

Welcome to
lecture number 15. We're moving right
along.

15 and 16 conclude the western part
of the course. We still have
17 and 18, which aren't up yet, but
are nearly finished.

But today we moved to- Well importantly
we moved to the 20th century.

Thoreau of course was the middle of the
19th century,

Walden is anyhow, and the middle of the
20th century is going to bring us to

Rachel Carson. And these two are, I
would argue,

two major eras

for the environmental movement. So really

the modern environmental movement,

depending on how you want to trace it,

you could trace it back
to Thoreau and his era, and
then moving forward from there to more
modern things.

Many people would argue that the- Or if
you ask many people I suppose,
they would say well the modern
environmental movement really sort of
begins in the 1960s especially
with Rachel Carson's Silent
Spring, and sort of the kickoff
text for that. And you could argue that
Thoreau is the kickoff text if you want to
imagine a beginning earlier,
so both very important. But the modern
environmental movement, the one that
gives birth to things like the EPA
and a whole range of things like the
Clean Air Act, and Clean Water Act, and all,

that's really the 1960s
and into the 70s. And I think
nearly anyone you ask would tell you
that Rachel Carson
is pivotal there, that it's an
incredibly important text to get things
going,
and a wonderful text, and a brilliant
text, so
we're lucky in that regard. So the best
thing to do I think will be
to jump right in, let me get to the prezi
here if I can.

And yeah look how far we've come from
way down here,
moved all the way up time wise, we're
within-

Well there was just an anniversary not
too long ago of Silent Spring, we're just

you know we're
like 50 years from where we are,
a little longer, and not at all far
though. So
in the same way that Thoreau was very
accessible to us, not only because of
other difficulties we've seen or issues
we've seen like
language, and you know it's very
difficult to read,
you know chaucer for example, the
language is obviously modern and all. But
what the language
you know denotes, the concepts and all,
are incredibly
modern, but in part because Carson
is playing a role in adding these
important environmental issues
into our vocabulary. But also note

that we are now-
we've made another jump. Remember back
here we jumped the Mediterranean out of
Northern Africa, we'll hear-
we are now clearly having jumped with
Thoreau back here
into North America. So let's jump right
into
lecture number 15.

So a wonderful quote by Carson, I'm going
to have one in the
next lecture as well. "The more clearly
we can
focus our attention on the wonders and
realities of the universe around us, the
less taste we shall have
for destruction." Excuse me.

Just you know- The thing is, right off
the bat,

and I guess this gives you an indication of it, Carson is a wonderful writer. She's a professional writer, that's her real claim to fame, and it's very much in evidence throughout the work so.

Let's go jump in. First a question for you.

Have you read Silent Spring yet? Well actually it's a general question, many students, especially students at UCSB,

will have read Silent Spring or part of Silent Spring for other classes. If you're an ES student you may well have encountered it before.

And regarding those two you know sort of bursts of the modern environmental movement, and Thoreau's era, and then

by Rachel Carson and Carson's era,
you know you we could have well started
this course just the same way I said
you know back with Thoreau, we could have
started with Thoreau. Well we could
definitely have started this course
with Rachel Carson, this would have been
a fair history of environmentalism, but
a very very modern one.

And of course we're going to see how you
know it's deeply informed by
a range of things that have come before
so.

Carson was a journalist, and we need to
foreground that from the beginning,
not a scientist. That doesn't mean that
she didn't have
you know background in science, in fact
she has an MA from zoology from Johns

Hopkins.

So she understands science, she understands how it works, and certainly is capable of you know reading it and synthesizing it. But principally what she is, is a journalist, a writer. She worked for the US Bureau of Fisheries, and she- her job was to write little pamphlets for the public. So from the very beginning, her professional skill is writing, but a certain kind of writing, of writing for the public, and she was very good at that. And in fact, you know she's so good, that she starts writing books of her own. And yes, three of them, like to sea

around us, and
principally her focus was on the oceans
with the books,
and they were very well known and well
regarded. So before
Silent Spring even came out, if you had
asked the general public, many people
would have known who Rachel Carson was.
And she wanted- you know these were
not just good books, they were award
winning books. And
they I think allowed her to
you know quit her job at the Bureau of
Fisheries,
and go ahead and have a
career just as a writer, which is great
because
then it freed up time for her to do the
incredible research

necessary for Silent Spring.

Yup. The fact that she did not have a PHD,

but is writing about science would haunt

her

throughout her career, as well as the

fact that she is a woman.

So Silent Spring comes out in the early

1960s,

at the time you know we still live in a

patriarchal

arguably pretty misogynist culture, but

this was a very very much one back

in Carson's time. So

people who wanted to discredit her you

know,

and even before the book was

published,

a well financed well thought out

campaign to discredit her took place, and

it was

put forth by the chemical industry that

she attacked

in Silent Spring. And repeatedly

they argue you know they'll say that you

know Carson

doesn't know what she's talking about.

Why?

Well the obvious thing, she doesn't have

a PHD,

she's not a scientist in that sense. And

you know they will underscore this again

and again, whenever they refer to her to

always be

Miss Carson, drawing attention to the

fact that she doesn't have

a PHD and she's not a doctor. They also

will draw attention to the fact of

course that she's

a woman, and Miss carson does that right.

And you know sometimes subtle, sometimes

forcefully,

they will draw attention to the fact

that she's a woman, and you know and

lined up against her will be a whole

range of men who have you know

scientific credentials.

And they will even attack her

sexuality

so. And that little phrase Miss

Carson, two words, kind of does it all

right. So one, she's not a PHD,

she's Miss. Two, she's a woman, that miss

says it.

And three, they draw attention to the

fact that she's older,

and not married, and implied that she may

well be a lesbian.

I know. This was the era that
Carson was in, this is what
Carson had to contend with. And
I mean it is remarkable to think about
the fact that you know if someone didn't
get married for whatever reason that
they didn't want to get married, then you
know you're going to
you know later in life is well they're
probably gay or lesbian.

Yeah remarkable world, remarkable world
that we grew out of so. But anyhow,
tough going for Rachel Carson,
but she was pretty tough herself, but
still I don't think anyone should have
to endure
these sort of attacks and sometimes you
know deeply personal attacks that she
suffered.

Yeah this campaign against Carson remarkably continues into the 21st century. I'm going to give you even as we finish with Carson even more recent things than this one in 2002, but here you know if man- Right off the bat in 2002, we generally refer to the human race as humanity rather than man, so gendered murderably sexist remark coming. If man were to follow the teachings of, again Miss Carson, loaded phrase, we would return to the Dark Ages, and the insects and diseases and vermin would once again inherit the earth.

Yeah so by no means has it stopped. So you know before Silent Spring was even

published, the attack
you know came on hard, and we'll
see that it continues
today. Ironically, just a couple years
after Silent Spring was published, Rachel
Carson died of
cancer. We don't know
you know the cause of it,
you know if she was exposed to any
particular
carcinogens and all. But it is of an era
where there were,
which is what Carson is drawing
attention, to all sorts of substances
in the you know being introduced into
the environment, and
to the human body in the form of like
supplements that people were eating,
that were carcinogens.

Again, be happy that you didn't live in that era because things have improved dramatically with respect to that, and in part because of Carson and what we'll see.

You know she draws attention to the indiscriminate use of chemicals in the environment, specifically mtdt, but a range of people inspired by her will say well wait a minute this chemical industry is producing all kinds of chemicals, and it's actually giving some of them directly to us as you know preservatives or additives of some sort into our food you know what about those things, and people would begin looking at them

because of cancer-

because of Carson. But we wouldn't know

why she died,

you know what the cause of her cancer

was, but it was a sad

event because you know Carson speaks to

Congress and all, and she's telling about

you know Silent Spring and the danger

of ddt, and

it's as she's dying of cancer at

the time.

So, Silent Spring.

Yeah, 1962. I

you know- If you were going to, if I were

going to ask on a quiz,

you know when did the modern, in the

sense of the 20th century,

environmental movement began? I would

argue it began

in 1962 with the publication
of this book.

It's not to say that people were not
aware of environmental issues before,
we saw back in the 17th century for
example people were aware
that you know coal smoke was killing
people, and animals, and plants, and doing
harm to buildings and all.

Yeah it's absolutely true, people have
known for a long time the sort of
consequences of environmental- our
environmental actions.

But really here, in spite of thousands of
years of that kind of awareness,
in the second half of the 20th century,
this understanding becomes widespread, it
becomes common, and it spawns an
environmental movement.

Sometimes you'll see people
talking about you know
trying to name what actually
started this modern environmental
movement.

Again, I would argue 1962. But people will,
and

it's not just people from UCSB or
Santa Barbara, or even California,
named the 1969 oil spilled Santa Barbara
as one of the
causes of the modern environmental
movement.

And I think that's fair because
in each case the general public
became aware of environmental problems
in a big way, and the protests that
happened
at Santa Barbara

you know were well televised because it is a wealthy community, and you know people knew about it, and people started noticing it, and the images of you know oil washed up on the shore and birds covered in oil.

Which by the way, you know as I just said that, an image might have popped up in your head, you may have seen those images before.

In a way they've become iconic for a certain kind of we call like point source pollution, but especially because of oil spills.

This has happened because of a range of subsequent oil spills, the Exxon Valdez for example in the 1980s was a horrifically big one. But it's in this

era that those images become iconic, that they emerge for the first time as a big deal. So yeah.

And just throw a little plug in, not only did it

you know cause the birth of the modern environmental movement,

but a group of UCSB faculty members got together right at the time that this was

happening or right after it,

and formed a group called The Friends of the Human Habitat.

And then would subsequently go ahead and form, like a year later, the UCSB

environmental studies department, which

became one of the first environmental

studies departments in the United States,

and has since become

one of the largest, and well I would

argue one of the best so.

Let me just pop out here.

Silence Spring and why you can

see this as like

an essential part of a modern

environmental is because it represents

sort of a paradigm

shift. For a long time

people were really you know gung-ho

about science,

about scientific breakthroughs. And the

fact that

you know people saw themselves,

especially like I'd say after the second

world war,

as living in this bright new world where

all sorts of things were being made

possible by science and the application

of science by way of technology,

people were like yeah this is you
know science has made this wonderful
world. Who
knows where it's going to go, and how
great it's going to get?
Well that sort of naive faith
in science Carson showed had you know
a dark side to it, blind acceptance
you know just hoping that you know
the nice
people in these chemical industries
would go ahead and have our interest
at heart, and would take care of us.
Carson showed that no, you know we really
have to
pay attention to what's going on. And
moreover, and what would become
by at the end of this decade, the 1960s,
the government would be looked

to,
especially in the United States, would be
looked to
police these organizations.

And the EPA becomes, in the early 1970s,
the
sort of the umbrella organization that
does that.

But other organizations- Other things,
again,
in part because of Carson drawing
awareness to it, you'll have things like
the FDA
beginning to take on that role more and
more with food, making sure
we know exactly what food additives are,
and not letting you know anybody put
additives into our food until it's well
tested.

So it's a very good thing that
Carson did this, it
did create a certain kind of general
skepticism towards science that we see
echoing today, we'll talk about- is
a little bit of a problem,
but it certainly is good that
Carson did this in so far as
you know we need to be very very careful
with how we treat the environment, and
now we're getting into an
era where you have- And ironically
many of these are petroleum, or chemicals
synthesized one way or another and
produced in part out of petroleum,
we have to be very careful about how we
release these into the atmosphere.
And in general, we have to you know we
all have to be concerned about science a

little.

So we all can't be scientists, but then we can make sure that we have a strong government that puts into effect strong you know divisions like the FDA, and especially Environmental Protection Agency.

Which is why of course when you hear people saying, and I think I haven't made any comments about the current you know presidential administration, but during the you know Donald Trump's bid for president during the campaign, you know one of his promises was that he would destroy the EPA. So after all the work that

Rachel Carson and so many other people
did in creating the EPA,
and all the wonderful work that the EPA
did and protected the environment,
it came under under fire, and I won't get
into that it's a complicated situation.

But I will say that while the Trump
administration did not
destroy the EPA, he basically
handed it over, the brains of the EPA, to
industry, and it's been systematically
I don't want to say gutted but
greatly reduced.

And you know we all
will suffer because of that, because not
only
will the environment suffer because it
doesn't have you know- I mean
EPA of course stands for Environmental

Protection Agency,
the environment doesn't have the
protective safeguards that came
about because of Rachel Carson and
her era, but you know we potentially
suffer too
because these chemicals, not necessarily
ddt, but others
can directly impact human beings in any
event.

Carson is, from our point of view,
great because she focuses on this
particular environmental issue.

But this sort of general skepticism
toward
science, or wanting to make sure
that what was happening was safe, didn't
end
with ddt by a long means. So

all sorts of people took up new
environmental issues, and Carson

basically-

We'll talk about this, but it was a
very clever move that Carson did,
she focused on one particular problem,
which is ddt.

She could have focused on a host of
other things, but she focused on ddt,
and I think because she knew that you
know if we just tackled this one problem,
we might be able to beat this-
might be able to beat it, and we did. And
so far as you know ddt was banned in the
United States, and it was solved
that problem. I think what happened was-
Let me just pop into
to say this. What happened was a range of
other

people saw what she did and the success that she had, and it became a model for a whole range of different things, and that was what was wonderful about it. So you know if Carson would have tried to take on everything all at once, well she probably you know who knows where to begin, and you probably you know you're just going to overwhelm your audience, and you know you're probably not going to succeed at resolving much.

But by focusing on this one thing, she did resolve it, and people said well she did with that, we can do it with other things.

So nuclear industry in the 1970s came under attack by a whole group of environmentalists who were sort of

coming out of the
Vietnam era war protest, then protests
were made against that industry,
and it was significantly-
well it's pretty much stopped in its
tracks in a certain kind of way.

So very important. And
then not just you know environmental, but
as I mentioned before
chemical additives to food products
throughout the 1960s and 70s.

You know just like Carson looked at ddt,
people looked at a whole range of things
like

cyclamates, which is an artificial
sweetener that was used.

And because of working hand in hand with
science, because
scientists were able to, in the 1970s,

really

know carefully really determined

pretty accurately I think that

a product contained a chemical that
could cause cancer.

And then when that was known, it was
immediately pulled off the market or
it was subsequently pulled off the
market. So all that

you know sort of comes out of Carson's
thinking. Yeah

I'm not talking about ddt, we're talking
about other chemicals. We're not talking
about them being released in the
environment, we're talking about them
being you know put into products that we
consume. Yeah different than Carson, but
coming out of Carson's basic thinking.

So people were emulating Carson, and

the world became a much better and safer world for human beings, put in an anthropocentric way, but for you know all life on the planet because of Rachel Carson.

So Carson as communicator.

This is I would argue her real strength, to be able to communicate difficult ideas well.

You know she has this because of these decades of experience in writing for the public. And the real key to that here, and you can see this again and again in Carson, is to explain in simple understandable terms without a lot of jargon, without a lot of complicated science stuff. To be able to

explain nonetheless complicated science
stuff,

and to you know make it
understandable to the average person
on the street, which is her audience, and
she was good at writing for.

And I have to tell you, that's a
real trick to be able to do that, and
that's one

I'm gonna make a little commentary on
my own group, scholars. That's one the
scholars don't necessarily do, and I'm
not

singling out scientists here, but I'll just
say scholars more generally.

We tend to get into our own little
esoteric worlds, which are filled with
jargon, and specialized knowledge, and
specialized references,

and we talk that way back and forth to
each other and every now and again
we try to talk to the public, either in
our writing or by teaching.

And then sometimes we just don't do a
very good job of it because we're
so used to being in that sort
of strange

world of our own research, which you know
everyone we talk to gets and understands.

As a consequence, some of the most
influential and important
environmentalists

in the last 50 years starting with

Carson, were not themselves research
scientists,

although they deliver to the world

the important work of research

scientists. And

I will say research scholars more generally, because when you get to something like environmental justice for example you know that is a cultural thing that has to get released into the world. But I'm thinking here of like Rachel Carson to begin with, but then say Bill Mckibben, one of the best known environmentalists today, who writes the first book in the late 1980s about the climate crisis called global warming at the time. You know Mckibben not a scientist, even without like a PHD or any kind of background like that, but he's a journalist, he's a writer for the New Yorker.

And you'll have other people like
Michael Pollan, who writes you know The
Omnivore's Dilemma, and
sort of introduces the slow food
movement and eating locally
to America. Again, writer for the New
Yorker
Elizabeth Kolbert writes a wonderful
book,
wonderful environmentalist, called The
Sixth Extinction about the fact that
we're in
probably the sixth major extinction of
life on earth, and
you know we've brought it about for the
most part.

Again- So I'll popped back on. These
slides are so big I keep having to pop
off, I

want to be able to talk right to you.

Kolbert, again, not a scientist,

coincidentally New Yorker writer. And

I'll add

third one, since I'm on this vein, Naomi

Klein

writes a book, *This Changes Everything*, an

incredibly important book about the

climate crisis.

Almost all these books there that I've

referenced here have been

very popular, sold well, I think

all of New York New York Times

bestseller list. *Sixth Extinction*, if I'm

remembering

correctly, won the Pulitzer. But Naomi

Klein

also journalist, also coincidentally with

their lineup here,

New Yorker writer. So you know
this is you know incredibly important
skill to be able to communicate, and
that's really what has been
necessary. And
arguably, it's what it's really
necessary today,
because to communicate the climate
crisis now is-

This particular issue is more important
than others.

I mean ddt yes, very important, but we're
talking about a global
you know crisis here that's going to
influence you know all of humanity, and
millions of people
you know are going- hundreds of millions
perhaps billions
ultimately will have to migrate, people

dying by the millions already,
it's a real issue. And yet, like in the
United States for example, a broad swath
of people are skeptical
that the climate crisis is even
happening, or that we're causing it, or
that it's as bad as it
is. So you know what is arguably
really needed
are our great communicators here, people
to be able to communicate this
in successful ways to other people.
And to put that in perspective, in
my last sentence here, you know Carson
disseminated the work of others,
she did not do scientific research. So
even though she has a background in
science with that MA
in zoology from Johns Hopkins, you

know she's not a scientist, not doing
research, that's not how she spends her
days. She spends her days
reading research, trying to figure out
how to express it to
you know to translate almost into
another language, which is the everyday
language of you know Americans,
but that's her job, and
it's such an important job. And
again,
you know if any of you want to
take up this job, I
can't you know applaud you more
because it's incredibly important
and necessary.

She is similar to eco-journalists.

So I just gave you a little

a short laundry list of them with Bill

Mckibben, Naomi Klein,
Elizabeth Colbert, and Michael Pollan. And
Pollan's a great example,
his background is in publishing, Pollan
has a
a master's degree in journalism. But he's
very good at
communicating difficult ideas, and
landing on ones that are important.
And one of the best examples,
although not a journalist, is of course
Al Gore.

Al Gore right now is sort of a little
bit
past his peak as the important
environmentalist, he was, but
Al Gore you know will share in, I guess
2007 if I'm remember remembering
correctly, the nobel

peace prize with 1500 scientists
working on the climate crisis from
the IPCC, the Intergovernmental Panel on
Climate Change.

And the reason Gore shares it- In fact it
sort of split up, he gets half of it and
the 1500
scientists shared the other half. Why
he's so important, why he's as important
as those 1500 scientists
in the the eyes of the nobel committee,
is because he communicated the climate
crisis
to the world and he was very effective
at doing that.

And especially in a film, you know An
Inconvenient Truth,
2005 film,
just brought the world's attention to

the problem, and the film is shown all

over the world, and

shown in Europe and

things like that. So

again, really important, not as a

scientist, but as a communicator. So

I just want to like underscore so that

we realize-

so you don't fall into the trap of

the people who attacked Carson. Well

she's not really a scientist, why should

we listen to her?

Well you know people like Carson

are just wonderful

because they are able to assimilate

and aggregate the work of scientists

so that we can all understand them, and

myself

include, I don't understand science the

way that a scientist would for sure.

Carson at once romanticizes the environment and sees it as an object of study.

We saw this with Thoreau, and we saw it even before,

but certainly you know that-

Carson does not just romanticize, well

Thoreau did romanticize the environment, we'll talk about something else he did in a moment.

She does that just like

Carson did very beginning, and we're going to talk about that pastoral

beginning of Silence Spring she does.

But she generally takes the position of detachment, like a detached scientist

as an object of inquiry, and that's why I mentioned here Thoreau did that

later in his life as well. Not so

much in-

some in Walden, we could look through for

passages, but later in his career before

he passes away, he does that a lot.

So there's an advantage to this

because, on the one hand, romanticizing

the environment or telling us the

wonders of it and the importance of it,

that's great because it gets you on

board to want to help protect it and to

save it.

But by taking a detached stance that in

a way can make you

more credible by relating science-

by relating the science with the

detached view of the scientists.

In other words, if people think that you

are just romanticizing,

and you know exaggerating, and overstating the case, well your credibility is going to be harmed. It's better that if you do the romanticizing, you know just when to do it and how to do it, and Carson does, but then pull back and most of the time you know take a detached view that these are the facts, just the facts, you know making them what you will. Carson want you to make something of it, and the way she you know stacks them up it does that, but it's a great way to go about it and we'll see in a moment Carson has a range of different techniques to help communicate.

Yup. So I think

Carson maybe herself, but certainly the

people publicizing her,
cultivated an image of her as a
scientist and a naturalist. So
here's Rachel Carson hard at work in
her lab. Here's Rachel Carson
out somewhere doing field work.
Both of these are wrong, both are
misrepresentations put it that way.
Carson didn't have a lab, Carson didn't
spend time
doing you know in a microscope
looking at things,
checking field. She didn't do any of that,
that wasn't what she did,
that's not how she got her information.
Nor did Carson get her information
with the second photo, by going out and
making observations and checking on you
know-

because she talks about you know
birds dying and all, she's not
checking on bird populations to see how
many are alive.

So both of these are a misrepresentation.

The correct picture here, to
properly represent what Carson did, would
have been Rachel Carson sitting at a
desk with
piles of books and papers around her, and
her sifting through them, and
in her era not a computer, but a
typewriter in front of her
you know typing up what she you know how
she wanted to communicate,
what she had read. So yeah she's-
I guess it's less glamorous to make a
photo of, but she's a
a reader and writer you know, so if you

could have had her reading and writing.

But again, that sounds- Look at that out

in the middle of wherever that is on

the top of the mountain, that looks like

she's really doing something,

looking at a book doesn't sound so

important.

Anyhow, this two-prong approach has been

very successful, so

Al Gore uses it, Michael Pollan, and many

others. So

you know tugging at the heartstrings in

the sense of wanting you to care,

and you know explaining why what is a

danger is important. You know so if

you're talking about

let's say, which neither Gore or Pollan do,

but let's say you were talking about

you know saving a national park or

something.

Well you know first you want to get people to really care about it, you want them you know to see the beauty of it, and why it's you know so important to save it, but then you want to get to the nuts and bolts of things, and Carson is really really good at getting to the nuts and bolts of things.

And her case is by laying out the arguments, you know the scientific arguments that make everything understandable.

Carson's you know her detractors attacked this rhetorical approach because you know- Again, if the attack on her is sort of based on science, one

that she's not a real scientist because she doesn't have a PhD and doesn't do research, then two anything that she does in her writing that is not cool and detached like a scientist, they're going to draw attention to and say ah see she's just being overly emotional and getting us to care about this. And of course if you're a misogynist, you can wrap it up by saying oh just like women because women in this period are portrayed as being emotionally sort of unstable, which is why you wouldn't have them in certain careers like the military or whatever.

Knowing that in a misogynistic culture like this at the time, people sort of have that in the back of their head because it's a misrepresentation that the culture propagates, they leverage that as well. So the attack on her is interestingly you know grounded in science in this sense because they hoped that she would just be detached like a scientist. But you know as Gore and Pollan and many other you know who followed her have realized, you have to make an appeal to you know to the heart too, without that you know people just won't

engage with the issue or see it quite as important.

Yup. Even though she is scientific, and this is

really clever on her and good writing,

she doesn't fall into the trap of

using

jargon, the very jargon that she's

explicating. So

if she was at her desk, reading a stack

of papers, and you know

constantly should come across words

again and again that scientists are

using,

but her job is to make those words and

the concepts you know that they

represent

you know understandable and clear to the

general public.

So she has to
go ahead and you know basically,
and I referred to a little earlier and
I'll repeat it, she has to kind of
translate this in a way,
she has to take these ideas and
translate them into
regular English, and at the time
also make them understandable if they're
complicated
you know.

You need to have the science there. And
if you've
you know seen An Inconvenient Truth,
hopefully you have, you know that you
know those
graphs that Al Gore uses and all they're
important,
you need to put them up there. But on the

other hand, you need to make them understandable too, those can be very difficult to understand. So I mean without them you couldn't make the argument, but on the other hand, and putting them up there, you may reduce the effectiveness of your argument.

So it all has to be done with great care, and that's what's so wonderful about Carson because she's really the one to do it.

Yup. Yeah so one thing that I think is really clear here, more than any other writer we've had, even though the other writers have all played their role, is it really underscores the enormous

power of rhetoric and language. So we've
seen that
from very beginning, I mean look you know- well
not quite at the beginning, but go back
2000 years, Virgil is basically
commissioned to write the Georgics by
Caesar Augustus. You know why does he do
that? I mean if he wants to
you know get people to move out of the
city into the countryside, why does he
you know basically commission a writer?
Well because writers have enormous power,
good writers, those that can you know
communicate things.
And we've saw it with Virgil, we saw with
Ben Jonson, we saw
with Thoreau, these folks can
profoundly
shape and create ideas,

even in one of the things we've been

looking at,

bring about an environmental

consciousness in another person.

And again, you know if you've actually

were there- if you were there in 1969 and

you stepped out on the

Santa Barbara beach and saw the oil

being washed up, sure,

you'd get an environmental consciousness.

But how do you communicate it to another

person?

Again, just laying out the facts like

a scientist would, that's a good thing,

but you know you really need to

get the person you're talking to not

only aware of the problem, but to care

about the problem.

And that's quite a trick to do,

but

Carson is able to do it, and she's you

know just like

the- We saw with local descriptive literature

you know

these writers just have one thing at

their disposal and that's

their writing you know, and her writing

is entirely what she has, and it just-

You know if you've ever doubted the

enormous power of language to

make a change in the world, to make a

better change in the world, well

you know this book Silent Spring is

just a wonderful you know

counterpoint to that, that

writing can change the world. I

mean this book

did, I mean it helped

inaugurate a movement that
forever changed the world, and made
the world so much better,
and that's pretty
extraordinary when you think about it. I
mean you can go ahead and go out in the
world and do physical things,
you can encounter people and engage with
them directly,
but the fact that you can just you know
sit home with your computer
and change the world, that's
pretty remarkable.

So okay you can tell I'm a professor of
the written word, so this kind of stuff
you know I focus on it, it matters to me.

But it is rather astonishing,
that you know this work-

Sorry I keep popping off of the screen

because I don't want to block it. But it is rather remarkable that this work is so powerful, and that work of this sort can be this powerful, and by that I mean the work of words.

So Silent Spring has you know it's just

filled with examples of Carson's ability to do this, to communicate and communicate well.

So why don't we look at a few of these.

The best example is probably her title right, "Silent Spring." Before you even open the book, those two words are just remarkable, you know you'll understand them within the first three pages, and then you come back to it. So what's Silent Spring?

Well springtime if you're from a
climate where you know the four
seasons are in full effect, and I say
this and I bracket it off because here
in Santa Barbara it's not
quite as clear. But having grown up
back east
on a farm, I can tell you that you know
in the winter one of the things that's
really striking
about say for example a snowstorm
because-
even not a storm, but just snow coming
down.

If you go out to like a forest,
most animals during a time like that,
just go into their nests wherever they
live
and they just settle down. As a

consequence,

you know during winter like that, it can

be still as still can be

and quiet. So you walk out into a forest,

and you know you could hear a pin

drop, it's very quiet, it's striking,

in part because the snow is sort of

muffling sound that hits the ground and

all, but

everything is pretty quiet. Conversely,

back at a place like that, springtime

it's alive

with sounds, sounds of birds, sounds of

animals moving,

all sorts of sounds are happening.

Carson argues that this is a silent

spring

that we've brought about. Why? Because she

talks about in that

first three pages that you know
fable for tomorrow,
that ddt is killing birds. And
just to be clear on the mechanism by
how this works, why this chemical is so
dangerous,
it's sprayed on the idea,
it's sprayed on
insects to kill them, you know it's a
pesticide in that sense.

We'll talk about that, the word is-

Carson has a better alternative too.

But anyhow, birds then eat those
you know bugs that have been killed, and
they then
inadvertently ingest the ddt.

For birds, ddt presents a problem because

it weakens their shells

of the eggs that they lay. So they've

eaten ddt,
they lay shells with very thin eggs,
they nest on top of the eggs, and they
often break them,
and the guy's a consequence ironically.

So what that means is ddt,
although meant to reduce the population
of insects,
is also greatly reducing the population
of birds.

Springtime, and you know if there's one
sound in particular
that you know herald spring, it's
the sound of birds out there.

Carson says finally now we're having a
silent
spring. The fact that it's a silent
spring is unnatural,
is weird, and what is the cause of it, and

Carson's book

explains the cause of it. But think of

all the other titles you could have had.

You know if a scientist would have been

you know

writing the title you know, or if it

would have been, in fairness, to

scientists

you know meant for other scientists, you

know the effect of certain

petrochemicals you know on

the you know avian populations or

something.

And even you know less skilled writer

would have made-

you know said something like you know

the chemicals were released into the

atmosphere, how they're hurting

the environment. But Carson two words,

Silent Spring. And once you understand it, the really cleverness of it, you know that image is in your head, she's going to give you that image in the first few pages of a silent spring.

That's a haunting image because you know it shows you know how we're destroying- how we're destroying nature, so yeah very very clever.

So I'm going to get back to the one I just skipped, but I'll show you this one.

We talked about the issue of being emotional and you know tugging at the heart strings.

Well you know you have to be careful

doing this if you're a writer. And again,
because of Carson is trying to
make sure that she's credible and
getting you to believe her, and
believe her that she is sort of detached
you know
has an attachment of a scientist, then
you don't want to really be pulling at
these heart strings too much.

But what she does is she brings in other
people,
including here quote a housewife.

And by the way I don't know if this is a
true story or not that she's relating
here, I wouldn't be bothered
by the fact of Carson just made up this
story.

But anyhow, these are not
Carson's words. Carson

again being the scientists you know
expressing this wouldn't want to say
this, so she let's someone else
say it. "It's hard to explain to the
children
that the birds have been killed off..." So
in other words, wonderfully
bringing up the title for the reader, you
know 100 pages
in that- So basically it's hard to
explain to children
why we have silent springs, why birds
have been killed off.
And then you know by page 100,
this is what a reader should be. "Is
anything being done?" So she's
not only you know put these words into
another
character in the work, the quote

housewife,

but these are what she wants you to

think. So

it's kind of like kind of a meta or

twisted or something,

she's kind of put you as a normative

reader, the reader who should be-

where you should be right now

emotionally

at page 100 in the book. Now

she's pretty confident, and she's going

to put you know speak for you in there.

And hopefully

if you've paid attention, and she's

got you

you know convinced of it, you should be

saying:

“Is anything being done? Can

anything be done?” And here's the cure

that the

great hope where she just got you.

“Can I do anything?” In other words, by page

100

she's got you concerned, and she wants to

activate you

as an activist, to actually do something.

So she actually puts you- Sorry you

you may hear a chicken in the background,

I'm not sure.

It's early morning here

incidentally, so she's

crowling. I'm sure my neighbors are happy

to be getting up here. It is

a weekend morning and it's early here so.

These are not sound effects, this is

actually my chicken

so okay. She just looked over at me as I

said that, so I think she may be

going to stop. No, I guess not. But anyhow,

very clever on Carson's part in a

twofold way. One-

Boy that's distracting. One

because she doesn't have to be the

one expressing these emotions.

And two she actually is-

It's hard to stay focused and

seriously lecture when you have a

chicken doing that in such an annoying

way. Chicken would you please be quiet!

Yeah, I guess we have the answer to that.

Okay

so yeah, well you get the idea here.

But

wow, what good writing. Let me go back here.

An important sort of shift of terms,

it's very clever. So first off the

chemical

industry themselves you know they have people, marketing people, who figure this stuff out. And when they were introducing ddt, and to the American public, they had to explain what these things were, there there was nothing like this before, these you know new chemicals: what could they do?

And they came up with the term for what they were, they were insecticides. So you know this is the idea that they kill insects.

Like you know we have a side that ending onwards like homicide and suicide and things like that, well insecticides you know it's not homicide, it's not killing a human being, but it's killing an insect, so they were

marketed as insecticides.

That gives you the impression that they're sort of like a little guided missile, you put them out into the environment and they go heading straight for insects and that they just kill them. But we saw with the example of

birds being you know bird populations being greatly reduced, birds being killed you know before they even get out of the shell, they're killing more than insects.

So Carson fires back, and what is really a battle of words,

and draws attention to the fact that this industry had

already you know used words in the first volley calling the insecticides, and Carson refuses to do that.

She won't buy into their words, and she says yeah these are biocides.

Why? Because they kill all life, you know it's not even like a homicide killing

just a person,

this is biocide, it kills insects sure

enough: it kills birds, it kills mammals,

it kills-

it can kill plants, less so with ddt,

but she wants to give this whole

group of chemicals a name and biocide is

it.

And it's really great I mean.

And again,

seems like we're just changing you know

terms here and all, but this is really a

battle of words, and Carson is

great at it. And again,

you know this is just someone sitting, in

this case at a typewriter somewhere,
doing this. It's pretty
remarkable the power of writing, so
I guess I'm kind of like subtly you know
trying to convince you to
respect writing more, maybe even do
more of it to convince people.

Yeah. A really useful
thing that she does here is connect
up biocides with chemical weapons,
warfare weapons.

And she notes, you know where did these
chemicals come from? Well they come
about, some of them like ddt, after the
second world war. Well
why were they developed? You know in
these you know chemical companies, did
they
set out to design insecticides? Well

no, and the story she tells is pretty remarkable.

During the second world war you know the governments, including the US government, were creating weapons of mass destruction, finding new and original ways of killing other human beings, the atomic bomb being the iconic and biggest one in a certain sense.

But they also were working on biological and chemical weapons, and all weapons of mass destruction. And the problem was you know these industries did really well during the war because you know we needed these things, but the war is over.

Ah too bad you have these really good ways of killing you know people and things, but you can't use them because nobody's buying because unfortunately we're not at war anymore.

You have to really feel sorry for the chemical companies, but don't worry because

these chemicals they created, they tested them out, as Carson

notes, on insects. That was one of the ways that they tested them, you know

we think now of you know labs you know using little you know white mice to test

things, well

insects were, according to Carson, used as well.

And somebody got the bright idea, after the war

you have these chemicals you can't sell
them, but hey wait,
you can sell them as let's find a good
name for insecticides because they kill
insects too.

Fair enough, they do, but this is why
Carson calls them biocides, they kill all
sorts of life,
and what should really you know sort of
make you you know
stop in your tracks, they kill- they were
designed
and tested as ways of killing people.

So again, that argument doesn't
fully work with ddt
proper, but this whole class of
chemicals that she's talking about,
that we've been
you know we're told were you know these

safe insect going things.

Carson wants to say that you know not

only can they kill a broad range of you

know life

including things like birds, but in some

cases

that's what they

were designed to, they came into

existence

to kill things, not insects, but other

things.

Yeah. But what great language, "As the

habit of killing grows--

the resort to 'eradicating' any creature

that may annoy or inconvenience us" grows

with it.

So what she's saying here is, okay

certain insects annoy us, they're an

inconvenience,

we want to get rid of them, we kill them.

But once we do that,

it's sort of like if you're

vegan and you you know you

cross that line of wanting something

to be killed

so that you can eat it. Once you cross it,

you know

according to Carson's way of looking at

things here, you know

then you're in a habit of killing. And

what she wants to say with these

biocides, that they

set up the habit of killing right so.

Okay maybe there's an insect that

really you know we really have to worry

about it spreading malaria,

fine. But once you do this, once you cross

that line and

say you know we are
allowed to kill things like that,
we feel that it's our right to do it and
we're going to do it.

And again, if you're coming out of a
tradition and an interpretation
that you know you have dominion over
the planet, and dominion
all their animals, or your varroa 2000
years ago with this factory farm,
you might feel that it's perfectly fine
to do that, that it's okay, that that's
your right.

But then the problem is, as Carson notes
you know,
well where do you go next? You know flies,
they don't really do a whole lot of
damage, but
boy they're inconvenient if you're out

you know and sitting in your
you know having a barbecue or something,
maybe you want to get rid of them.
Why not get rid of them too? Why not get
rid of all sorts of things, spiders? Yeah,
spiders generally are kind of good
things, they get rid of a lot of other
bugs and all. But maybe you don't like
spiders, they're kind of scary in your
house. Why not kill them too? Why not
kill everything? Anything that's a
problem, you know let's
ramp up the killing machine. That's
Carson's argument here,
that you know once we embark down this
path, once we decide to start
killing, where does the killing end? We
get a nerd to it, and we think that it's
not a big deal, that's the fear, and

it just keeps going.

Great great lines here. "Who has made the decision that sets into motion these chains of poisonings."

Okay first, it's a great question because she's really setting her sights right on the chemical industry, and the fact that they are the ones making the decisions here to do this right.

So there's no government agency at this point overseeing them, and that's a problem, and that's what Carson will change with the EPA being formed and all. You know that should be that you know- There should be an organization, our government hopefully should care

about us, and protecting its people
and land, and environment, and should
make a decision whether to use this
or not. That's how it works now, that's
why the EPA is so important to us. That's
why we can't get rid of the EPA
because it
not only protects you know
features in the environment and
that.

And its detractors will say it just does
that, but as Carson rightly notes,
it protects us too because you know if
you
leave it up to the chemical companies to
take care of themselves, to police their
industry,
they may release poisons into the
environment that ultimately you're going

to be ingesting one way or another.

So who makes the decisions? Carson's

answer,

1962, the chemical companies are solely
doing it.

And what are they doing? They're
setting into motion these chains of
poisonings.

Talk about what she means there, “this
ever-widening
wave of death that spreads out, like
ripples when a pebble was dropped into a
still pond.”

It's a great image. You know she could
talk about this, so
what is she talking about there?

Well we'll see it in a minute with her
discussion of- Well we'll see it later
with her discussion of ecology.

But what she's saying is you know you
put this poison out, and then say
it's ingested by an
insect, it kills the insect. Then
if it just stopped there, but it's like
that is a little wave, that's
the pebble thrown into it, but the
next wave out
is the bird that eats the insect. And
that bird then you know
isn't able to have have young birds, and
that's like a ring of death, that's a
chain of poisoning. So she's got like two
metaphors going on here right. So one is
of a chain, and the other
these ripples. But then that could have
an impact
too right because having a lot of birds
out there

are necessary for predators to eat the
birds. And their populations are going to
start going down
if there's- and they're going to die, in
some cases
you know diet starvation without
their food source.

So there, depending on which metaphor
you're going with, they're the next
link in the chain of poisonings
that's going to happen.

Or in terms of the other one, they're the
ripple, that's the next concentric ripple
out, so it goes from insect to bird to
you know to fox, or whatever is eating
the birds.

So it's a great multi-

It's great sort of complex image here,
and it all goes back to the who.

You know who's doing this? And it's the
the chemical industry. And what are they
doing? And that's releasing
not pesticides, but properly understood
biocides, that in this case are going
insects, birds
foxes, whatever. Great great imagery.
Yeah so this is pretty clearly I
think
a reference to the opening
chapters of Genesis, you know of human
dominion over the earth,
but here we have an interpretation of it.
“As man...,” and again she's you know- this is
an era where everyone is using the
male pronoun, so she's
you know- I'm sure she's aware of
it, make great on her, but this is the
convention.

We would say as humanity, but any event.

“As man proceeds towards his announced

goal of the conquest of nature.”

So if you know our announced goal is

getting full dominion over nature,

so you know we're given dominion,

but we have to then

take it right. So we have to

control more and more of nature, and

she's saying that's our announced

goal, that's what we we said in the very

beginning of

the Judeo-Christian tradition you know.

In you know as we proceed toward that

goal,

calling it a goal that's pretty

remarkable right, that that's what we're

trying to do, but okay.

It's a depressing record of destruction,

directed not only against the earth he inhabits, but against the life that shares it with him.

Again, male reference here. But wow,

what an accurate

description because it is a record of destruction,

but it's not only against the earth- And

again you might think the EPA,

environmental protection agency, it

protects the national

forests and protects you know streams

from being polluted.

Yes, it does, but- well not so much

national parks the way the jurisdiction

works, but

it does protect things like streams and

things like that.

But it protects life too, it

protects the
you know the life, the fish in
those streams, it protects
everything, not only just you know,
the she puts it here, the earth itself
you know. And unfortunately,
you know her interpretation of
history, of western history,
the one that we've had, you know
we've
looked at it as a history of ideas, but
if you look at it-
Which we kind of did very early, even in
the first lecture,
on literature with the Epic of Gilgamesh.
And I noted that you can look at the
history of the West as a history of
deforestation.
You know coming

out of Northern Africa
through Europe, England, into North
America, and then
beyond like South America and Indonesian
places now,
and that's a history. And you know she's,
Carson is, noting here that this is a
depressing record of destruction,
that you know- And it's not only, and you
could say with deforestation,
yes it's killing plants, but you know
they were all- all those forests there
were habitat for
plants and animals, animals
especially many of which
you know went extinct because of it. So
if that was our goal,
to conquer nature, we're doing it and
we've written

a depressing record of destruction.

So another example, just standing back

and looking at it,

yeah that's not something a scientist

would say.

I mean maybe a scientist would, I mean a scientist

who write to a popular audience like E.O.

Wilson for example,

who's won two Pulitzers if I'm

counting correctly,

definitely might write

something like this. But you can see why

this is really you know

where a skill as a writer comes into

play. That's really what you need here,

a good writer

to be able to do something like this so.

Yeah. And great

in mobilizing you right, when you read

this, you know

it's hard not to get sort of fired up

about all this you know I mean.

This is the history of humanity,

you know history of destruction.

It should hopefully get you sort of

engaged to

maybe make some changes in the

world.

She brings it home here to us, to our

body.

“The fact that every meal that we eat

carries its load of chlorinated

hydrocarbons is the inevitable

consequences

of the

almost universal

spraying or dusting of agricultural

crops with these poisons.”

So it's you know you can talk about it
killing birds and bringing about a
silent spring, you know the
mass introduction of
biocides in the atmosphere.

Yeah, you can talk about that, you know
the ripples the way
we did talking about going from
insect to bird
to fox or whatever. But here she brings
it home, "The fact that every meal that
we eat.." So if you're entirely
anthropocentric, and you say well I don't
care about insects, I don't care about
birds, I don't care about foxes, what do I
care about all that.

Well maybe you care about what you're
putting into your body with every meal
that you eat,

and she does mean every meal that you eat. And why?

Because, I'll show you some photos later, you know ddt is being spread over everywhere, it's principally being massively spread with airplanes that are crop dusters that are going everywhere.

And she's making illusion to that by the way, the universal spring or dusting now she means- I think a reference to crop dusting here, and I think people would have read it that way.

So all over the country this stuff is being spread everywhere, and now when you're eating food, every time you you know get a piece of food, plant, you know it's been sprayed with this stuff, and you're ingesting it,

you're ingesting it every meal because
it's everywhere.

You can see why, by the way, a movement
will come, which really doesn't
you know fully come about and as far
certification until 1990s
of certifying certain foods free of all
this.

So what if like you like: wait I don't
want to eat this every meal, isn't there
a way of getting food that doesn't have
this?

Well eventually there will, and again
you need a government agency to
certify that it's this way,
but you can now get certified organic.
And certified organic foods have not
been sprayed,
there are no pesticides, i.e biocides,

sprayed on them.

And other things, they're organic to have

no

genetically modified organisms, GMOs in them.

Also do not have

fertilizers that are created, so

fossil fuel based fertilizers,

instead they use natural fertilizers

like compost, and manure, and things of

that sort.

So you know it's only in part because

of Carson

and her era where you know

people begin to be concerned about this

in a personal way. So again, you may just

be fully anthropocentric, and you may

just want to get

organic things because you don't want to

be eating this stuff. But

you know "A," it's good if people buy organic things, but not necessarily because it's safer for you, because study after study is repeated that- repeatedly shown that organics are not necessarily a whole lot better for you, personally your body. But do buy them anyhow because they mean that you know we're not dosing the environment with insecticides, and artificial fertilizers, and things of that sort so. But anyhow, Carson if you know if she hasn't gotten you convinced to you know to help save the you know

the planet for other life
and all you know, let's
talk about you because this does
personally
impact you. Yeah. "Our line of defense
against invading poisons or
poisons from within
is now weakened and crumbling." Well
this is- You know you can see why the
chemical industry will fight back with
this because what she's really saying
is you know we should be protecting
people,
we should be doing that, but the
government is not doing it anymore.
And you know
you hear lots of people saying we need
smaller governments, smaller governments,
smaller governments.

In a part, they mean we don't need big organizations like the EPA or the FDA, or we don't need them as big as they are and all.

But you know Carson positions them here, they are our line of defense, we need them from these invading poisons that you know are out in the atmosphere and we're ingesting it all.

We don't have a line of defense there, and

you know the chemical industry is just doing what it wants, the way it wants,

and we are not you know protected from it.

And it's a good point, I mean we you know we hope that- I mean that's why

you pay taxes, that it can
you know government provides things for
us, and to help
us personally. And by the way you can see
something like
in Flint, Michigan where you know the
water supply was
tainted, where it's just so
important that
there are strong government agencies
that look out for you and protect
people because if not, you know
you'll have a generation of children
that have ingested carcinogens,
it's you know it's almost unthinkable.

So. Carson is
employing things that we've talked
about.

So from the very beginning right, when

Epic of Gilgamesh, we had this
distinction between
what was in the walls and what was out
of the walls. Let me get out of the shot
for a moment.

So and what was you know in the wall
was unnatural, what was out was sort of
natural, but back then you know the
argument it was
made that what was in the wall is
better.

But that gets switched you know,
the natural- and you can see this
certainly as early as Theocritus,
2300 years ago, that we very much like
what's out of the wall. So
pastoral is that right, it's written
from the vantage point of being in the
city,

but it's wistfully looking out at the
natural out there
you know. And as a consequence
ever since, and certainly in the last 400
years since the early modern period,
there has been a real interest
and caring about
the natural environment.

And as a consequence, you know
we like natural more, we care more
for it in the sense we want to be there,
at least as far as pastoral writing is
concerned.

And Carson knows that, but what she does,
which is somewhat different, she
begins
talking about the natural as sort of
being un
you know influenced by chemicals.

That's a difference right. So you know
what was the
danger to the natural by way of
Theocratis, or
the way we saw it especially in the
early modern period
with like Ben Jonson? So what was the
problem?

So that human beings were moving out
into the-
outside the city walls. And
as a consequence, they were developing it,
they were cutting down forests and all,
they were sort of overfishing, they were
doing all sorts of problem things just
to have these really great big trophy
houses.

Well the danger there is development, and
the city,

and people, and all. But now Carson is saying

nature can also be threatened by these chemicals, they are unnatural,

we created them, we are

killing nature with them. So

that's a difference, and an important difference, but one that has stuck.

So you know when you go into a store,

your head may be turned by these

natural products right and left, or the

fact that organic

are sold as natural and not changed

by human beings, or

you know you may you know want to buy

heirloom vegetables because they

haven't even been sort of

genetically modified very much in the

way that bothered Andrew Marvel.

At least there's no real
tag for
heirloom, so I mean there's not one
government agency that says you can call
something heirloom or not. But
most people look back like 50 years ago
or maybe to the second world war, and if
something hasn't been
modified since, even by
selective breeding, then it can get that
rubric- fit under that
rubric. But
the important thing here is to note that
Carson
casts something new as unnatural, it's
not just
human encroachment in the sense of
moving to a place or something like that,
but it's these chemicals that we're

using, they are
unnatural. She can only call them
unnatural
because we have an idea of natural, we've
had that idea of natural and unnatural
for 5000 years. But she also knows
that in the last couple thousand years,
especially the last few hundred years,
we now look at the natural as a good
thing and we now recoil from the
unnatural.

So knowing that that's how we feel, her
job is to convince you that
these chemicals are unnatural. And as a
consequence,
you already think of things unnatural as
bad.

But that's an amazing
switch that Carson is doing here, or not

a switch, but
of increasing the range of
what that word unnatural can mean.
It has to for this to work for her,
it has to refer to chemicals as well. And
she pulls that off in a way that will
forever change the world, not only change
language in the way that we use it, but
have people really really concerned
about
all sorts of chemicals being unnatural
from those that we use on the
environment like you know
pesticides, herbicides, things of that
sort,
to the things that we ingest in our
bodies. We see all these now as
unnatural. Why do we see them
unnatural?

First because this dyad between natural and unnatural has been around for thousands of years, the second because 50 years ago Rachel Carson made the argument that these things were totally unnatural, and we now see them that way.

Incredibly important.

So she then- To put a cap on this, she inherits the notion of natural and unnatural, this dyad you know.

Others had propounded this distinction before.

We might get the impression because of this, because she was so successful at it, that everything prior to the 20th century, even

the second half of the 20th century,
after the second world war,
was natural, and it's only after that
that it becomes
unnatural. So what do I mean by that? Well
all these chemicals for example were
introduced
after the second world war. If you're
concerned about like heirloom vegetables,
hybridization of plants was possible
before, but becomes
you know a mainstream agribusiness
practice
afterwards. So you might get the
impression that you know prior to
1950 or 1900 or whatever, everything was
pretty natural,
it only became unnatural after that
because we started doing these things,

and using these chemicals, and all.

Boy Rachel Carson was really effective,
wasn't she?

Because in convincing us that chemicals
are unnatural,

she actually will convince in the minds
of many people because of that

they'll think that you know, in a very
pastoral way,

that you know 70 or 100 or 200 years ago
everything was

pretty natural. That's a natural sort of
pastoral

thinking to do right because you know
and sort of looking back and imagining
an eudemic, or sort of

Golden Age, and you know the people
you're doing that for a long time. And
pastoral will be alive and well, and

is alive and well today because
it does just that, it imagines a time
when things were
better than they are, and in this
case more natural.

We know, you know now having
you know surveyed some of these things,
yeah that what's natural has been
changing for 5000 years. By the
time Gilgamesh is writing
you know the the writer of that epic
Gilgamesh has written, the writer of that
epic is
propounding how great it is that we
are
changing things, that there's
something that's really unnatural, which
is the city itself, which is walled off
against nature.

So even then you know it's not only known, but want people's mind the distinction between natural and unnatural, and certainly with pastoral it becomes a cornerstone of why that art form works.

But Rachel Carson is just so effective that many people might think because she yokes the idea of natural together with chemicals and things of that sort, that you know just a few you know generations ago everything was totally natural.

One important thing to note here is that the interest, the environmental interest, goes toward toxicity here.

So we've seen you know that people have been interested in

things like deforestation
for thousands of years, and
concerned about
you know cutting trees down and all, and
this is certainly by the early modern
period that becomes an issue.

So there's certainly environmental
issues that
people take up, and we've seen a
range of them, and people like you know
Ben Jonson are worried about suburban
sprawl and moving into
different areas, and people like Andrew
Marvel
and George Herbert are worrying about
the loss of indigenous plants and things
of that sort.

And that's true, but here we have a
different issue,

a new issue, and arguably a very modern environmental issue, and that is toxicity, the use of toxic chemicals whether directly on the environment, ingesting them in our body, or whatever. That's a 20th century phenomenon.

And again, underscoring the incredible intervention that Carson is making in human history here, it's Carson who really does, that who puts these chemicals on the map, toxicity becomes a central issue.

And again, because of this dyad, this binary structure between natural and unnatural that's been existent for so long, she is able to cast these things as

unnatural. This is
new with Carson, I mean you know scholars
will always like to look at influences
of people, and of course in this course
we've looked at all these influences
that
led up to something like Thoreau,
certainly there are influences and
people that led up to Rachel Carson.
But boy more than any other person,
Carson is
responsible for drawing attention to
toxicity here.

One thing worth noting, and it's
important in terms of environmental
communication- See if I can pop on here,
if I fit in.

Yeah. I'm covering the word "they" just so
you know.

Carson focuses on one problem here.

So it's easy to kind of get lost with that because we see Carson as having inaugurated the modern environmental movement,

and you might think then that she took up a whole range of environmental issues and you know maybe even something like climate change,

which people are knew about at the time. In fact you know right at the time Silent Spring comes out, the president of the United States, Lyndon Johnson, is addressing congress regarding the problem of the warming

globe. Yeah it's true, over 50 years ago and we still haven't done anything about it, but

we'll take this issue up in English 23.

But

Carson has another approach, and it's

arguably a

very very clever one. So she's no doubt

aware of a whole range of environmental

issues, and she could take up

any of them, but she focuses on one. And

as I alluded to earlier, the reason

for that

is clever because it's one that she can,

one, explain in detail,

that will make a lot of sense to you,

that she can communicate it properly, she

can tell you

what's the danger of pesticides,

and also you know what's the solution,

you know if we get rid of them, what damages

they're doing and all that.

But by focusing especially on ddt
as the problem I think she may have
known

that there is the possibility that this
problem could get resolved
pretty quickly, and it did. Within 10
years of the publication of Silent
Spring ddt is banned in the United
States.

And it just became a wonderful
victory moment for this nascent
environmental movement,
but also made clear to people
that yes we can solve these problems,
there may be a lot of them and all,
but if we just you know grab a hold of
them one by one, we can
tackle them. And I think that you know at
the moment that it created the modern

environmental movement, it
invigorated it, and gave it a sense of
possibility
and purpose that it could
actually work.

You know if she would have spent a book
just talking about all the environmental
problems that we were facing, even back
then

in the early 1960s, I think most people
would have put it down you know
overwhelmed, frightened, not sure what to
do.

Carson didn't put you quite in that
position, I mean you may have been a
little overwhelmed and frightened, but
she was very clear on what we needed
to do, we needed to ban this material.

So you'll see that other people, and Al

Gore's

another example, Al Gore

is certainly aware there are a ton of a

lot of environmental problems

still in the you know

third decade of the 21st

century.

But you know he doesn't want to address

those you know because he wants to

keep this sort of laser-like focus on a

particular problem,

and that is climate change, the climate

crisis.

And he's very much taking a page out of

Rachel Carson's book there you know, so

you can't solve everything,

let's tackle a big one. He's got a really

big one there,

it's a lot easier to ban a single

chemical than it is to
change people's behavior. And
that's a huge challenge, but still
Gore is, and many environmentalists,
today are focusing on that particular
problem.

Some people may be vexed by it, some
environmentalists may be vexed by it
because there are other pressing issues.

But
in terms of you know rhetorical delivery,
yeah, I don't know that it makes a whole
lot of sense to overwhelm people. Just
talking about the climate crisis can
overwhelm people,
sort of like the number one reaction when
people
walked out of the film An Inconvenient
Truth. But imagine if Gore had said: look

here are all the problems facing
humanity now environmentally, it would
have been just
devastating and all. So following
Carson's lead,
focusing on one thing. And as far as I'm
concerned,
it won't be as easy to tackle you know
the climate crisis as
DDT that's for sure, but it can be
tackled,
and I think that needs to be a
message that gets sent out,
which just keeps coming back to the
point that you know
it's about how this message is
delivered.

Yup. And so you know-

let me get out of the frame here. Neither

Carson nor Gore talk about industrial runoff and things like that, or even in terms of in Gore's case you know he's talking about essentially you know air pollution in the sense of putting CO₂ into the atmosphere.

But he doesn't talk about the other more immediate problem, that when you burn fossil fuels, yes it releases CO₂, but it also

releases things like sulfur dioxide, which cause you know point source pollution and

is a problem. He doesn't want to focus on that,

he just wants to keep this sort of laser light focus

on climate change. And

that's you know- Again, you can see it

as a shortcoming,
but tactically, rhetorically, or having
you know
deploying your rhetoric tactically, that
makes
sense to do this. The downside of
course, the general public,
who may not be fully aware of the
issues, may not know that there are a
range of other problems.

Many of them can be solved at the same
time by the way
if we address the climate crisis,
and will be

I hope. So for example, the easiest
thing that
individuals can do arguably to make
a big dent in the climate crisis
is reduce the amount of

meat that you eat, especially beef,
because if you take English 23, and
well you've seen the movie Cowsspiracy you know,
that's definitely true.

But at the same time, they're host of
problems caused by the beef industry it
takes you know a huge portion of the
United States as grazing land,
or to grow the crops like
soybeans that
the cows are eating, its
credible problems with runoff
into aquifers and all. It's a whole range
of environmental issues
that will be resolved if we you know
dramatically reduce the amount of beef
that we're consuming.

So you know if we do it for the
environment, do it for the climate crisis,

fine, but it- Do it for the climate crisis,
fine, but it can help the environment in
the range of different ways. So
it's not necessarily you're ignoring
these other problems, it's just that
you're
you know focusing on one reason to. And
you can see the movie Cowspiracy does it,
focuses on one reason to make a change,
but environmentally it could
have far-reaching implications hopefully.
That doesn't mean that you know if we
solve the climate crisis, we will-
focusing on climate crisis will solve
every other problem along with it.
No we won't, but we have to start
somewhere.
And in a way I think that may have like
been Rachel Carson's

thought when she decided to sit down and write Silent Spring.

You have to start somewhere, where are we going to start, let's start with ddt.

Yup. Yup.

There is that problem that you're ignoring the other environmental issues, and a range of important issues. And again, people will be critical of Al Gore and critical of the focus on climate crisis, and there are a range of environmentalists who want to draw attention to the other issues. And I think that's important, and we can't ignore them, that's for sure. But on the other hand you know, if we're trying to mobilize people for trying to get them like that

quote

housewife back in

Silent Spring who you know wanted to

know how can we make a change, you know

what can I

do? You know to get people to that

position, I don't think you're going to

quite get them there by overwhelming

them with the problem that they see as

too big to

even get a handle on you know

intellectually, let alone

big enough to do something about it.

Yeah, pastoral. So, did you find her

inspiring? You know I won't dwell on

this.

In past, some students have found her to

be one of the most

inspiring writers that we read, one of

the most inspiring writers
that they've ever read, but I'll leave
that to you.

Pastoral you know has this idea
that's in the back, and was there, and you
know Hesiod, and
in the Hebrew Testament of the Bible, of
this perfect locus amoenus in the
background.

Carson and Gore both exploit the fact
that we believe that, that we think we
once had this perfect relationship with
the planet,
partly becoming out of the cultural
tradition that we come out of.

But you know both argue, in a very
sort of like 17th century way with
Milton and others, that we can
actually sort of regain

paradise, that we can work to get that
back again if we want to. So
you know they're
buying into it. I mean whether they
personally do it,
believe it I don't know, but they're
buying into it in the sense
that they want you to think about
the Lost Paradise and the fact that
we've lost it. But
why did it happen here? It's not because
of what a serpent did in the garden you
know
6000 years ago, but it's because of what
we've done with like spreading ddt
and all, we've taken a pristine
environment and we've really messed it
up.
But on the other hand,

they want you to imagine this
pristine in the pastoral way, but they
also
want you to know that you can
regain it again
if we act responsibly toward the planet.

And how does she do it? This is the
opening line
of paradise- of a paradise lost yes,
well
it could have been called Paradise Lost,
but instead this book is called Silent
Spring.

“There is once a town in the heart of
rural America where all life
seemed to be in harmony with its
surroundings....” Boy, if there could ever be
a pastoral opening, that's
a locus amoenus there.

“...even in winter,” so this goes back to

you know you remember in like

it was Shakespeare who imagined.

Even in winter the forest of Arden was a

wonderful pastoral place.

“...even in winter the roadsides were places

of beauty,

where countless birds came to feed.” So

again,

even in the winter, there birds

saw, and of course in the spring is going

to be an explosion of it.

So what is this? This is Carson painting

a locus amoenus for you, and

it doesn't take a whole lot of detail,

she knows she doesn't have to spend page,

and page, and page.

In a part that's clever because she

knows you have

this notion of what a wonderful pastoral natural place is like, and she wants you to imagine in your head, so she's just going to give you a few little details and let you handle the rest.

Very clever, very well done.

Then okay so you know there was the fall, there was the move from you know Hesiod's golden race to the iron. When, what happened?

What, who did it? Of course the original sin,

Bible spends a lot of time talking about that, but here we find out

the evil that entered paradise. "Then a strange

blight crept over the area and

everything began to change....

Everywhere was a shadow of death...On the

mornings that had once throbbed with the
dawn chorus of robins, catbirds, doves,
jays, wrens, and scores of other bird
voices,

there was now no sound; only silence,

only a silent spring.” So

wonderful because, by the way note here

we're on page

two. That what she's done

is set up a perfect pastoral scene, and

now

shown that it's you know threatened and

being destroyed.

And the first thing that you should do-

You know you should be now at this point

asking yourself questions.

What caused this you know? What can be

done about it? And again, like that

housewife on page 103 of Silent Spring,

you know what can I do to help stop this?

So

you may not be there yet, but by

you know after page 100 hopefully you

are.

In Al Gore, in the film version of An

Inconvenient Truth, he

does the same exact thing. So it opens

with a,

you know because he has the benefit of

visuals,

it opens with the beautiful small stream,

small river really,

somewhere in America. And he talks about

how this is what

life used to be like, it used to be

perfect, it used to be beautiful, it

used to be natural, and now that's all

changed, it's been you know

corrupted, in some way it is being
threatened.

And what's threatening it? So
you should have the same question. Oh
that's you know I believe life was once
like that,

so you know what's doing this? What's the
problem? Why
are we doing it? What can we
do to change it?

And Gore hopefully by the end of his
work, his film,
will get you there too, that same place.

Both of these writers, and you can
see a real difference between

Rachel Carson and- I'm
covering up "they hold" there, so I'll just
tell you, so I can stay on screen a while.

They both are more like Edward Burtinsky,

and you can see
these two you know eras of
environmental thinking, the one that
Thoreau inaugurates and the one that
Carson, both
modern, but very different right. Thoreau is
in a very pastoral way, turning away from
the problems of modernity. And again, he
doesn't talk about
you know the textile mills of low
Massachusetts, a day's walk
north of Walden pond, but instead just
talks about wilderness.

Rachel Carson, like Edward Burtynsky, that
artist who focused on you know
China, and Indonesia, and environmental
problems there.

Rachel Carson does not turn away from
them like Thoreau, she turns straight at

them

and never loses sight of them, and never lets you lose sight of them. So she's focusing on environmental devastation

from the very start, caused by ddt.

And what's covered here, the final line, "which they hold without blinking."

She does not ever blink, I mean yes, the opening three pages she presents you know a pastoral scene, but you will not return to that pastoral scene much. I mean there'll be some references of you know

how we've changed things and all, but for the most part

firmly you know keeping her eyes on the environmental problem, and Al Gore does the same exact thing. And Al Gore,

why I keep mentioning him in terms
of Rachel Carson, I'm
trying to make clear here that Carson is
is such an amazing
not just writer, but thinker because she
lays out
the approach to environmental
communication that scores of people
are going to follow in the decades
between
us and her, and Al Gore is
I think one of the best examples of it.
So they are radically different than
Thoreau. And if there is a danger in
Thoreau's thinking-
Okay I'll get out of here for a minute.
It is that we risk
fetishizing and seeking out wilderness.
In other words, Thoreau is so good at

describing life there we just want to
run away from all the problems that
we're facing
and live there, and of course
then we would bring the problems there
as suburban expansion proved in the last
150 years
across the world. But you know
Carson and Gore are just not going to do
that. Carson is not going to
you know to tell you to try to find some
place in
you know America where
they're not spreading pesticides, and go
live there, and
try to get away from the problem, Carson
is going to try to solve the problem.
Carson is not going to ignore it, she's
not going to downplay

it, she's going to face it head-on, and
you're along for the ride with her, and
reading her you're going to be facing it
head-on too.

And you know not just face them, which
he's encouraging us to do,
but do something about it.

From a point of view of environmental
critics, which is what we are here,
Carson and Thoreau are very
different.

So a whole range of environmental
critics,
prior to the 20th century, especially in
the 19th,
they loved Thoreau, they loved Wordsworth,
they wrote books about them, and they
just thought
they were the best thing. And from a

critical perspective that
was the whole interest that people had,
it's
only in the 21st century
that people have like Carson and Gore
turn their attention to environmental
problems rather than places free of
environmental problems,
and focused on things like the climate
crisis.

It's remarkable that it wasn't until
2011 that the first major article and a
major journal focusing on
environmental criticism, that the first
article was published on the climate
crisis
was not until 2011.

That's just utterly remarkable.

And the way it's because-

And it's almost entirely because people are just interested in these pristine environments doing a pastoral thing. But finally we caught up to Rachel Carson, even though she was 50 years before us, and we realized critically we had to focus on problems as well. Okay sorry for keeping you so long. I think this may have been you know, and when you look back at it, looks like it would have been a pretty short lecture, and I see by the my little timer here we're about an hour and 40 minutes so. Sorry for taking quite so long on this one. But yeah as you may have noticed with

Carson, Carson

is kind of one of my heroes, so I guess I

disproportionately spent a lot of time

on her. But in defense of the move,

she's just

so important to modern environmental

thinking, which is why

we'll be taking her up in the next

lecture. So I will

see you then.