, when we have learned something, that we have grasped it, or "got" it. Perhaps it is no surprise then that the lover's pursuits can also tend toward grasping,. They can become acts of abduction.

Carson explains that in some facets of ancient Greek society, contemporary rituals indeed acknowledge the lover as an abductor, casting the beloved as the coy or ashamed counterpart in a love affair. It is not clear to what degree these love affairs are consensual, but she suggests that they are permitted on the grounds of a hierarchy defining who may act as the lover and and who the passive beloved. She relates the Cretan practice of "ritual homosexual rape of boys by their lovers," in which "[t]he rape began with a conventional gift-exchange and ended with the rapist carrying off his beloved on horseback for a two-month sojourn in hiding."[67] If the man

67 Carson, *Eros*, 24.

is of equal or higher status, a fourth-century source reports, friends and family offer only mock resistence.[68] "Legitimate marriage rites throughout the Greek world adopted much of the same imagery and attitude," Carson affirms. Vase-paintings often depict the wedding ceremony as the symbolic abduction of the bride by the bridegroom, where "[t]he abducting bridegroom may hold his bride diagonally across his body as he mounts the wedding chariot; the bride expresses unwillingness, . . . frequently she is seen pulling her veil across her face with one hand in the symbolic gesture of female *aidos* (shame)." Carson underlines that the images should be not "interpreted as mythical scenes but as *ideal* representations of normal wedding rites, bristling with ambiguities as such rituals do in many cultures."[69] Foreign as they are, these ritual abductions are striking illustrations of the impulse to capture that can be implied in a lover's reach.

The dynamic of the erotic reach as a bid to seize hold, or to exert a controlling grasp, is often just beneath the surface of the way that we have historically spoken about coming to know the landscape. Metaphors of gender, sex and sexual pursuit are long-standing tropes used to analogize our affair with the earth. We tend to imply hierarchy by employing gender terms, usually invoking what these terms have traditionally represented: the land (or earth or nature) has long been construed as female and passive territory on which an active, male, cultural subject acts. As such the land—and the living things and processes that constitute it—are rendered as a blank slate, a void or open space without an identity of its own that is waiting to be taken up, given form and temporal structure. Using this metaphor, we read the land as a receptacle in which the contents of history are to be inscribed.

In her book *Reinventing Eden*, Carolyn Merchant explores the ways that the project to build a new Eden in the "new world" of the Americas renders it an ideal terrain for domination by an heroic settler-subject. Read through the lens of Eden, America's "virginal" lands, innocent and abundantly promising as they are, are nonetheless damned by the "fall from grace" that cast Adam and Eve out of the Garden. As such, they are in need of redemption, of perfecting. Merchant quotes Thomas Morton, an English clergyman and early settler in Maine, whose 1632 writings make vivid this vision for the settler in the landscape. "New England is like a "faire virgin longing to be sped and meete her lover in a Nuptiall bed," Morton writes. "Her fruitful wombe . . . not being enjoyed is like a glorious tomb."[70] This quaint couplet has all the feel of a lusty bridegroom riding in on his horse to claim his virgin bride: no matter that he attributes the unholy longings to the bride.

68 Carson, *Eros*, 24. Emphasis is mine.
69 Ibid., 24-25.
70 Carolyn Merchant, *Reinventing Eden,: The Fate of Nature in Western Culture* (New York: Routledge, 2003), 123.

Using less explicitly sexual terms, Emerson writes a similar vision in 1844:

> *"This great savage country should be furrowed by the plough, and combed by the harrow; these rough Alleganies should know their master; these foaming torrents should be bestridden by proud arches of stone; these wild prairies should be loaded with wheat; the swamps with rice; the hill-tops should pasture innumerable sheep and cattle . . . "*[71]

Morton and Emerson's writings are antiquated, but their attitudes still linger. Reverend John Todd, best known as an abolitionist, writes in 1870 that: "Nature finds materials and it is for man to take and improve them."[72] Today, the USGS speaks instead of "resource development."[73] The take-over is described in different terms, but the approach of this contemporary body to the landscape is not so great a departure from those of the past.

71 Merchant, *Reinventing Eden*,105.
72 Ibid., 97,
73 U.S. Geological Survey, accessed 30 January 2012, http://www.usgs.gov/

STRONG-ARM

Throughout her book *Eros the Bittersweet*, Carson looks to many sources—to poets ancient and modern, to linguistics, philosophy, even to the act of writing itself—to explore the motions and contours of Eros. She always finds it floating between things, held in the tension of a paradox, never quite possible to pin down. She always finds it moving, and just out of her reach. But if grasping desire itself is elusive, much can be learned about it by watching the effects that are left in its wake. And although the pursuit is prone to many pitfalls such as those explored above, she is unequivocal that life without it would be pale and dull: indeed it would hardly be life.

> *Imagine a city where there is no desire. Supposing for the moment that the inhabitants of the city continue to eat, drink, and procreate in some mechanical way; still, their life looks flat. ... Few think to shun pain; none give gifts. . . .*
> *A city without desire is, in sum, a city of no imagination. Here people think only what they already know.*[74]

Nonetheless, reading Plato's *Phaedrus*, Carson finds still more troubling effects of eros. In the course of the dialogue, Sokrates and Phaedrus find that eros presents dangers to the lover; and in response, that the lover can be compelled to harm the beloved. Or, he may play tricks with the figure of eros itself, short-circuiting its effects to prevent his pain.

To begin with, eros is the cause of various "sicknesses" for the lover. As we saw in Sappho's poem, eros stirs up wildly unsettling currents in the lover, tearing under her skin with both fire and ice. But these bittersweet sensations—the lover's sense that something like wings are sprouting in her core—are eros' greatest gifts. For the sake of the lover's immersion in these currents, Sokrates calls love a kind of mania. "For indeed lovers themselves admit that they are sick not sane, and know they are not in their right minds, but they are not able to control themselves."[75]

Erotic mania can lead a lover to entirely disregard reason. It can distract him so powerfully that he is prone to neglect his own security and health. He can become so caught up in his sense of lack, and so attuned to his fantasies, that he can become blind to the exigencies of his own body in the "now", or how he should comport himself:

74 Carson, *Eros*, 168
75 Ibid., 149.

. . . he forgets his mother and his brothers and all his comrades, couldn't care less if his property is lost through neglect, and, in disdain of all those proprieties and decorums whose beauty he once cherished, he is ready to be a slave, to sleep anywhere he is allowed, as close as possible to his desire." [76]

These distractions lead the Greek poets to be generally dubious that eros can come to any good.[77] But in the moment of eros, when a person is transformed into a lover, it is not primarily these dangers that she fears. Instead, what the lover fears is the end of her desire: the emptiness and pain that would come if eros were to depart, its wings torn away. The fear of this loss is part of eros' mania, and can breed ugly effects.

In Plato's dialogue, the type of erotic relationship that is discussed is particular to his day, but it is nonetheless demonstrative of eros' pitfalls and promises. The role of the beloved is played by the *paidaka* or "beloved boy"; the lover is the man or *erastes* who pursues him. Sokrates says that an *erastes* "is of necessity jealous", for he sees that time will act as an enemy to his desire, removing his *paidaka's* beautiful bloom of youth. This jealousy can bring the *erastes* to attempt to control and restrict the boy. Driven to cling to the present of his love affair for fear of the future, he tries to freeze his *paidaka* in the present moment, to strong-arm time in order to save his desire:

What the conventional lover wants [from time] is to remain in the "now" of desire at any cost, even to the extent of radically damaging his beloved in order to do so. Such a lover, Sokrates says, will stunt the growth of his beloved in every direction that leads the boy away from direct dependence on his erastes*. He will inhibit the boy from normal physical development in outdoor life, keeping him in shadow and cosmetics, away from manly toils. He will set up similar barriers to the boy's cultural and intellectual development, lest the* paidika *grow beyond him in mind."*[78]

To wrench the beloved out of time causes radical damage, because time should naturally confer change on the boy: growth, maturation, and self-realisation. "The people we love are never just as we desire them," Carson says. "Eros is in between."[79] With that space between the lover's ideal and the beloved's real self widening with time until the two images can no longer be held in the same frame, the jealous lover tries unfairly to shoe-horn the beloved back into his picture. As the "ideal" beloved drifts further away, the lover begins to pull the beloved out of time; per-

76 Carson, *Eros*, 160
77 Ibid., 148
78 Ibid., 127
79 Ibid., 109

haps unwittingly, he begins to construe him as having no life-process of his own, and little value in his own right. He freezes him in time like a waxen memory of youthful beauty and innocence, holding the *paidaka's* life ransom for the sake of his desire.

What happens when the hand of the controlling lover reaches similarly toward the landscape and finds its blush of unfettered potential beginning to look worn? Merchant quotes Adam Smith who opines that: "man is by Nature directed to correct, in some measure, that distribution of things she herself would otherwise have made,"[80] as if Nature herself pines for a renovation of the landscape as it once was, or is imagined to have been, or perhaps should have been.

The audacious extents of the project to make something else of the landscape, to make of it an ideal beloved, are brought into sharp focus by Christine Macy and Sarah Bonnemaison in their book *Architecture and Nature: Creating the American Landscape*. They write of the vast-scale New Deal project to refurbish the Tennessee River Valley as "nature tended and controlled so as to yield nourishment, power, and enjoyment all together:"[81] an ambitious dream-scene that stretches out like an endless, perfect summer's afternoon. Like Sokrates' controlling lover, it is a plan by which a dominant hand seeks to "reap the fruit that is sweet to himself for as long a time as possible."[82] Macy and Bonnemaison cite theorist Marcia Ian, who grasps the violent sexual overtones of a plan to dam up the "potentially unpredictable and threatening fluidity" of tributaries entering the valley.[83] "The dams are merely the climaxes," writes architectural journalist and editor Douglas Haskell in 1941. Macy and Bonnemaison spell out the explicitness of his metaphor of sexual control: "[the dams] are the virile members that produce the juice (fertilizer and electricity) that will inseminate the barren earth."[84] Here, the landscape is rewritten as a reliable and changeless provider, an eager sexual conquest, a slave. Haskell's metaphor reads as a violent assault on the space of the river valley; but more significantly, just like the jealous *erastes* with his *paidaka*, it launches an assault on its processes, on its existence in time.

80 Merchant, Reinventing Eden, 72.

81 Christine Macy and Sarah Bonnemaison, *Architecture and Nature: Creating the American Landscape* (New York: Routledge, 2003), 155.

82 Carson, *Eros*, 128.

83 Macy and Bonnemaison, *Architecture and Nature*, 166.

84 Ibid., 171

NEGOTIATIONS

What is a lover to do? In his book *The End of Nature*, Bill McKibben struggles for an answer. Himself an adoring lover of nature in a culture that has been too much Casanova, he still finds himself emotionally caught up in the age-old fixation on untouched space. He laments the loss of "pristine places" on the Earth, places that will remain unaffected by human action and bear no whiff of humanity. Indeed, he finds most hope looking up past the Earth's atmosphere to the stars of the night sky because he reasons, quoting William Burroughs: "We do not see ourselves reflected there."[85]

For McKibben, nature has ended with climate change: those boundless, human-generated processes that threaten to unsettle the climatic conditions that have made Earth habitable and pleasant to inhabit, that have created the conditions for life as we know it. But as McKibben delineates the end of nature in this way, calling out a kind of new frontier of the natural, we see a hint of Humboldt's old erotic melancholia stirring in him: "The end of nature is a plunge into the unknown, fearful as much because it is unknown as because it might be hot or dry or whipped by hurricanes," McKibben writes.[86] We see here that by inscribing this "end" to nature, this limit on the extents of its processes, he is also reestablishing a new kind of territory of the unknown in the landscape. This new unknown, as fearful as the space beyond our old frontiers, becomes a renewed realm in which intrepid pioneers might one more time strike out to redeem the world and find their own completion. In McKibben's framework, we see that the impulse to divide the world into known and unknown, logical and illogical, or "the way things are" and "the way things should not be" still exerts itself. Negotiating between these terms, we can feel the currents of eros move.

Meanwhile, in his own backyard, the invisible hand of climate change has come to haunt McKibben everywhere:

> *I love the mountain outside my back door--the stream that runs along its flank, and the smaller stream that slides down a quarter-mile mossy chute, and the place where the slope flattens into an open plain of birch and*

85 McKibben, *End,* 217.
86 Ibid., 206.

> *oak. But I know some part of me resists getting to know it better—for fear, weak-kneed as it sounds, of getting hurt. If I knew as well as a forester what sick trees looked like, I fear I would see them everywhere.*[87]

Afraid that his beloved forests will be killed by acid rain and erratic weather patterns, McKibben concludes that "[t]here is no future in loving nature."[88] And so he comes to find himself most at ease in the woods during the blankness of winter, when the world is asleep and he cannot tell if the dormant trees might be dying: "just as a sick friend, when she's sleeping peacefully, might wake up without the wheeze in her lungs."[89] He has imagined himself and his woods into a still life. Freezing himself in its frozen world, we are left wondering if he will take another breath.

87 McKibben, *End,* 211.
88 Ibid., 211.
89 Ibid., 211.

MORTAL MEASURINGS

It is in response to eros' threats—its dangers to both lover and beloved—that Phaedrus becomes enamoured with an idea that promises to do away with all of its troubles. He finds the idea in the text of a speech written by the Sophist Lysias, and he woos Sokrates out into the countryside to discuss it with him. Lysias proposes that one who is not driven by desire makes for a better companion. "[A] beautiful boy," he argues, "would do better to bestow his favours on a man who is *not* in love with him than on a man who is in love with him."[90] Lysias asserts that erotic desire is bound to come and go; and so it is best to simply leave it out of courtship's equation. Instead, the non-lover begins the courtship without desire, ". . . not primarily cultivating the pleasure of the moment but, really, the profit coming in the future . . . ," which he imagines to be a long, untroubled friendship.[91] As such the non-lover maintains full control of himself at all times: never falling, and growing no wings.

The approach of the non-lover seems benign. First, it appears to relieve the lover of both his pains and his motivations toward transgression. As Carson explains, the ancient poets see the intrusion of eros as unwelcome: "their metaphors for the experience [of eros] are metaphors of war, disease, and bodily dissolution," for eros stages an overthrow of reason.[92] "Change of self is loss of self to these poets," Carson declares.[93] No reasoning person thinks to abase himself or to hurt someone of whom he is fond. Therefore, avoiding eros also seems to safeguard the beloved. It promises a lack of pain, and contentment seems possible. Finally, it appears that reason remains unchallenged.

But to Sokrates, this approach is a misapprehension of the erotic figure, and a violation of reality.[94] For it treats the whole scene involving lover and beloved not as a process in time, but as a false schematization. To start an affair, the non-lover ". . . stations himself safely at an imaginary 'then' and looks back upon desire from a vantage point of emotional disengagement."[95] He reasons that to avoid that presupposed end, it is logical to avoid eros' beginning, and indeed its whole process.

90 Carson, *Eros*, 123.
91 Ibid., 125.
92 Ibid., 39.
93 Ibid., 39.
94 Ibid., 130.
95 Ibid., 126.

The consequence for the beloved is that he is replaced by a frozen pretense; and the lover, in seeking to remain unaffected and untransformed by the experience, subverts his own potential to grow. Like McKibben's frightening preference for utter stillness in the woods—for the mutual dormancy in which the trees give no indication of either life or death, and in which he both learns no more and loves no more—it is a dead way to approach a living thing as a living thing. Sokrates calls the non-lover's approach "a mortal self-control which disburses itself in mortal miserly measurings." The non-lover is never compelled to give or to pursue—never compelled. Carson calls it "a deadly stinginess."[96]

The non-lover hijacks the figure of eros by writing the end over the beginning; by navigating the courtship according to a much deadlier kind of fiction than that projected "what if...? that compels the lover in the instant of his desire. For the non-lover decides how to act by holding up, between himself and the present moment, a suppositional map drawn only of past generalities and future predictions. He throws it like a lumpy, ill-fitting cloak over the figure of his erstwhile beloved so that *this* boy could be *any* boy. His map bears only the most schematic resemblance to any present moment, revealing nothing to be learned. Exchange and real relation are subsumed in the script of his lifeless play, the actions rehearsed and played out without variation until the final curtain.

96 Carson, *Eros*, 150.

TIMES AND PASTIMES

The approach of the non-lover exercises more subtle forms of control than those flamboyant abductions and strong-armings that we considered earlier. The non-lover tries to safeguard himself at all costs by disfiguring desire and replacing the beloved with a pretense: rather than meddling with eros' parts, he takes command of the whole structure of the erotic experience. "I can see that this is going to go badly," we can hear McKibben say to himself as he looks at the woods, and then tries to evade his insecurity by setting his inclination to love them—and to really get to know them—aside.

The non-loving subject eschews the reach of eros in order to avoid setting herself off-balance; forgoes its wings in order to avoid their stirrings. She aims to make stable the ground on which she stands and to make the boundaries of her identity sharp and unyielding: by taking a detached stance, the subject secures herself against intrusion by the world.

As we have seen, it is an approach that appeals (momentarily, at least) to a heartbroken lover like McKibben. The casual lover may also be willing to try it on. Macy and Bonnemaison note that with the emergence of the national parks in America comes the figure of the nature tourist: an individual who can choose to place herself within the parks' "wildernesses" for the duration of a holiday or a weekend. She comes armed with a camera, a reassuring tool that is able to readily frame the unfamiliar spaces that she encounters: "taking a picture," notes Susan Sontag, allows viewers to "take possession of the space in which they are insecure."[97]

More significant to our studies here, we can find the logic of the non-lover also lingering in the character of the cartographer, or one who navigates with a map. For like the non-lover, to approach the landscape brandishing a map is to throw a layer of abstraction over its details and specificities. As we noted of the Greenness Map, the Map's representation does not leave room for surprise: instead it allows the future to be represented in terms of the past, rendering all things evenly comparable in space and time. Locating ourselves or other things with a map offers a layer of abstraction that protects us from direct confrontations with what may ultimately be surprising, shifting, and unpredictable terrains and environments. Using a map to mediate

97 Macy and Bonnemaison, *Architecture and Nature*, 107.

and inform our actions in and on the landscape allows us to act from behind and through its abstractions, from a position of personal protection.

Considering the effect of mapping practice in the colonizing of America, theorist Kathleen Kirby wields this criticism:

> *Part of the function of mapping, it would seem, is to ensure that the relationship between knower and known remains unidirectional. The mapper should be able to 'master' his environment, occupy a secure and superior position in relation to it, without it affecting him in return.*[98]

Cosgrove links this sense of mastery in the mapping gaze to the God-like quality of the aerial view which, as it ascends over the surface of the earth, seems to thus transcend the earthly condition.[99] With its aspect of an omniscient, divine viewpoint, it is perhaps no surprise that, as Corner notes, ". . . maps often lead readers to believe that they are looking at complete, objective descriptions of the land."[100] And if we consider the mapping gaze to indeed be borrowed from the realm of the divine, and therefore the eternal, it is perhaps no surprise that it valourizes a representation that plays at timelessness, that postures with an absolute and conclusive quality, and is poorly-disposed to acknowledging its limitations.

In contrast to these ways of thinking about the mapping gaze and what it means to accomplish, the perspective of artist Michael Ashkin enters in like a breath of air. "It is often said that the view from above is God-like," he writes in his book Garden State, "but I think not." He explains:

> *If God could see, it would be from all positions simultaneously, from the infinity without and from the infinitessimal within, from the beginning of time until its end, an endless number of viewpoints which, when summed, would equal no viewpoint at all. Rather, it would equal a complete knowledge, permanently frozen, devoid of potential and, ultimately, dead. The view from above is the most human of views, where we indulge in the most human of pastimes: abstraction and simplification."* [101]

Ashkin suggests that this perspective that seeks a gaze from above—the mapping gaze—is caught up in a broader human impulse toward abstraction and simplification. Suppose that its

98 Kathleen Kirby, "Re: Mapping Subjectivity. Cartographic vision and the limits of politics," in *BodySpace: Destabilizing Geographies of Gender and Sexuality,* ed. Nancy Duncan (London: Routledge, 1996), 48.
99 Cosgrove, *Apollo's Eye.*
100 Corner, "Aerial Representaion," 18
101 Michael Ashkin, *Garden State*, accessed 14 March 2013, http://www.michaelashkin.com/garden.php, 4.

qualities are opposing counterparts to those that he attributes to the divine gaze: if this is true, the aerial view is subjective and incomplete, susceptible to change, replete with potential and, ultimately, part of life.

So far we can identify the trajectory of the mapping gaze in the pastimes of the cartographer, the tourist, and the non-lover. As we have seen, what it gains is some stability and security for the subject; what it misses is the possibility of a direct and deep engagement in the present moment, in any present moment, as it wrests relation out of time.

TACTICS

"[I]n place of the endless becoming of life, the intellect puts homogeneous and immobile states; . . . it sees change as a surface ripple on that which is fundamentally immobile; it reduces the mobile to the immobile,"[102] writes Elizabeth Grosz in her book *The Nick of Time*. The book is an investigation of Darwin, Nietzsche and Bergson's writings that seeks to restore "a remembrance of what we have forgotten—not just the body, but that which makes it possible and which limits its actions: the precarious, accidental, contingent, expedient, striving, dynamic status of life in a messy, complicated, resistant, brute world of materiality, a world regulated by the exigencies, the forces, of space and time."[103] She seeks to understand anew "the nature of bodies, in biological evolution, that opens them up . . . to political, cultural, and conceptual evolution;" to address "how biological complexity impels the complications and variability of culture itself."[104]

Her reading of Bergson focuses on life's different strategies—how bodies perceive, act and know—and the ways that these different strategies position themselves in relation to space and time. And here, in Bergson's characterization of the intellect, we find those pastimes of abstraction and simplification called out by Ashkin, operating as hallmark tactics of human (and other vertebrate) life.

"Intelligence is a tendency . . . [that] directs itself outward to the regulation and ordering of the material world,"[105] notes Grosz. "[I]t lacks any immediacy of contact with materiality, with any objects in particular."[106] Instead, it approaches objects from the outside, oriented to assessing how it might make use of them: "It is a knowledge primarily linked to action, to the highlighting of those characteristics of objects that will best facilitate our action, and to the obscuring of all others."[107] As such the intellect is only able to produce "snapshots, perspectives, on the object, which, however much they are magnified and proliferated, still never manage to capture the specificity and details of the object."[108]

102 Elizabeth Grosz, The Nick of Time: Politics, Evolution, and the Untimely (Durham: Duke University Press, 2004), 232.
103 Ibid., 2.
104 Ibid., 4.
105 Ibid., 227-228.
106 Ibid., 231.
107 Ibid., 231.
108 Ibid., 235-236.

But as an invention of life, of evolution, the intellect brings a unique and powerful capacity to "extract things of interest for the living being from the objects of the world."[109] For the intellect carries "its past along with its present in order to modify its future;"[110] it opens the body to the "ability to choose among alternative behaviors, the capacity to discern a preference for one mode of activity over another in a particular situation."[111] In so doing, it opens the subject to learning and material invention; it gives the body the ability to modify itself from the outside, to extend itself through the creation of tools. Its inventions allow it to outstrip the rate of biological evolution, opening "a path of evolutionary development that now includes not only the natural environment, but also a social, cultural, and technological universe, one open to continual augmentation and transformation by conventions and inventions."[112] Its actions "not only satisf[y] . . . needs but create new ones:"[113]

> *Consciousness and intelligence open up the material world to the play of virtuality. Consciousness highlights our possible action on things; it is a measure of our virtual interest in things, the gap between the thing and its (newly emergent) uses. It measures the difference between the real object and the potential to use it in a variety of unexpected ways. . . Consciousness, and intelligence, which is its correlate, are bound up with representation, which delays, complicates, and frees behavior . . . This subtracts from the object most of its features and details, but it also adds to the object the possibility of new connections, new contexts, new uses.*[114]

So while the intellect presents a remarkable opening to novelty, Bergson calls it "an external and empty knowledge:"

> *What is new escapes it, for it strives only to extend what it knows, not to question how it knows; intelligence projects onto the unknown what it has already confirmed, what is capable of being extended or elaborated, what has knowable consequences, what is able to be repeated, controlled, predicted. It applies itself to things, but only from the outside, reconstituting their parts but understanding nothing of the interpenetrating totality from which these parts are derived. It is unable to enter into life in its own terms.*[115]

To render matter useable to itself, the intellect's mechanistic approach must freeze that which it finds, render qualities as quantities, break time's flow into measured segments that can only be perceived retrospectively. While this tactic is sympathetic to the study of inert matter,

109 Grosz, *Nick*, 227.
110 Ibid., 226.
111 Ibid., 227.
112 Ibid., 229.
113 Ibid., 229.
114 Ibid., 230.
115 Ibid., 232.

"[p]roblems arise when this mechanistic approach is carried over to the study of the living."[116] For of the knowledge that it can provide of a living object, Bergson says it "becomes altogether relative to our faculty of action. It is no more than a symbolic verity."[117] Indeed, the intellect is bewildered when it turns to the living, for it is "not made to think evolution, in the proper sense of the word—that is to say, the continuity of a change that is pure mobility:"[118]

> *[I]ntelligence, though infinitely perfectible, is nevertheless limited; in particular, Bergson claims, it is unable to think two central facets of the continuity of duration: the multiplicity of qualitatively different elements and their blurring interpenetration. It is unable to proceed without clear lines of demarcation, discontinuity, and boundaries, without unambiguous forms of identity. This means that intelligence is not adept in its dealings with lived continuity, experience, subjectivity, sociality, and all that has to do with life itself . . .* [119]

The intellect produces—and then can only function in—mapped space.

116 Grosz, *Nick,* 240.
117 Ibid., 240.
118 Ibid., 232.
119 Ibid., 232.

GETTING LOST

> *"Mapping becomes a technology advancing, and the very hallmark of, a larger cultural order premised on cleanly distinguishing between entities in the natural environment, the psychic environment, and finally, the social environment."*[120]

Dangerous things can happen when we find ourselves beyond the borders of mapped space, without its familiar delineations and absolute reference points.

One remarkable consequence of navigating unfamiliar territory, attests Kathleen Kirby, is that we are prone to be unable to see clearly what is actually there. Instead, our tendency is to try to reduce the unfamiliar to the familiar, to read the new in terms of the already-known. In the settling of America, cartographers tended to render the new environments that they encountered according to their existing cultural conventions: "[J.B.] Harley demonstrates the tendency of early American cartographers 'to obliterate the uniqueness of the American landscape in favour of a stereotype reflecting a European sensibility of the natural world,' " she writes. [121]

This misapprehension bears unsettling consequences. For if James Corner describes maps as ". . . projections, renderings of reality that are drawn from and thrown over the world ... [that] make visible what is otherwise invisible,"[122] Kirby reminds us that their recasting of space, the representation that they throw over the world, can also render invisible that which is really there. And in time, in America, this "rendering invisible" amounted to a wiping-out of difference in real terms: "Standardized 'Man', like mapping iconography, applied its own culturally specific standards as if they were indeed universal to the end that actual otherness was erased. Subjects, like places, were homogenized in favour of the generic . . ."[123]

Kirby investigates further this real erasure in her study of explorer Cabeza de Vaca, finding disastrous consequences for living things:

120 Kirby, *Re: Mapping*, 49.
121 Ibid., 46.
122 Corner, "Aerial Representation," 18.
123 Kirby, *Re: Mapping*, 46.

"As de Vaca's testimonies relate, the Europeans . . . needed to maintain the Native Americans as external in order to reinforce their own subjectivity. By attributing inferiority to the Native American people and their spatial practices, these texts functioned to concretize individualism and ensure the Native Americans' exclusion from it. Mapping acted to distinguish "self" from "other": in early America, cartography was the measure between human and non-human, civilized and savage . . . The solid lines that cartography draws between the subject and the land also reinforce the lines drawn between European white subjects and Others.[124]

Kirby describes the lines drawn by cartography as "solid," and they are so in two ways: first, they strive to be absolute and impenetrable, and second, as they strike out their decisive orders and organizations, they anchor themselves with a relative permanence. "The power of aerial imaging lies less in its descriptive capacity . . . than in its conditioning of how one sees and acts within the built environment,"[125] Corner writes; and as we consider the consequences of this observation for Native Americans we find that it carries an ominous truth. Cast as inhabitants of the lost frontier lands, and then excluded from National Parks, the disappearance of many became a foregone conclusion. Writer and activist Rebecca Solnit recounts a story that brings the real effects of this conceptual erasure into sharp focus:

I think it was 1980, Julia and four of us on business for our tribe [seeking federal recognition in Washington] went to the Smithsonian and found the California museum exhibits, then Yosemite . . . It had a little statement on the side, and it left off with "It's very sad today. There's no more Yosemite Indians." Period. I said, "Let's go down there and talk to the people at the desk about this statement. . . . So I say, "Well, I hate to disturb you, but I'm a Yosemite Indian, and we're here on business for our tribe." And [the woman at the desk] caught her breath and said, "Ohhh . . ." [126]

Getting used to the detached cartographic perspective and its seemingly solid lines, we begin to let it stand in for the real conditions of life. When the map explicitly becomes a tool for management, such as in the case of the Greenness Map, to what degree are we taking the map to be the land, acting on life's profuse detail and constant change as if it is indeed reducible to a series of static, abstract phenomena? To what degree can we really reduce life's irreconcilable difference to comparable quantities, its proliferating and elaborative forces to conservative agendas: reservation and conservation areas, reserves and preserves? And to what degree are we able (or willing) to account for the costs to life of trying?

124 Kirby, *Re: Mapping*, 49.
125 Corner, "Aerial Represenation," 16.
126 Rebecca Solnit. "The Postmodern Old West" in *Storming the Gates of Paradise : Landscapes for Politics (Berkeley, CA: University of California Press, 2007)*, 36-37.

It seems that if we are on one hand prone, when travelling without a map, not to see what is actually there—to impose a foreign and inappropriate order onto differences that rightly demand acknowledgement and more careful attention—we are otherwise prone to perceive a complete lack of order, and perhaps even a lack of "things." This tendency is expressed strikingly in some of the terms that we use to describe space whose purpose we cannot quite determine, or to which we attribute little value, usually where non-human processes predominate. We call these landscapes waste spaces, empty spaces, or open spaces. Similarly, to call out buffer zones, setbacks, and margins hints at nothing of what may be present or going on these spaces (although there is often vegetation, habitats). Conceptualized as containing neither order nor perhaps even matter in their own right, these unnamed or externalized spaces read like spongy, chaotic voids. Our "empty" namings render them as accidents or considerations of formatting: like "pages intentionally left blank" in a book, pages torn out, or the white spaces left by gracious typesetters to graphically give our eyes space to rest.

James Romm, in his book *The Edges of the Earth in Ancient Thought*, supplies some fascinating descriptions of what ancient explorers perceive in the space beyond the oikumene, outside of that coherent territory conceptually stabilized by representation. One travel log reportedly recounts that in the ocean outside the oikumene:

> *". . .the surface of the sea does not extend into the deep, but the soil is barely covered by a little bit of water . . . sea monsters swim among the sluggish and lazy ships . . . A dark fog enshrouds the air as if in a kind of cloak, and clouds hide the face of the deep always, and this veil remains throughout the whole of the darkened day."* [127]

Another journal, probably describing a voyage beyond the Pillars of Heracles at the Western edge of the Mediterranean and into the North Atlantic, finds a welter of elements in which it is impossible to act:

> *"In these regions obtained neither earth as such, nor sea, nor air, but a kind of mixture of these . . . earth, sea, and everything else is held in suspension; this substance is like a fusion of them all, and can neither be trod upon nor sailed upon."* [128]

The perception of such an undifferentiated jumble seems naive. But Kirby finds in one of Samuel de Champlain's log entries a similar sense of elemental disarray. "The land he faced

127 Romm, *Edges of the Earth*, 21
128 Ibid., 22

itself appeared to have some of the fluid characteristics of this world of water, floating ice, obscuring fog and darkness," she notes. It "appears chaotic and unstable, moving in its own unpredictable logic."[129] Champlain writes:

> *The most self-possessed would have lost all judgement in such a juncture; even the greatest navigator in the world. What alarmed us still more [than the ice] was the short distance we could see, and the fact that night was coming on, and that we could not make a shift of a quarter of a league without finding a bank or some ice . . .*[130]

Void, chaotic or fundamentally unstable, unmapped space seems to elude our perceptive faculties and therefore eludes clear representation. Cosgrove notes that Lewis and Clark's expedition into Louisiana Territory in 1804 also reveals the challenge to representation precipitated by ". . . the inability of words and language to convey the sheer *difference* of discovery . . ."[131] encountered in unmapped space:

> *The explorers' journals indicate a slow fragmentation and eventual collapse of language in the face of overwhelming difference in the West. Sentence structure, syntax, and descriptive language all broke down as the expedition penetrated spaces that had been blank on the European map.*[132]

With this loss of perceptual and representational aptitude, a third consequence of travel without a map becomes apparent: one gets lost. These days it can take some effort to be truly lost, to lose all reference to mapped space or the absolute geographies of latitude and longitude. But exploring a forgotten urban fringe, artist Michael Ashkin discovers a sense of what the experience is like:

> *Yesterday, beyond the Conrail tracks, I wandered out onto a large landfill covered with tall dense reed grass. Within minutes of entering, I found myself disoriented, lost in a labyrinth of meandering, subdividing paths. I encountered few landmarks, only sporadic vehicle carcasses, stripped, battered, and ominous. I found my way out only after encountering twice the same green Toyota.*
>
> *Today, I recall the hedge maze at Chatsworth in Yorkshire. Losing my way in that well-tended garden was a more controlled experience. Yet now I believe stories that those lost in garden mazes have occasionally*

129 Kirby, *Re: Mapping*, 48.
130 Ibid., 48.
131 Cosgrove, 206.
132 Ibid., 206-207.

become paranoid, committing indiscretions and violence. An unmappable world is a terrifying and maddening prospect. [133]

To be lost, Kirby says, is to "actually be in the surroundings, incapable of separating one's self from them in a larger objective representation."[134] It is "something of a crisis of differentiation, a dysfunction of the logic ensuring ordered space."[135] Ashkin describes it as tied up in the panic of not knowing how one got to where one is, and not having any strategies—beyond trial and error—for how to get out. But it is something more than this, too.

"In spite of his long co-habitation with the Indians," Kirby observes, "de Vaca remains 'lost' throughout his journey. He feels lost even when the Indians he accompanies are perfectly oriented, because his concept of orientation relies on separating himself from a place, rather than becoming integrally involved with it . . ."[136] In de Vaca's case, we can see that having a strategy to get out is not enough: the trouble is that he can assemble no sense of where he is.

In their lack of representation, unmapped spaces seem to defy logic, even to tend toward a kind of fluidity. But as for the madness that Ashkin hints they may cause us to feel, Kirby finds more at play than just a fear of the unknown. She suggests that the indistinguishable quality of unmapped space is not just terrifying in its own right, but because, as Freud writes, "the form for the environment that the self produces will recursively dictate the shape of the self."[137] If this is true, then in an environment that we perceive as formless, where we cannot delineate the boundaries between things, we lose the sense of our own edges. "Graphically, the 'individual' might be pictured as a closed circle; its smooth contours ensure its clear division from its location, as well as assuring its internal coherence and consistency,"[138] Kirby writes. When travelling without a map, then, in territories that we cannot grasp with a cartographic eye, it is not only the the space around us and the things in it that appear incomprehensible and obscure: we ourselves start to come apart.

133 Ashkin, *Garden State*, 16.
134 Kirby, *Re: Mapping,* 48.
135 Ibid., 49.
136 Ibid., 49.
137 Ibid., 46.
138 Ibid., 45.

MORE TACTICS

What is this mode of perception, so different from ordinary perception that it is well described as madness?[139]
- Carson, Eros the Bittersweet

Both preceding and exceeding the intellect, Bergson identifies other strategies that life has devised for framing the world: modes of survival and, to varying degrees, means of self-overcoming. For all life is "a struggle to provisionally remake matter . . . the introduction of a spark of indeterminacy into an otherwise grindingly determinable universe."[140]

Life's simplest strategy he calls torpor: this is the hallmark tactic of plants, which primarily strive to collect resources while remaining immobile. Another strategy is instinct. Bergson finds instinct most clearly identified in the behaviours of insects, whose actions are direct responses to stimuli, absolute immersions in the present moment without the capacity for reflection or choice, without awareness of past or future.

We have already explored the tactics of the intellect: a response to life developed by vertebrates that allows the subject to elaborate itself through outward abstraction and inventive extensions of itself into the material world.

A fourth strategy, which now becomes important, is that which Bergson calls intuition: a principle that Grosz describes as in between intelligence and instinct, or their return toward each other:

> *[Intuition] derives from intelligence its capacity for abstraction and generalization, and from instinct its sympathetic apprehension of and openness to life. Intuition is "disinterested, self-conscious" instinct; equally, it can be understood as intelligence now attuned to itself and to the specificities of life. Akin to an aesthetic rather than a scientific understanding, intuition is the close, intimate, internal comprehension of and immersion in the durational qualities of life.*[141]

139 Carson, *Eros*, 152.
140 Grosz, *Nick*, 219.
141 Ibid., 234

Grosz makes clear that intuition is not a replacement of the intellect, for the intellect's faculties are vital to life, and even to intuition.[142] It "is not a resistance to science, but rather, a plea for a more direct and unmediated relation to objects and to the world of matter, an augmentation of science . . . It is a contemplation or observation that opens up worlds to us, rather than narrowing the object down to our potential concerns."[143] Its focus is not toward measuring our potential action in the world: it does not look at the world as a potential tool for itself. Rather, "[it] involves both a lessening of the intellect's grip on the object's future use and a deepening of its capacity to scour and address the multiplicity of its other (nonutilitarian) qualities."[144] As such, "[i]ntuition returns to the real the fullness and interconnectedness that intelligence subtracts from it."[145] It is able to embrace this fullness of life through an " . . . immersion in objects and the world directly, internally, without mediation."[146] Rather than arresting objects out of time in order to apprehend them, intuition arrests the subject's own outward action and immerses itself in an inward glance.

> *Intuition is not an exploration of the unknown (this is the task of intellect, to render the unknown known or knowable), but a finding of oneself in the unknown, an immersion in its specificity, a negotiation with its newness. It can be considered a mode of being lost in an unfamiliar element to which one must adjust through an understanding from within.*

At the very beginning of this chapter, considering different approaches for defining green, we came across another incidence of immersion. "Green is the colour of the sea," one voice in that definition declared; and we identified that it spoke with the singularity of a lover, from a position of immersion, floating in greenness, insensible to where the sensation might end in space or time. Compared to the eye of a cartographer or a hunter, its perspective did not measure itself relative to other things, but instead found itself in the middle of the moment, in the middle of the green sea, looking in.

What we found later about the essence of the erotic experience for the lover also echoes. For eros resolves itself in an internal glance; it lives in a sudden and immersive apprehension of difference. Carson writes:

142 Grosz notes that intuition "requires the mediation of intellect, language, representation to be crystallized, communicated, to become a form of knowledge." *Nick*, 237.
143 Ibid., 234.
144 Ibid, 234.
145 Ibid., 235.
146 Ibid., 235.

> *"As you handle [the incursion of eros] you come into contact with what is inside you, in a sudden and startling way. You perceive what you are, what you lack, what you could be. . . . Something is lifting you toward an understanding so complete and clear it makes you jubilant. This mood is no delusion, in Sokrates belief. It is a glance down into time . . ."* [147]

The understanding that Sappho accesses through eros emerges as an inner comprehension of her own and others' immersion in life, which is change: it is a revelation of what is and what could be. Eros is the process by which she senses some inexpressible quality in her beloved; she senses herself green. She apprehends the man next to her beloved by saying "if I were you", provoking herself to see him through her own sympathetic becoming. Grosz again:

> *Intuition is a trajectory that generates a variety of forms, a variety of modes of sympathy, inner apprehension, or coincidence. It is a mode of direct contact or community with the object, a provisional coincidence with it that precludes projection, mastery, or judgment: "We call intuition here the sympathy by which one is transported into the interior of an object in order to coincide with what there is unique and consequently inexpressible in it.* [148]

While it is by no means synonymous with intuiton, eros nonetheless presents itself as akin to intuition, perhaps as one of its modes of sympathy and inner apprehension: we find Sokrates and Bergson speaking about eros and intuition in some similar ways. Both processes seem to aim at the core of the living. In Phaedrus, Sokrates tells us that eros is a recollection of divine beauty, or "a glimpse of a god."[149] Bergson seeks in intuition "a true empiricism which purposes . . . to probe more deeply into its life, and by a kind of spiritual auscultation, to feel its soul palpitate . . ."[150]

These glimpses that are gained through eros and intuition both involve a plunging into time; or more specifically, into the flow of time that Bergson calls duration:

> *To think intuitively is to think in duration. . . . The intuition we refer to . . . bears above all upon internal duration. It grasps succession which is not juxtaposition, a growth from within, the uninterrupted prolongation of the past into the present which is already blending into the future. It is the direct vision of the mind by the mind—* [151]

147 Carson, *Eros*, 152-153.
148 Grosz, *Nick*, 237.
149 Carson, *Eros*, 153 .
150 Grosz, *Nick*, 238.
151 Ibid., 235.

Although Sokrates understands very differently what is exposed by eros' plunge into time (for his ancient cosmology describes, in the moment of eros, a remembrance of beautiful realities once known by the soul) Carson describes the moment of desire championed by Sokrates as having a similar immersion in time's flow: "The 'now' of desire is a shaft sunk into time and emerging into timelessness," she explains. "When you enter 'now', you remember what it is like to be really alive."[152]

Intuition is "a growth from within" oriented toward the future, to lines of flight; eros is the growth of wings inside the lover to make more of him, providing a glimpse of what he means to be:

> *"For intuition the essential is change . . . Intuition, bound up to a duration, which is growth, perceives in it an uninterrupted continuity of unforeseen novelty."*[153]

Finally, Sokrates calls eros a madness "conferred as a gift of the gods" that is capable of bringing "the greatest of good things."[154] In love with eros itself, and the destabilizing, enlivening difference that sets its wings in motion, Carson tells us that Sokrates seeks "to assimilate [the 'now' of desire] in such a way that it prolongs itself over the whole of life, and beyond."[155]

Like eros' mad leap, an immersion in intuition's forces demands a loosening of control, a disruption of the intellect's tentative structures, "a provisional incomprehension." The profit to be gained is " . . . the generation of a new series of impulses which may help modify our relations to the world,"[156] an opening to more complete forms of knowledge. For intuition is ". . . directed to the apprehension of the whole, a whole that exists only in duration, as becoming."[157] In other words, it is directed toward a comprehension of the living:

> *[Intuition is] one of the biological contingencies that mark all of life, a tendency, more or less active or dormant, whose function is not synthesis but an acknowledgment of a mode of belonging to, immersion in, being part of a larger whole, a whole that cannot be totalized in a single force but that coheres through its conformity to the principles of differences and divergence.*

152 Carson, *Eros*,157.
153 Grosz, *Nick*, 236.
154 Carson, *Eros*,155.
155 Ibid., 153.
156 Grosz, *Nick*, 238.
157 Ibid., 235.

SERIOUS GLIMPSES

Earlier I alluded that the satellite view is erotic; that it is built into a geometry that mirrors Sappho's geometry of eros. If the satellite allows us to participate in an erotic understanding, an internal sympathy immersed in duration, we are now better positioned to see what that might be.

The "now" of eros begins with an apprehension that there is something inexpressible and fascinating about the landscape. For as we have seen in many guises, humanity is inclined to approach the whole earth, parts of it, or its landscapes, as a lover. Looking to the satellite, like Sappho looks to the man next to her beloved, an internal sympathy with it strikes us: it might be our own becoming-intellectual, or becoming-machine. In this impulse to immersion, to apprehension from the inside, we come into contact with our own growth, our own uninterrupted process flowing from "the past into the present which is already blending into the future," in Bergson's words. "What I find beneath these clear-cut crystals and this superficial congelation is a continuity of flow comparable to no other flowing I have ever seen,"[158] he says. In Grosz's assessment, finding this flow is critical to the elaboration of life in all its forms: including biological, social, cultural, and political life:

> *The more clearly we understand our temporal location as beings who straddle the past and the future without the security of a stable and abiding present, the more mobile our possibilities are, and the more transformation becomes conceivable.*[159]

But in our return to the intellect and its processes of representation, we primarily revert to its forms of control, to its stable models, failing to recognize their limitations—what Bergson calls their solely "symbolic verities." We act the non-lover, as if there was no desire present in our relation to the world, as if relation to living things could be understood as simply mechanistic, reduced to general snapshots that could be substituted for each other and rearranged. And we act the jealous *erastes:* considering the superficial features of the landscape through the satellite's abstractions, bent on the land's greenness while tending to forget or ignore the complexities of its change in time.

158 Grosz, *Nick*, 238.
159 Ibid., 14.

To illustrate the problem of treating life without regard to time, of treating life according to its symbolic representation, Sokrates uses as a parable the gardens of Adonis. Carson explains:

> *The gardens of Adonis were a feature of Athenian religious observance in the fifth century. During annual rituals in honour of Adonis, seeds of wheat, barley, and fennel were sown in small pots and forced to grow unseasonably fast for enjoyment during the eight days of the festival. The plants had no roots. They bloomed briefly, withered almost at once, and were pitched out days after the festival. Their hectic lives were meant to reflect that of Adonis himself, plucked in the bloom of his youth by the goddess Aphrodite, dead in his prime as a result.*[160]

It is a practice of ritual gardening; and it concerns Plato that we seem attracted to rituals and other simulations "that take place outside the real time of people's lives, in a suspended moment of control."[161] Sokrates asks Phaedrus:

> *Do you think a sensible gardener, who cared for his seeds and wished to see them bear fruit, would plant them with serious intention in the garden of Adonis in high summer and take pleasure in watching them grow beautiful in a space of eight days? Or would he do that sort of thing, when he did it at all, only for fun or festival?*[162]

Carson interprets:

> *Consider the plants of Adonis, forced too quickly to their akme, held at the peak of bloom while the festival lasts, discarded the next day: this is an image of how the conventional erastes uses his paidaka. It is an image of one human being exploiting another by controlling the time of his life.* [163]

As Carson illustrates, there is something serious that separates the symbolic representation of growth and death that takes place in the gardens of Adonis from the real playing-out of these processes. What is missing from the ritual garden is life itself. Sokrates' parable, therefore, is a cautionary tale for anyone who aims to be a serious lover or gardener. "The person who mistakes symbol for reality," Carson warns, "is left with a dead garden."[164]

160 Carson, *Eros*,141.
161 Ibid., 142.
162 Ibid., 142.
163 Ibid., 143.
164 Ibid., 146.

03 : EDEN

GREEN :

- adjective

(of a memory) not fading

freshly slaughtered or still raw: green meat

According to Genesis, life began in a perfect garden. In Eden, our original and ideal home, we lived without painful toil or death.[1] We wanted for nothing; grace and ease defined our existence. Then through our error, we were sent into exile. The story is unequivocal that we are permanently locked-out: in the Hebrew text, Eden is located *miqqedem*, which can mean in a former time, or in the East.[2] Neither reading leaves room for hope: one sets the Garden sometime other than "now", and the other locates it somewhere other than "here." Nevertheless, we have been trying to repair our blunder ever since.

The notion of a return to Eden—a recovery of the Garden—rumbles over the land like a low, drawn-out growl of thunder. "The Recovery of Eden story," writer Carolyn Merchant declares, "is the mainstream narrative of Western culture . . . perhaps the most important mythology humans have developed to make sense of their relationship to the earth."[3] To be clear, she calls it "most important" for its most remarkable and enduring effects. With its promise of an impossibly frictionless, untroubled existence, Eden always remains surpassingly attractive and perpertually out of reach. It beckons forever: a perfect object of desire.

In her book *Recovering Eden*, Merchant examines the ways in which the desire for Eden has shaped Western culture; and in particular, the colonization of the Americas. Innocent as it seems, she shows how it has in practice been a highly problematic cultural narrative, used to justify a manifest (Euro-centric, patriarchal, anthropocentric) destiny of dominance, control, and exclusion. She also argues that the notion of reestablishing Eden still exerts an indomitable cultural force. One can point to the continued and widespread practice of religious rituals aimed at atoning for the error that brought about our expulsion from the Garden, but Merchant claims that the story is simply broadly embedded in Western culture. Indeed, the Greenness Map that we explored in the previous chapter can be read as something of a vision for an Eden redux: a tilled-and-kept world-garden, more controlled and less threatening than the wilder, unmapped land that preceded it. At every turn, we find evidence that the Garden's impression lingers freshly in us, an achingly green memory that seems to accompany us always, exerting its

1 Throughout this chapter, I rely most heavily on Francis Landy for his Biblical scholarship on Eden; in particular "Two Versions of Paradise", in *Paradoxes of Paradise: Identity and Difference in the Song of Songs* (Sheffield: Almond Press, 1983)
2 Landy, *Paradoxes*, 191.
3 Merchant, *Reinventing Eden,* 3.

pull. “Consciously at times,” Merchant states, “unconsciously at others, we search for ways to reclaim our loss.”[4]

Merchant calls for new narratives. The story of Eden itself provides fertile ground to reconsider and recontextualise our relationship to the Garden: our debt to it, “our loss”, the terms of its passing-behind us.[5] Ultimately, this line of research may help us to rethink what it is that we want back.

4 Merchant, *Reinventing*, 3.
5 Some authors whose efforts to do this I found intriguing include Francis Landy, Robert Alter, Phyllis Trible, Kenneth Helphand, Alessandro Scafi.

WHAT IS EDEN

[Genesis 2:8] And the LORD God planted a garden in Eden, in the east; and there he put the man whom he had formed. [9] And out of the ground the LORD God made to grow every tree that is pleasant to the sight and good for food, the tree of life also in the midst of the garden, and the tree of the knowledge of good and evil. [10] A river flowed out of Eden to water the garden, and there it divided and became four rivers.

[15] The LORD God took the man and put him in the garden of Eden to till it and keep it.

[16] And the LORD God commanded the man, saying, "You may freely eat of every tree of the garden; [17] but of the tree of the knowledge of good and evil you shall not eat, for in the day that you eat of it you shall die."

[25] And the man and his wife were both naked, and were not ashamed.

The description of Eden is brief, and slim on details. There are trees that are pleasant to sight and good for food; but flowers are conspicuously absent.[6] Biblical scholar Francis Landy explains: "Flowers, like spices, are not found in the garden of Eden. They are indices of time, unlike the trees 'lovely to look on,' whose beauty is constant."[7] Indeed, the Eden of Genesis is not a sumptuous, decadent "paradise": rather, it is a restrained garden. The fruit available for food is but sweet, simple and insubstantial nourishment.[8] The senses are not flooded, but rather awaken slowly and carefully throughout the tale, emerging one by one.[9]

Apparently, some measured effort is required from the humans to maintain the garden's bounty: to tend the dark trees and their sufficient clusters of ripe fruit. But it seems the fruit is always present for their sustenance (and presumably, the animals'), perhaps miraculously reemerging as it is picked, tireless as the springs that feed the garden with water.[10] There is no change in the

7 Eleanour Sinclair Rohde, *Garden-craft in the Bible, and other essays* (Freeport, N.Y : Books for Libraries Press, 1967), 15-16.
7 Landy, *Paradoxes*, 193.
8 Ibid., 191.
9 Phyllis Trible.,"A Love Story Gone Awry" in *God and the Rhetoric of Sexuality, Overtures to Biblical Theology.* (Philedelphia: University Fortress Press, 1978) 72-143.
10 Jean Delumeau, *History of Paradise: The Garden of Eden in Myth and Tradition*. (Champaign: University of Illinois Press, 2000), 130.

seasons, for "rain, like death and time, is outside the garden."[11] There is no place for winter's rest or spring's flowering. Perhaps a benevolent creator would have arranged it just so, a garden like a still life, sparing those tender humans the bright explosions of colour and heady perfumes with which most plants advertise their sexualities as they shake off darker, cooler days.

Of the plants in the Garden, there are but two details that are brought into some focus. We learn that Eden contains a fig tree, as it provides the leaves that Adam and Eve use to clothe themselves after the Fall. The tree of life is mentioned only in passing; but the story lingers for a while at the tree of the knowledge of good and evil, that forbidden tree on which the plot turns.

11 Landy, *Paradoxes,* 194.

WHEN IS THE FALL

[3:1] Now the serpent was more subtle than any other wild creature that the LORD God had made. He said to the woman, "Did God say, `You shall not eat of any tree of the garden'?"

[2] And the woman said to the serpent, "We may eat of the fruit of the trees of the garden; [3] but God said, `You shall not eat of the fruit of the tree which is in the midst of the garden, neither shall you touch it, lest you die.'"

[4] But the serpent said to the woman, "You will not die. [5] For God knows that when you eat of it your eyes will be opened, and you will be like God, knowing good and evil."

[6] So when the woman saw that the tree was good for food, and that it was a delight to the eyes, and that the tree was to be desired to make one wise, she took of its fruit and ate; and she also gave some to her husband, and he ate. [7] Then the eyes of both were opened, and they knew that they were naked; and they sewed fig leaves together and made themselves aprons.

Much has been made of the human folly that brought about the Fall, and much of the blame has been pinned on Eve's desire to be wise. History has alternately demonized or tried to redeem Eve's actions—and implicitly, women in general, who have been disproportionately made to stand trial for them.[12] Traditionally Eve has been cast as disobedient and greedy, aspiring to a higher station than she should; while in some contemporary feminist readings she is cast as a liberator.

In Mark Twain's satirical but poignant *Diaries of Adam and Eve*, he fashions Eve as a keen observer: a scientist well before her experimentation with the fruit that causes the fall. Twain's Eve notices, for example, that although the tigers in the Garden live on strawberries, their teeth seem to be designed to eat something altogether different. She has the sense that things are poised to change.[13]

Reading the passage about Eve and the fruit, however, I wonder if it is fair to consider Eve's ambition to be wise as the culprit for the fall—as the impetus for the changes which are subsequently wrought on the world. For it is striking, in the verse where the narrator describes Eve's

12 Trible, *God*, 73.
13 Mark Twain, *Eve's Diary*.

decision to eat the fruit, that the desire for wisdom comes last: it is the last reason given to us to explain Eve's action:

> *[6] So when the woman saw that the tree was good for food, and that it was a delight to the eyes, and that the tree was to be desired to make one wise, she took of its fruit and ate;*

Furthermore, if there is perfect contentment in the garden, how is it that Eve can come want for such a thing as knowledge? How does she come to discover her lack? Since the desire for wisdom arises as her last thought, an afterthought, could it have been a little earlier that everything started to shift?

DELIGHT

[6] So when the woman saw that the tree was good for food, and that it was a delight to the eyes -

Before Eve notes that the fruit is "desired to make one wise," the narrator tells us, she is struck by its delight.

We already know that Eden was made to contain "every tree that is pleasant to sight." Here again we are told that Eve saw that the tree was "a delight to the eyes." This repetition underlines that the tree of the knowledge of good and evil is like every tree in the garden. The difference is that the first instance relates what God sees; the second time, the sensation is Eve's.

We are lead to believe that Eden is a place that life could have remained forever, harmonious and without trouble, if humans had simply been "obedient." This notion of a frictionless existence has proven irresistible to the human imagination, even if we can hardly fathom such a lulling sameness and stability. Each perpetually-green tree in the Garden is "pleasant to sight": they are all equivalently nice. Goethe, in his Theory of Colours, declares that when looking at green "[t]he eye experiences a distinctly grateful impression . . . the eye and the mind repose . . . as upon a simple [primary] colour. The beholder has neither the wish nor the power to imagine a state beyond it. Hence for rooms to live in constantly, the green colour is most generally selected."[14] Eden is just this kind of flatly green enclosure, a measured and artless economy of the pleasant.

Now in early Genesis, in its first tale of creation, God spends many of his days occupied with division. He divides light from darkness, heavens from earth, land from water. This differentiation is what creates the conditions for life, bringing it into motion. In the Garden, despite its variety, the trees are all given a similar bearing. They are all good for food and pleasant to sight. Had they remained uniformly appealing, none more appetizing or intriguing than the next, it seems likely that nothing would ever have happened there. But God sets one apart, and the snake has hardly to bring Eve's attention to it in order to unsettle Eden's perfect balance.

14 Goethe, *Theory of Colours,* 316.

God tells Eve that eating from the tree of knowledge will cause death; the snake says it will not. But since death does not exist in the Garden, it isn't clear that God's threat has any meaning to Eve. And if Eden is a place of perfect contentment, is wisdom (also unknown to Eve) really so captivating? Since she is innocent of both, there is reason to think that she might look with equal ambivalence on death and wisdom.

If this is the case, then fear and greed are not the drivers of the story. Rather, the snake's success in engaging Eve is simply that he points out the tree's difference.

> "Is it true that you cannot eat from any tree?" the snake prompts Eve.
>
> "No," she replies. "All but one tree. All but this tree."
>
> "So the trees are all the same except this tree," the snake answers socratically. "Look closely, consider how it is different. God says it is fearful, but I say it is fascinating."
>
> Eve considers, peering at the tree intently. "What is different about it?" she asks herself.

And before she knows it, something about the tree has grabbed her—its shapeliness, the blush of its fruit, its mystery, its particular shade of green. She stumbles, all at once, into a sensation of delight.

It is at this moment that delight makes its first appearance in the Garden. Surely, existence in the Garden is pleasant. Adam expresses his contentment as creation is completed, as the first human is divided into male and female.[15] "At last," he says, satisfied and relieved to have found a suitable companion.[16] Contentment is the sense that things are as they should be. But delight is different: it arises without a specific task, role or imperative. One can never tell where it will come from, or where it will lead. Delight is not found through a careful weighing of things; it rather hits unexpectedly, as a surprise, spurring us to think or act in some new way.

Eve's unexpected pleasure, her delight, does not fit in the Garden: it is excessive to the Garden's equanimity. Its emergence marks a seismic change, as well as a momentous step for life. For as

15 Trible finds textual evidence that the first "earth creature" is not male but presexual.

16 Robert Alter affirms the difficulty of translating the word used to describe Eve. It is often translated as "helper" (KJV) or "help-meet" (according to Alter), but Alter finds "sustainer" to be a more accurate translation. Robert Alter, ed. *Genesis: Translation and Commentary,* (New York: W.W. Norton & Company, 1997), 9.

Elizabeth Grosz explains, the "opening up of life to the indeterminacy of taste, pleasure, and sensation"[17] allows life to elaborate itself in new ways.
Following Darwin, Grosz affirms that the opening of life to pleasure, and its unparalleled generative, elaborative, and productive effects, arises with the advent of sexual difference. If survival operates through a reductive framing, ordering, and exclusion of the world's resources and chaotic forces, then sexual selection—which emerges as life's most successful means of reproduction and diversification—complicates life by making provisional cuts back through survival's order. It strategically rends the organism, allowing some measure of chaos to enter in. It welcomes sensation, and orients toward self-differentiation, toward becoming-other. Its operations far exceed the narrow domain of "reproduction," permeating all of life with their destabilizing influence. It invests itself in performance, colour and form at great energetic expense in order to provoke sensation: Grosz calls it the becoming-artistic of nature. In this way, forms of sexual attraction and sexual selection make of life "a fundamentally dynamic, awkward, mal-adaptation that enables the production of the frivolous, the unnecessary, the pleasing, the sensory for their own sake."[18]

There is sexual difference in the garden as soon as Adam and Eve are made, yet its effects are not immediately felt. This moment of Eve's unbidden delight awakens life to the transformative ramifications of sexual difference: her pleasure sets in motion life's great dynamic. It is the impact of the force of her delight that sets the world trembling, that makes of these first human beings human becomings.

Questions of obedience fall aside. Eve's consumption of the forbidden fruit, and her desire for wisdom, now appear to be late-coming forces in the bid to overthrow the Garden's stability. For in her delight, Eve herself has begun to shift, to feel out her own latencies in the living world around her. She is already becoming-tree, becoming-snake, becoming-fruit, becoming-green.

17 Elizabeth Grosz. *Chaos, Territory, Art:: Deleuze and the Framing of the Earth* (New York, Columbia University Press, 2008), 6.
18 Ibid., 7.

ALBERT9
DVRER
NORICVS
FACIEBAT
1504

EXPERIMENT

[6] So when the woman saw that the tree was good for food,

As the narrator in Genesis relates, God made to grow in the Garden of Eden every tree that is good for food. Then just before Eve eats from the tree of knowledge, we are told again that she sees that the fruit of this particular tree is good for food. The repetition in the story underlines that the tree of the knowledge is like every tree, but it also highlights their difference: in the first case, God deems the fruit good, while in the second case the judge is Eve.

The species of the tree of the knowledge is not mentioned in Genesis, but there is a rich history of speculation about what it might be. An apple is most commonly depicted as the forbidden fruit. However, contextual readers point out that apples are not native to the region where the story is thought to originate.[19] As a literary device, on the other hand, the apple is appealing: its latin name, *malum*, is a heteronym for evil.[20] Other fruits that are more appropriately indigenous to Eden's mythological territory include the apricot, olive, grape, date, and the pomegranate. The latter is a popular choice for its rosy skin, bloody juice and jewel-like, extravagantly-seeded flesh

The fig, likewise, recommends itself for the role. It is appropriately native, softly fleshy and sensual, and it carries an abundance of seeds, making it suggestive of fertility. It is perhaps a most obvious suggestion, because its tree is actually mentioned in the story. Also, as it ripens to inconspicuous greens, velvety pinks or restrained dark purples, one might call it a subtle fruit--the same adjective that is used to describe Eden's snake. The most subtle of creatures might find in the fig a sympathetic accomplice.

The fig is Durer's choice in his famous engraving of the Fall, where compositional play and foreshadowing persuade us to give this fruit some consideration. He depicts the fig tree, hung with fruit and snake, at the centre of the scene. Across its trunk an "X"—drawn by the lines of Eve's gaze and Adam's gesture—organizes the frame. Eve gazes down toward the fruit, but

19 Horace Jeffrey Hodges, "Forbidden Fruit as Impedimental Peach: A Scholarly 'Pesher' on Paradise Lost 9.850-852," Milton and Early Modern English Studies, Volume 18, Number 2 (2008): 395-411, accessed 12 May 2011, http://www.dbpia.co.kr/Journal/ArticleDetail/1274426
20 Ibid.

further along her line of sight is a wisp of forest that—for the moment at least—obligingly conceals Adam's genitals. Adam's innocent gesture toward Eve and the fruit traces out the opposite diagonal line of the "X", nonchalantly bringing our attention to her groin. Suspended here, Adam and Eve's awareness of their nakedness perches on the edge. Both figures face us frontally, the lines of their bent legs reinforcing the composition while making them appear poised to step forward from the edge of the forest, about to reveal themselves. In the distance, a goat gazes down comically from a precipitous mountain peak, as though considering the depth it might fall.

Now as Eve reaches out for the fruit, an errant fig leaf from a branch she has already plucked just so happens to float out over her body, guarding her modesty. It's an artist's trick, but it also hints compellingly at why we should consider the fig as the forbidden fruit: simply, Adam and Eve use fig leaves to cover themselves because they find the leaves immediately at hand. Proximity, after all, is the only quality that might recommend fig leaves as garments. They are, as Durer renders them, deeply lobed, and generally not very large. Their surface is scratchy. Had Adam and Eve gone hunting in the garden, they might have found any number of more substantial and suitable kinds of leaves. One would choose fig leaves for clothing only in a moment of panic: such as the moment when, with the fruit's sweet flesh sliding down the throat, there is a sudden dawning of what it is to feel naked and ashamed.

THE FIG IS THE SUBTLEST OF FRUITS

The fig is the subtlest of fruits: it grows with a riddle. We know that all fruiting plants must produce flowers which, when pollinated, produce fruit and seeds. The fig is an enigma because it is a fruiting plant that does not appear to flower. Now many flowering plants, such as grapes, are said to have "inconspicuous flowers"—that is, flowers that are tiny and not showy—but the fig (*genus ficus*) shows no flowers at all. The fig's fruit simply emerges from the branch as a green droplet, where it swells and ripens: becoming soft and sweet and full of seeds, sometimes darkening its skin. The key to the riddle of the fig is that it does not *come out* in flower. What we see as the fig fruit is in fact a fleshy "inflorescence": a vessel called a synconium that *flowers-in.*[21]

The fig's life story is remarkable.[22,23] Beneath its skin, a young fig lines its inner walls with simple flowers that protrude toward a void at the centre. The flowers are of two types: short-style and long-style. Entrapped in their little orb, they produce a scent that attracts the attention of a tiny symbiotic wasp.

The female fig wasp seeks out this fragrance alone. She struggles inside the fruit through the osticle, a minute hole at its base, usually losing her wings and tentacles on the way in.[24] Once inside the fig, the wasp treads though the flowers, trying to deposit her eggs into the base of each of them. She succeeds in the short-style flowers: planting an egg inside each, she makes these flowers infertile for the fig, but the perfect incubator for her seed. In long-style (female) flowers, however, the wasp finds her ovipositor to be the wrong length, and cannot lay her eggs. But in her attempts, as she probes the depth of each flower, she deposits pollen that has collected on her body onto the flower's stigma. The result is that these flowers are pollinated, allowing them to ripen and produce seed.

Inside the fig, the wasps die. Eggs incubate. Flowers ripen to seed.

21 "The Story of the Fig and its Wasp," *Ecological Society of America,* accessed 23 July 2012, http://www.esa.org/esablog/field/the-story-of-the-fig-and-its-wasp/
22 "Interaction of figs and fig wasps," accessed 23 July 2012, http://www.figweb.org/Interaction/index.htm
23 "Figs may have been the first domesticated crop," Cosmos Magazine, accessed 23 July 2012, http://www.cosmosmagazine.com/news/figs-may-have-been-first-domesticated-crop/
24 "The Story of the Fig and its Wasp"

The male wasps hatch out of their sacs first, and seek out females, fertilizing them before they emerge. Then the males work together to dig a tunnel out of the fig to allow the females to escape. Shortly afterward, the males die. The females hatch and follow them out, carrying pollen, and seeking out new young figs where they will lay their eggs.

Different species of fig rely on different species of symbiotic wasp to make fertile their little internalised gardens, but all use this curious and complicated method of reproduction.[25] In exchange, the fig's garden becomes the wasps' bedchamber, shelter for the young, and sometimes their tomb. Some species of fig go so far as to produce a specific crop of fruit that is entirely infertile: its only function is to allow the wasps to overwinter and continue to reproduce.

But beneath the fig's skin, these remarkably intertwined sexualities lie hidden. Each fig fruit is its own *hortus conclusus*, or tiny walled garden. In Eden, each is a garden within the Garden.

25 I have made a number of simplifications in the details of fig and wasp mutualisms for the sake of brevity. The specific contracts of mutualism vary somewhat among different species of fig and wasp.

LAST DAYS

> *[6] So when the woman saw that the tree was good for food -*

There is no time in the Garden of Eden: Adam and Eve are there for neither hours nor years. But the phrase "Eve saw that the tree was good for food" describes a rare moment that seems to take time. *How* does she see that the tree is good for food? I like to imagine the way that the hours stretch out.

> "You will not die," the snake says.
>
> "Is this a trap?" Eve wonders, never having seen one before.
>
> She picks the fruit gingerly and tentatively smells it. It is mildly sweet. She rubs it gently on the tender skin of her forearm. She waits. She pricks the fruit to let a little juice ooze out and rubs it on her skin again. She waits, and waits. Nothing happens.

But something has happened. Something has already changed, for determining whether the fig is edible requires an experiment in wilderness survival. If this is Eden, how does Eve find herself confronting a wilderness?

No matter: by now, the final casting-out from the garden is redundant. Wilderness, as it does in every garden, has already crept in.

> Eve touches the fig's skin to her tongue and waits, puts a little of the juice on her tongue and waits. She takes a tiny nibble. She waits. Nothing happens. She tears the fig in two--

The walls of the fig's garden are thrown open. In its centre is something Eden has never seen before: a cluster of faded flowers.

> "How lovely," Eve smiles, surprised to find inside the fruit, instead of a hard stone, this soft void. "Who would have imagined that the inside of a fig looked like that?"
>
> Satisfied, she bites into the tender flesh.

EPILOGUE : FALLOW FIELD

GREEN :

- adjective

covered with herbage or foliage; verdant: green fields.

- verb

to become or make green

On Prince Edward Island, the grain of the farm is as familiar as the sky. Carefully-ordered cropland and pasture, cut with hedgerows, unrolls in serial waves along the roadsides. It is the landscape that defines this green island; but unless we are farmers, farms are spaces that we nearly never set foot in. Instead they are spaces that we inhabit only imaginatively from a distance, and often at high speeds through the window of a car.

Each farm field is a highly controlled and homogeneous space: a singular variety of plant multiplied across a plane so that the whole field moves in a single temporal arc. The field is plowed and planted, it fills with green and thickens. Sometimes it develops a dusted bloom of colour, or simply dries to shades of gold. Large fields are as scaleless and sublime as inland seas. Then there is the harvest: all vegetation is cut and removed, or sometimes it is baled into identical, stout figures and scattered like buoys, giving the imagination a measure as it moves out across the plane.

But for now it is August, and the fields of grain are tall and dry, the soybean fields dense and deep. I pay a visit to the Experimental Farm, or Home Farm, tucked within the Island's capital city. Embedded in this culture of extensive agriculture, the Experimental Farm is a collection of crop fields where varieties are cross-bred and grown-out in an open-air laboratory along tree-lined roads, interspersed with lawns, commemorative plaques and planted monuments. A clutch of historic, white-washed buildings and greenhouses sits at its centre. It reads as a microcosm of the Island's landscape, a meta-farm among farms, or a theme park to the study of mainstream agricultural practice. Experimental varieties stand narrowly apart, while separate cropping areas are edged with wide margins of mown grass. Beyond these margins are paved roads, or bands of meadow plants that have been allowed to emerge along the formal pedestrian trails or hedgerows.

This farm is open to the public as a recreational space—at least its walking paths and lawns. The crops still stop us at their perimeter. There is also one field that has been left fallow: it is a thick, grassy meadow peppered with wildflowers.

Set beside the carefully-cropped planes on the farm with their rigourous plantings of grain and soybeans, the fallow field feels vastly out of place. The planted fields are homogeneously thick and break off sharply at their edges, but the fallow field is varied and frayed. Its edges blur into hedgerow and fencerow; or crumble out into established meadow and semi-maintained lawn. A well-travelled, informal footpath passes just inside or along or perhaps just beyond one margin. Some footfalls are stopped short and shallow by unseen rises of earth, while others plunge deeply. And where the cropped field is impassibly dense and excludes wanderers, the position of the fallow field is indefinite. Without clear edges or any indication of control, it is a provisionally navigable and diverse territory.

At least, it seems so for now; for while the crop is a uniform array of plants, all aligned in their cycle of growth, maturity, and harvest, the fallow field churns in illegible and heterogeneous times, immersed in innumerable times. Today grasshoppers explode around each footstep like shrapnel, and are caught in the elaborate devices of orb weavers. Today there are particular constellations of yellow sow thistle and white Queen Anne's lace, purple clover and crown vetch; but tomorrow a new set of buds will reach their peak of bloom, scattering new patterns over the field.

It is unclear exactly when each of these processes began, and as they slip back into the depth of the field they are overwritten by other beginnings and dispersed climaxes. It is also impossible to read when they may end. The logic of the fallow field is simply to continue to begin, to elaborate itself outward in time, unconscious of any particular future.

I later visit an organic farmer outside of town who talks about the expensive but effective practice of sterilizing soil by steaming it. It is a method of weed and pest control that can be used for high-return crops such as strawberries, he tells me. He has laid down sheets of black plastic around the melon plants to keep down weeds, and also relies on hand-pulling. Controlling weeds and pests is a major thread in his story of producing perfect foods for market. For the narrative of productive farming separates, isolates, and evaluates, pursuing sharp edges in space and carving equally sharp edges in time. Crops are planted and there is the harvest; the harvest is good or bad, the fields are cleared, and crops are replanted.

In this way, the fallow field stands wholly apart from the farm, even if only temporarily so. It exists on the farm as an imposter, beside the smooth teleologies of crop fields, perhaps always threatened or promised the eventual leveling effort of a plough. But in the meantime, it is a wholly uncalculated bursting, a collection of carelessly unfolding habitats, tiny elisions, diffuse climaxes. Fallowness is only an immediate condition. It does not consider a happily ever after.

BIBLIOGRAPHY

Adams, William Howard. *Nature Perfected : Gardens through History.* New York: Abbeville Press, 1991.

Allen, Stan. "From Object to Field." http://crisisfronts.wikispaces.com/Readings

Alter, Robert, editor. *Genesis: Translation and Commentary*. New York: W.W. Norton & Company, 1997

Anderson, Greta, and Deborah Klochko. *Picturing Eden.* Rochester, N.Y.: George Eastman House International Museum of Photography and Film, 2006.

Aristotle, and W. D. Ross. *Works of Aristotle.* Chicago: Encyclopedia Britannica, 1952.

Ashkin, Michael. *Garden State.* Accessed 14 March 2013. http://www.michaelashkin.com/garden.php

Atwood, Margaret. *Survival: A Thematic Guide to Canadian Literature.* Toronto: McClelland & Stewart, 1996.

Berger, Alan. "Urban Land is a Natural Thing to Waste." In *Harvard Design Magazine* (Fall 2005/ Winter 2006): 48-56.

Bergson, Henri. *Creative Mind.* Translated by Mabelle L. Andison. New York: Greenwood Press, 1968.

"Bingham Canyon, United States of America." Net Resources International (2012). Accessed 31 January 13. http://www.mining-technology.com/projects/bingham/.

Borges, Jorge Luis. "On Exactitude in Science" in *Collected Fictions*. translated by Andrew Hurley. (New York: Penguin, 1999).

Brody, Hugh. *Maps & Dreams: Indians and the British Columbia Frontier.* Prospect Heights, Ill.: Waveland Press Inc., 1981.

Buckingham-Hatfield, Susan. *Gender and Environment.* New York: Routledge, 2000.

Cainion, Ivory J. "An Analogy of the Song of Songs and Genesis Chapters Two and Three." *Scandinavian Journal of the Old Testament*, 14:2, 2000. Accessed July 2010. http://dx.doi.org/10.1080/09018320050178826.

Carroll, Lewis. *Through the Looking Glass.* Project Gutenberg, March 1991. Accessed 16 October 2007. http://www.gutenberg.org/ebooks/12.

---------. "The Man in the Moon." In *Sylvie and Bruno Concluded*. London: Macmillan and Co., 1893. Accessed 22 July 09. http://archive.org/details/sylviebrunoconcl00carriala.

Carson, Anne. *Eros the Bittersweet.* Champaign: Dalkey Archive Press, 1998.

---------. *Glass, Irony and God*. New York: New Directions Publishing Corporation, 1992.

Carson, Anne, trans. *If not, Winter: Fragments of Sappho.* New York: Vintage Books, 2002.

Cicero, Marcus Tullius. "Book IV: On other perturbations of the mind." In *Cicero's Tusculan Disputations*. Translated by C.D. Yonge. New York: Harper & Brothers, 1877. Accessed 29 August 2012. http://www.gutenberg.org/files/14988/14988-h/14988-h.htm.

----------. *Commonwealth; and his Treatise on the Laws.* Translated by Francis Barham, Esq. London: Edmund Spettigue, 1841-42. Accessed 28 August 2012. http://oll.libertyfund.org/title/546/83317.

----------. *On The Commonwealth.* Translated by George Holland Sabine and Stanley Barney Smith. New York: Library of Liberal Arts.,1968.

Cixous, Helene. "Sorties: Out and Out: Attacks/Ways Out/Forays." in *The Feminist Reader: Essays in Gender and the Politics of Literary Criticism, Second Edition.* Edited by Catherine Belsey and Jane Moore. Malden MA: Blackwell Publishers Inc., 1997.

Codart: Dutch and Flemish art in museums worldwide. *'Landscape with the fall of Icarus not a Bruegel' according to publication The Brueg(H)el phenomenon, findings presented today at KIK/IRPA.* November 8, 2011. http://www.codart.nl/news/724/. Accessed January 31, 2013.

Colebrook, Claire and Ian Buchanan. *Deleuze and Feminist Theory.* Edinburgh: Edinburgh University Press, 2000.

Corner, James, editor. *Recovering Landscape: Essays in Contemporary Landscape Architecture.* New York: Princeton Architectural Press, 1999.

Corner, James S, Alex S. MacLean, and Michael VanValkenburgh. *Taking Measures Across the American Landscape.* New Haven, Conn.: Yale University Press, 1996.

Cosgrove, Denis. *Apollo's Eye: A Cartographic Genealogy of the Earth in the Western Imagination*. Baltimore: Johns Hopkins University Press, 2001.

Davenport, Guy. *Geography of the Imagination: Forty Essays*. San Francisco: North Point Press, 1981.

Delumeau, Jean. *History of Paradise: The Garden of Eden in Myth and Tradition.* Champaign: University of Illinois Press, 2000.

Eisenberg, Evan. *Ecology of Eden.* Toronto: Random House of Canada, 1998.

"Explorer Sir Ranulph Fiennes on historic attempt at crossing Antarctica." On *The Sunday Edition.* Canadian Broadcasting Corportation. 24 March 13. http://www.cbc.ca/thesundayedition/shows/2013/03/24/ranulph-fiennes/.

"Figs may have been the first domesticated crop." *Cosmos Magazine.* Accessed 23 July 2012. http://www.cosmosmagazine.com/news/figs-may-have-been-first-domesticated-crop.

Freeman, Barbara Claire. *Feminine Sublime: Gender and Excess in Women's Fiction.* Berkeley: University of California Press, 1995.

Frye, Northrop. *The Bush Garden: Essays on the Canadian Imagination.* Toronto: Anansi Press, 1995.

----------. "The Educated Imagination." *CBC Massey lecture.* Canadian Broadcasting Corporation, 1962. Accessed November 2011. http://www.cbc.ca/ideas/episodes/massey-lectures/1962/11/09/massey-lectures-1963-the-educated-imagination/

Gayton, Don. *Wheatgrass Mechanism: Science and Imagination in the Western Canadian Landscape.* Saskatoon: Fifth House Publishers, 1990.

Goethe, Johann Wolfgang von. *Goethe's Theory of Colours*. Translated by Charles Lock Eastlake. London: Cass Library of Science Classics, 1967.

"Greenness of the Coterminous US." *U.S. Geological Survey.* Accessed 25 April 2012. http://ivm.cr.usgs.gov/index.php.

Grosz, Elizabeth A. *Architecture from the Outside : Essays on Virtual and Real Space.* Cambridge, Mass. ; London: MIT Press, 2001.

----------. *Becomings : Explorations in Time, Memory, and Futures.* Ithaca, N.Y.: Cornell University Press, 1999.

----------. *Chaos, Territory, Art: Deleuze and the Framing of the Earth*. New York: Columbia University Press, 2008.

----------. *The Nick of Time: Politics, Evolution, and the Untimely.* Durham: Duke University Press 2004.

----------. *Time Travels : Feminism, Nature, Power.* Durham: Duke University Press, 2005.

----------. *Sexual Subversions : Three French Feminists.* Sydney: Allen & Unwin, 1989.

Harrison, Robert Pogue. *Forests: The Shadow of Civilization*. Chicago: University of Chicago Press, 1992.

----------. *Gardens: An Essay on the Human Condition*. Chicago: University of Chicago Press, 2008.

Harley, J.B. "Maps, Knowldge, Power." In *The Iconography of the Landscape*, edited by Denis Cosgrove and S. Daniels, 277-312. Cambridge: Cambridge University Press, 1988.

Hawthorne, Nathaniel, Claude M. Simpson, and Randall Stewart. *American Notebooks.* Columbus: Ohio State University Press, 1972.

Heinberg, Richard. *Memories and Visions of Paradise : Exploring the Universal Myth of a Lost Golden Age.* Los Angeles: J.P. Tarcher, 1989.

Helphand, Kenneth. "My garden, my sister, my bride: The garden of "The Song of Songs". In *Gender and Landscape : Renegotiating Morality and Space*. Edited by Lorraine Dowler, Josephine Carubia and Bonj Szczygiel. New York: Routledge, 2005.

Hjartarson, Paul. "'Virgin Land,' the Settler-Invader Subject, and Cultural Nationalism: Gendered Landscape in the Cultural Construction of Canadian National Identity." In *Gender and Landscape : Renegotiating Morality and Space*. Edited by Lorraine Dowler, Josephine Carubia and Bonj Szczygiel. New York: Routledge, 2005.

Hodges, Horace Jeffrey. "Forbidden Fruit as Impedimental Peach: A Scholarly 'Pesher' on Paradise Lost 9.850-852," *Milton and Early Modern English Studies*, Volume 18, Number 2 (2008): 395-411. http://www.dbpia.co.kr/Journal/ArticleDetail/1274426 (accessed 12 May 2011)

Horn, Roni and Sarah Rogers-Lafferty. *Earths Grow Thick.* Columbus, Ohio: Wexner Center for the Arts, Ohio State University, 1996.

Hughes, Ted and Peter Keen. *The River.* London : Faber, 1983.

Hunt, John Dixon. *Greater Perfections: The Practice of Garden Theory.* Philadelphia: University of Pennsylvania Press, 2000.

"Interaction of figs and fig wasps." Accessed 23 July 2012. http://www.figweb.org/Interaction/index.htm.

Jaspers, Karl. *Anaximander, Heraclitus, Parmenides, Plotinus, Lao-Tzu, Nagarjuna.* Edited by Hannah Arendt. Translated by Ralph Manheim. New York: Harcourt Brace Jovanovich,1974.

Kahn, Charles H. *Anaximander and the Origins of Greek Cosmology*. New York: Columbia University Press, 1964.

King, Ronald. *The Quest for Paradise: A History of the World's Gardens*. New York: Mayflower Books, 1979.

Kirby, Kathleen. "Re: Mapping Subjectivity. Cartographic vision and the limits of politics." In *BodySpace: Destabilizing Geographies of Gender and Sexuality*, edited by Nancy Duncan. London: Routledge, 1996.

Landsberg, Sylvia. *Medieval Garden.* Toronto: University of Toronto Press, 2003.

Landy, Francis. *Paradoxes of Paradise: Identity and Difference in the Song of Songs.* Sheffield: Almond Press, 1983.

Le Corbusier. Aircraft. NYC: Universe Books, 1938, 1988.

Lerup, Lars. *After the City.* Cambridge, Mass.: MIT Press, 2000.

Macrobius, Ambrosius Aurelius Theodosius, William Harris Stahl, and Marcus Tullius Cicero. *Commentary on the Dream of Scipio.* New York: Columbia University Press, 1952.

Macy, Christine and Sarah Bonnemaison. *Architecture and Nature: Creating the American Landscape.* New York: Routledge, 2003.

Martin, Agnes and Dieter Schwarz. *Agnes Martin : Writings.* Ostfildern-Ruit : Portchester: Hatje Cantz ; Art Books International [distributor], 2005.

Marx, Leo. *Machine in the Garden: Technology and the Pastoral Ideal in America*. New York: Oxford University Press, 1964.

Massey, Doreen B. *Space, Place, and Gender.* Minneapolis: University of Minnesota Press, 1994.

Massumi, Brian. "*The Thinking-Feeling of What Happens" Inflexions* 1.1 "How is Research-Creation?" (May 2008) www.inflexions.org

May, Louise W. editor. *Feminist Reconstruction of Space.* St. Norbert, Man.: St. Norbert Arts and Cultural Centre, 2000.

McGlone, Matthew S. and Jennifer A. Batchelor, "Looking Out for Number One: Euphemism and Face." *The Journal of Communication*, Vol 53, No. 2 (2003): 251-264. Accessed 26 April 2010. http://dx.doi.org/10.1111/j.1460-2466.2003.tb02589.x

McKibben, Bill. *The End of Nature*. New York : Random House 1989

McKusick, James C. *Green Writing : Romanticism and Ecology.* New York: St. Martin's Press, 2000.

McPherson, Anne and Jennifer Angus. *Second Skin: Looking at the Garden again.* Guelph, ON: Macdonald Stewart Art Centre, 1997.

Merchant, Carolyn. *Reinventing Eden: The Fate of Nature in Western Culture.* New York: Routledge, 2003.

Moodie, Susanna. Life in the Clearings Vs. The Bush. Project Gutenberg. August 2003. http://www.gutenberg.org/ebooks/8132

Moodie, Susanna. Roughing it in the Bush. Project Gutenberg. August 2003. http://www.gutenberg.org/ebooks/4389

Neri, Louise, Lynne Cooke, Roni Horn, and Thierry de Duve. *Roni Horn.* London: Phaidon Press, 2000.

Orr, Deborah. *Belief, Bodies, and Being: Feminist Reflections on Embodiment.* Lanham, MD.: Rowman & Littlefield, 2006.

Quammen, David. *Song of the Dodo: Island Biogeography in an Age of Extinctions.* New York: Scribner, 1996.

Reynolds, Ann Morris and Robert Smithson. *Robert Smithson: Learning from New Jersey and Elsewhere.* Cambridge, Mass.: MIT Press, 2003.

Rohde, Eleanour Sinclair. *Garden-craft in the Bible, and other essays.* Freeport, N.Y: Books for Libraries Press, 1967.

Romm, James S. *Edges of the Earth in Ancient Thought : Geography, Exploration, and Fiction.* Princeton, N.J.: Princeton University Press, 1992.

Sadler, J.D. "Weasel-Words, Weasels, Woodpeckers, Et Al." *The Classical Journal.* Vol. 68, No. 2.: 166. Accessed 26 April 2010. http://www.jstor.org/stable/3295832.

Scafi, Allesandro. "Mapping Eden: Cartographies of the Earthly Paradise." In *Mappings,* edited by Denis Cosgrove, 90-108. Chicago: Reaktion Books, 1999. 90-108.

Sellin, Eric. "A Congruence of Landscape and the Mind: or, The Cartography of the Colonized People." *Literary Review*. Summer 1996.

Shannon, Kelly. "Drossscape: The Darkside of Man's Cultural Landscapes." Topos v56 (2006): 63-71.

Seneca, Lucius Annaeus, John Clarke, Sir Archibald Geikie. *Physical Science in the Time of Nero, Being a Translation of the Quaestiones Naturales of Seneca.* London: Macmillan and Co., 1910. Accessed 10 January 2012. http://archive.org/details/physicalsciencei00seneiala,11.

Serres, Michel. "China Loam" in *Detachment.* Athens: Ohio University Press, 1989.

Smithson, Robert, Jack D. Flam, and Smithson. *Robert Smithson, the Collected Writings.* Berkeley: University of California Press, 1996.

Solà-Morales Rubió, Ignasi. "Place: Permanence or Production." In *Differences: Topographies of Contemporary Architecture*. Cambridge, Mass: MIT Press, 1997. 92-105.

Solnit, Rebecca. *Storming the Gates of Paradise: Landscapes for Politics.* Berkeley, CA: University of California Press, 2007.

Spirn, Anne. *The Granite Garden*: *urban nature and human design.* New York : Basic Books, 1984.

Stahel, Urs. *If on a Winter's Night... Roni Horn...* Gottingen: Fotomuseum Winterthur, 2003.

Stewart, Pamela J. and Andrew Strathern. *Landscape, Memory and History : Anthropological Perspectives.* Sterling, Va.: Pluto Press, 2003.

"The Story of the Fig and its Wasp." Ecological Society of America. Accessed 23 July 2012. http://www.esa.org/esablog/field/the-story-of-the-fig-and-its-wasp/.

Trible, Phyllis. *God and the Rhetoric of Sexuality, Overtures to Biblical Theology*. Philedelphia: University Fortress Press, 1978.

Turner, Tom. *Garden History : Philosophy and Design 2000 BC--2000 AD*. New York: Spon Press, 2005.

Twain, Mark. *Eve's Diary.* Project Gutenberg. Released 14 June 04. www.gutenberg.net.

Varanka, Dalia. "The manly map: The English construction of gender in early modern cartography." Eds. Gender and Landscape: Renegotiating morality and space

Vico, Giambattista. *New Science of Giambattista Vico.* Ithaca: Cornell University Press, 1984.

Virgil. and David Ferry. *Eclogues of Virgil : A Translation.* New York: Farrar, Straus, and Giroux, 1999.

Williams, William Carlos. "The Children." In *Pictures from Brueghel and other poems*. New York: New Directions Publishing Corp, 1962.

Wordsworth, William. *The Prelude: or, Growth of a Poet's Mind; an Autobiographical Poem*. London and Literature in the 19th Century: Cardiff University. Accessed 24 January 13. http://www.cf.ac.uk/encap/skilton/restrict/wworth02.html.

U.S. Geological Survey. Accessed 30 January 2013. http://www.usgs.gov/