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weather, climate, meteorology, modernism, modernist, called, weather forecasting, meteorological, anxiety, late 19th century, future, science, weather forecast, literary, thinking, registered, scientific, talking, scientific discipline, cultural

## SPEAKERS

Barry Shiels, Cassie Phoenix

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- C** Cassie Phoenix 00:03  
Okay, so really happy to have Dr. Barry Shiels with us on this next podcast on Weather Talk. Barry is an associate professor in the Department of English studies, and also an Associate Director in the centre for culture and ecology, both at Durham University. So Barry, welcome. Thank you for joining us.
- B** Barry Shiels 00:23  
Thank you for inviting me.
- C** Cassie Phoenix 00:25  
And can we just start off then, if you could perhaps just tell us a little bit about your research and how the weather features within it?
- B** Barry Shiels 00:32  
Okay, well, I've been trying to write a book called Meteorological Modernism. And in that book, I'm exploring this sort of strange productive, what I see as productive overlap between the history of meteorological science, which is effectively the foundation of the modern weather forecast, and literary modernism, or modernist aesthetics. So I'm looking

at the years 1850 to 1930, roughly speaking, and I'm trying to think about the history of science, the history of what happened exactly in the development of Meteorology as a science. And also the history of literary aesthetics, how narrative are changed over that time. And my thesis is, there's a very close relation between meteorology and linguistic art, if that's what we can call literature. So I mean, I can tell you a little bit more about scientific histories and literary histories if you want. In a nutshell, the thesis is that, as weather science changes, and weather forecasting becomes more cultural, prominent and more exacting, our ritual observances changes, well, our cultural practices change as well. So the weather is a scientific discipline or meteorology is a scientific discipline, and it also manifests culturally. And we might say, cosmologically, the way that we relate to our environment, the way we observe our environment changes because of changes in scientific knowledge. So in terms of the scientific history, what strikes me in the kind of period 1850 to 1930, is the development of daily weather forecasts, in particular. So from 1851, I think, was the first daily weather forecast for the first time when newspapers started to print weather forecasts on a daily basis, so people would read them and have expectations about what was going to happen in the day ahead atmospherically. Accompanying that was the establishment of various Institute's such as the UK Meteorological Office I think in 1854, and in the United States, the Smithsonian Institute, also established a kind of meteorological department and they often worked with calligraphy, so the laying of lines across the continent. So it was a way to communicate and observe very quickly changes in weather across the landmass of the United States. So there's a kind of infrastructural change happening in the late 19th century. Weather science in meteorology is becoming much more rigorous, the observational towers, the lighthouses are becoming much more diligent in the way that they record weather data. So this is becoming a much more prominent cultural marker. People generally are becoming more aware of meteorology, not as a commonplace or, you know, agricultural practice, but actually as a scientific practice, as a scientific discipline. And in the late 19th century, there was a move into thinking more about hydrodynamics and what they call the 'upper air'. So this you've probably seen weather balloons where they send, you know, balloons up into the sky, and this is the late 19th century, this idea was innovated. It changed the nature of thinking about weather. Rather than thinking about weather from the ground up, you start to think about weather from the top down, that actually weather is produced invisibly above the clouds rather than being produced according to landmasses, or according to what we can see around us on the earth. So that changes again, I think the kind of aesthetic sensibility that informs our talking about weather or understanding of weather. And then finally, in this potted history of Meteorology is the development of the numerical forecast, or the combination of new hydrodynamic science and statistical or probabilistic modelling. So this is where, you know, we have the idea of the weather forecast as being determined not by, you know, what the seasonal averages are over the last several years, but rather according to the state of affairs, as it is recorded

right now, and then a mathematical model which can tell us what might happen tomorrow, or what might happen in the next six hours. So, that kind of precision of the mathematical modelling, again changes the way that we register weather, the way that culture feels weather. This is my premise that, as that science develops, the cultural understanding of weather also develops and changes.



Cassie Phoenix 06:08

That's interesting, that makes me think of the differences in how we consume weather as well, you know, if you match those newspaper reports, the daily newspaper reports, but now it literally minute to minute, hour to hour from our smartphones, you know, and all the technology around that how, how instantly, we can access weather forecasts.



Barry Shiels 06:27

Yeah, and I suppose that's what I'm trying to get at, is that weather is always mediated. And also the weather is linguistic, as much as it is, you know, something that's happening outside objective, and that there's always this, we always have to have a cultural reckoning with this mediation, and as this mediation changes, then our engagement with the weather or engagement with the outside changes also. So it can be in terms of modernist aesthetics, just to lay it alongside or in parallel to the development of neutral meteorology, as a science, you can find in narrative art in the late 19th century, a greater focus on the single day as a unit. You know, the idea there, you have, you know, in parallel to meteorology, a focus no longer on the season, no longer on the long duration of the year, but rather a single day that's taken as its own unit, it's its own particular unit. So how we temporalise the world changes in accordance with certain scientific instruments, but also then being reflected in certain literary and aesthetic modes. So that that's, you know, something that, you can find in literary modernism, I think, is this focus on the granular detail of a single day, rather than a narrative art that takes place over, you know, linear time.



Cassie Phoenix 08:03

And so that's really fascinating. It kind of blows my mind a little bit, so many things to think about coming off from that. I'm interested as well in how you found yourself in this place. What led you to this topic area?



08:18

Yeah, I mean, a few different things. Actually, originally, probably thinking about anxiety as a dominant modernist affect. And it's something that is, I suppose, temporal. And I always had an interest in psychoanalysis in relation between literature and psychoanalysis. And there's a German [correction: Austrian] thinker called Wilhelm Reich, he was a psychoanalyst who created a kind of a weather machine. He called it an Organon on, he might know Kate Bush's cloud busting, cloud bursting, is that the song?

C

Cassie Phoenix 09:07

I don't remember the details.

B

Barry Shiels 09:11

it's, it's worth looking at the video actually displays this, this instrument, Reich's Organon, which is a kind of rainmaking machine. And the idea is that it's kind of like climate engineering, but it's also the idea of a machine that can somehow get rid of anxiety that can somehow solve anxiety because weather forecasting, this is where I got to weather forecasting because I realised, of course, what what weather forecasting is is a way of registering the uncertainty of the future. Constantly coming back to that kind of that moment of uncertainty where whether marks a kind of the end of administrative control, you know, where you know, all of its speculations all of its kind of epistemological claims are pitched into the darkness of the unknown of the future itself is unpredictable. And I think this is, it's my interest in anxiety as an affect, a way of registering that uncertainty and being particularly modernist affect somehow related to the breakup of traditional routines of, you know, understanding of conventional or rural or agricultural economies. And, you know, the way that the urban or industrial modernity insisted upon dividing time into units of the work day, for example, and how all these things seem to also demand a scientific or cosmological compliment. I suppose, what I'm suggesting is, weather, meteorological science was that cosmological compliment, it was something that could complement the material conditions of, of urbanisation, industrialization, and so on. And the anxiety kind of found its mode of expression through weather forecast.

C

Cassie Phoenix 11:18

My next question was going to be, you know, why do you think this topic is important? I think you have sort of touched upon that. But is there anything else you would add there?

B

Barry Shiels 11:31

Um, well, I suppose. Because now we we think in a time of climate catastrophe, I think

we're returning to atmospheric questions differently. And one thing that strikes me is that the anxiety that I associate with modern meteorology and the development of meteorological Sciences, early 20th century, is also a way of thinking about the new. Right? And this was one of the great modernist motifs, the new. How does the new emerge? And today, one of the things we're thinking about in an age of climate catastrophe is not the new, but the exhaustion of the planet and the exhaustion of finite resources. So it seems to me that if in the mid 19th century and early 20th centuries, there was a paradigm shift through meteorological science, that we are now encountering another paradigm shift. And we're going to have to find a way to move beyond this kind of anxiety inducing investment in the new, which is associated to modernism in order to confront climate catastrophe. And I think that's reflected in how we write about weather, or how we talk about weather. Because when we talk about weather today, if you even, if we talk about a fine day, today, the underlying question, the underlying implication is that this fine day is a symptom of an ongoing catastrophe, a catastrophe in climate change. Whereas I think in the period of the early 20th century, in the late 19th century, the fine day was actually anxiety inducing, because it promised something new, something open, something uncertain, something maybe unbearably complex, but exciting. And this was the kind of fervour of modernism, the anxiety inducing fervour of modernism, which now I think, we're actually trying to revise again, and come up with a different cosmology, to, in some sense, combat the earlier meteorological modernism. Does that make sense?

C

Cassie Phoenix 14:17

Yeah, I see, I'm thinking as you've develop this work and these ideas and this, this way of working, it's so different to where I usually am of, you know, doing interviews with people and analysing what say that? How do you go about doing this work? And yeah, I'm just interested from, from your own personal perspective. How do you go about doing this work and developing these thoughts? And what are some of the challenges that you experience along the way of doing that?

B

Barry Shiels 14:47

Yeah. Well, the challenge is, maybe this is something we share is when you start talking about weather you don't know where to draw a line, you know. When you talk about anything and still be talking about the weather somehow. I think the critic Stephen Connor put it quite nicely when he was saying that you know culture and weather they seem to run on parallel tracks, but there's no, when they intersect is almost no non trivial thing you can say. As in weather is so general that everything you can say about it is trivial. And I think that that creates a challenge of form, you know, how do you write about this topic? How do you draw lines around it? What are the parameters? This is why I've

tried to give myself a date range 1850, to 1930. And I think that's been a major challenge. Also, because it's interdisciplinary work. I'm trying to combine, you know, a certain narrative history of a science, meteorological science, and then also trying to justify finding in literary artworks the operation of that science, or the operation of the sensibility that was determined by that science. I think that can be quite a challenge sometimes. It can seem, at times, like, I'm over-reading, like, I'm really, I'm too invested in my thesis. So I have to be very careful about that. You know, so it's trying to find a form of writing that negotiates between disciplines, rather than forcing one discipline on to another.

C

Cassie Phoenix 16:31

That really rings true. And I think, I think certainly people I've spoken to who I hope will listen to this podcast series will identify with that as well as a struggle, and perhaps not just limited to work around the weather as well. Is there anything that has surprised you? Any sort of directions that the work has taken that you didn't really anticipate when you first started out?

B

Barry Shiels 17:01

Um, yeah, I didn't actually want so when I started, I was talking about thinking about anxiety, and I was talking to people about psychoanalysis, and literature. And so it actually surprised me that I ended up thinking about meteorology at all, and thinking about the science of Meteorology. So what has surprised me is how scientific cultures are, and scientific epistemologies can be found in art and literature. You're embedded in art and literature and in the assumptions of art and literature in a given period. So to go back to the example of the new, which is the sort of modernist motif, as I was suggesting, it's kind of an anxiety inducing sense of the future that is unknown. It was one of the premises of sort of early 20th century weather forecasting, that they wanted to disaggregate the future from the past. Right? There was this kind of weird paradox, which really fascinates me. And it's a guy called Vihelm Bjerknes. He was a weather forecaster in from Norway, and he worked in the Bergen School of Meteorology, during the First World War, just after the First World War. And in English forecaster, a mathematician called Lewis Fry Richardson. And they were working separately, but both with a common cause. And the cause was to try to come up with a way of predicting the future that was scientific rather than conventional. So what they were trying to do is establish a future, as I said, that was disaggregated from the past is not to suggest that the future is going to look a bit like, um, so that the future is not going to replicate the appearance of the past. In other words (laughs) maybe we can edit this out (laughs).



Cassie Phoenix 19:06

No, no, no! These are thoughts in progress. This is fine. (laughs)



Barry Shiels 19:10

It's quite a complex thought. But basically, basically, they were saying in the advances of weather forecasting, had taken us to the point where we could use technology to communicate weather events as they were unfolding. So I could, let's say, there's a storm here. Right? And you live two miles away, I could phone you up, and I could say there's a storm coming your way. And then you could forecast that storm effect. Right. So we understood this was a state of the science before the First World War. And what that does is it turns time into space. Right? Yeah. It says basically, that you can forecast it as long as you can get ahead of it through communication technologies. Right? But what it doesn't do is exhibit any understanding of how weather phenomenon themselves evolve how the new evolves out of the existing. Right? It assumes that the storm that I see now is going to be the same when it reaches you. But that's not actually how weather works. So what Richardson is saying is that we have no conception of a future that doesn't resemble the past. We only have a conception of the future that is the same as the past, effectively. How does the new emerge? And that, in order to sort of answer that question, what they had to do is model the future said it was entirely unpredictable. Rather than assuming that the future is going to look like the past, we have to imagine it is entirely unpredictable. And it's only when we can do that, when we can confront that almost unbearable thought that we can properly scientifically and mathematically start to calculate it. In other words, it was our assumption that the future is going to look like the past which was actually inhibiting our science. I said it more effectively saying make it new, right, you're effectively saying we have to understand time itself, rather than always translating time into space, into the idea that time, you know that something new cannot emerge in the future, the future has to be open. In other words, it has the complexity of the weather system has to move into a future which is unpredictable, in order that we can think of whether in a properly scientific way. And this idea of the new Not only is it a modernist concept of the idea of time as being ecstatic time is not being reducible to space, is that is a modernist preoccupation. You see it in Joyce, you see it in Virginia Woolf, you see it, in Marcel Proust, you know, you see it in all these great literary figures, they're thinking all the time of the, of the future is open as an open system, rather than one, which is simply going to resemble the past. And that becomes a kind of philosophical and literary conundrum, you know, how do you write the future, when the future is not going to resemble the past? I could try again, actually, maybe a better way to explain it would be to say the difference between climate and weather. I mean, have you ever thought about the distinction between climate and weather?



Cassie Phoenix 23:01

Hmm, climate is what we expect, weather is what we get. That's my go to.



Barry Shiels 23:05

Yeah, nice. So that one works I think, and Mark Twain said, a climate last forever a wet weather for three hours. Hmm. But, but again, that distinction seems to be a, you know, is key to what I'm talking about when I talk about the modernist distinction. Climate is something which is seasonal, also right. Climate is often something which we associate with given spaces, especially National Space, if you're talking about national climates. You know, it's a long history in political philosophy, of associating climate, with character, with temperament and with the ability to govern, and so on. Even in 1915, there was a book by a guy called Ellsworth Huntington called Climate and Civilization and he was a Yale University, man. And interestingly enough, he said, you know, it was a temperate, it was the climate you found in certain parts of Europe and on the western seaboard, Pacific seaboard of the United States, where you found the climate which allowed, which determined a temperament which could govern more sensibly and most reasonably. So you can see the way that certain kind of static idea of temperament becomes climatological determinism, which becomes also a problematic racialism, right, where you say, well, these climates produce good characters who can govern themselves, whereas other climates tropical climates, for example, produce a certain kind of character, and they can't govern themselves, therefore, they have to be governed from more temperate climates. And this is a long standing political philosophy. But in the era of modernism that we're talking about, there was a kind of breach a kind of sizar and weather science was properly transnational, right, so it didn't, whether meteorology as a system was a global system, it wasn't a system which belonged to particular climates, it wasn't as stable as a climate. And as I've already said, it was registered on a daily basis, it was registered in a much more granular fashion, it wasn't registered, you know, according according to seasonal variation, or according to a given a given National Space. And it's, and that's kind of the history of its governance and so on, or its cultural conventions. And so this, this shift between climate and weather from climate to weather in, which I'm suggesting happened around the mid 19th century, is is, is something that moves us into a much more volatile worldview, right? Because weather is, you know, Twain says, you know, every three hours it changes or whether something is constantly, constantly being registered as altering as changing as producing new futures futures, which don't resemble the past, whereas climate is something which repeats always in similar fashion in ways that are recognisable. So it seems to me that that broad distinction between climate and weather can actually be located in the mid 19th century of the 20th century. And that what I'm suggesting is kind of meteorological modernism is also a reformation in how we think about political culture, a reformation and how we think about global culture, or think

about culture globally and how it moves. So when we talk climatologically, as we often do, people say, Oh, the English loved talking about weather, for example, which is true, but it's also they're also playing on an Historical Association. You know, that goes back, say to Shakespeare, Henry, the fifth, where, you know, the French character Constable says, you know, oh, their climate is foggy, roll and dull. You know, how, how can they be so valiant, but his point is kind of like it's their climate has produced, the cold climate has produced these hot blooded warriors. And that's, you know, that's still there implicit when people say they love talking about the weather, like what the English are doing is, in that sense, building a climatological picture of themselves, a political unit here, a political community, based on a certain atmospheric assumptions.

C

Cassie Phoenix 27:44

That is interesting. I know, this is something we've talked about on some of our walks as well. And, yeah, it's fascinating. It's, as I say, we like talking about the weather (laughs). We talk about it a lot (laughs). And it's great to hear that all these new ideas and new ways, or new to me, certainly, of conceptualising it and I really enjoy having this space to sort of, yeah, just explore some of these ideas together. I've been asking everyone what they think living with the weather, living well with weather involves. So yeah, toss that one out to you as a final. What are your thoughts on that one?

B

Barry Shiels 28:29

Yeah, well, actually, I think, because living with the weather, as you just said, is linguistic as much as it is a felt reality. I do think living with the weather well requires us to take an approach toward language. I too, like you, love talking about the weather. The weather, in ways that, you know, can be climatological as I've just said, but can also be something else, you know, whether as a language act, when you notice the weather, you're noticing something very particular, you're noticing, probably a change in light or a change in temperature. So in that sense, weather helps us focus. It helps us attend to things. And it also allows us to associate again, the sort of linguistic act for the speech act of noticing a weather event often helps us associate to events elsewhere in our lives, right. We move in time, because of certain things that we notice about the weather. And I like that fact. And I think I'm reminded of two things one, the French writer Roland Bart, one of my favourite writers, in his sort of late Lecture Series he gave at the College de France, he talked about how weather in novels was kind of still an under explored field, right, which was heartening for me to hear that. But he said, you know, one of the things that weather language does, I guess in when we speak of weather is it draws language down to it's almost meaningless essence. It's kind of the almost purely fatik utterance. By fatik. utterance, he means, you know, those words we use which aren't semantic, full, full of

significance. They are somehow just there to articulate the fact that you are present. So when two people meet and talk about the weather, one of the things they're doing is just saying "I'm here". And so I suppose when I think how do you live well with the weather, I think maybe it's by talking about the weather. And through talking about the weather, you relieve yourself of the burden of significance and allow yourself simply to be in a space and maybe with someone else in a space.



Cassie Phoenix 31:16

That's great. You know, that seems a brilliant line to finish on. You didn't plan that did you? That was that's a great time to finish. Thank you so much, Barry, for sharing your time and your thoughts with us. Yeah, really great to hear you speak on the topic. And I certainly take so much away from that conversation. So thank you.



Barry Shiels 31:39

You're welcome. Thank you