Dale Jamieson: I have to begin with massive apologies that I will hope will not take most of my 25 minutes. First of all, I'm doing a different talk than the one advertised because I wanted to do something closer to what seems to be the centre of the discussion, so there is no PowerPoint which is especially bad for people whose English is not native. This talk is constructed from bits and pieces of a 10,000 word paper that may not be very coherent even to native English speakers.

Humanity is transferring fossil carbon to the atmosphere at an almost unprecedented rate. Unless something unexpected intervenes, this will result in a vast damages to much that we care about: human lives, property, species, natural ecosystems and so forth. In addition to causing incremental damages to what we value, this transfer of fossil carbon risks disrupting climate in a way that will be truly catastrophic.

In the face of such considerations, it's reasonable to wonder about causes and responsibility. Who is causing the problem, who is at fault, who should bear the costs, who should change their behaviour, should someone go to jail? Now in order to think clearly about these questions, we are going to have to sharpen up the way that we talk about responsibility. This is difficult because responsibility, - the English word 'responsibility' and its cognates - is used in many different ways and questions of responsibility are often discussed without using the word at all.

In addition, one doesn't have to go very far into the literature before running into foundational questions in metaphysics, philosophy of science, ethics and moral psychology. So in this talk, I'm going to try to map some of this terrain and take some modest steps towards imposing some order. But I don't claim that anything I say is definitive or that this is a complete account.

The word 'responsibility' and its cognates are used in many different ways. And as I've said the language of responsibility is intertwined in many disputes. Some have claimed that Aristotle was the first to construct a theory of moral responsibility but other scholars have found aspects of our present concerns in the Homeric epics. Still others focus primarily on the use of the English word 'responsible' and its cognates and on other European languages have claimed that the notion of responsibility only found a home in philosophical discourse in the 18th century and then primarily in debates about representative government.

These scholars see our present concern with individual moral responsibility as presupposing the political and social background created by the revolutions of the 18th century, and they see Mill as the bridge from the political notion of responsibility to the notion of individual moral responsibility, the one most discussed in the contemporary literature. Now the dominant theme in the contemporary discussion concerns the relationships between responsibility, freewill, determinism and related concepts. And although philosophers often use highly stylised examples, this literature is meant to bear on whether we are individually responsible for any of our actions, and if so, which.

PhilPapers, which archives the philosophical literature lists nearly 6,000 papers on freewill, 1,200 papers on moral responsibility, 154 on responsibility in applied ethics, and has no category at all for political responsibility or responsibility. This tells you something about where the philosophical literature is on notions of responsibility.

A set of distinctions that is central to the philosophical discussion are those between causal, moral and legal responsibility, and as a first approximation they can be distinguished by the following cases. If Jack has a seizure and breaks Jill's model airplane, we may say that Jack was causally but not morally or legally responsible for Jill's loss. If Kelly fails to shovel her sidewalk and Sean slips and falls, we may say that Kelly is morally but not causally or legally responsible for Sean's injury. If Pat is married to a profligate he may be legally but not causally or morally responsible for his partner's death. Now how plausible these particular examples are will depend on jurisdictions intuitions and background theories, but in any case it's difficult to weave common sense intuitions about responsibility into a single coherent concept and that's really a central part of what I want to say. Theorists disagree about how various inconsistencies should be resolved.

The conceptual landscape of responsibility is not fully tamed; you might even say it's a wilderness, but there are some conventional views in this area. For example it's widely held that causal responsibility is necessary but not sufficient for moral and legal responsibility, and that moral responsibility is not necessary for legal responsibility. Now the latter view is virtually unchallenged but the former view has been called into question. The basic thought here (or feeling or emotion or facial expression) that drives the former view is this. How can you be morally or legally responsible for something you did not bring about? The view that causal responsibility is necessary for moral responsibility is closely related to Mill's harm principle and is near the heart of contemporary liberalism.

Philosophers and political theorists argue about the scope of the harm principle and the meaning of its key terms, but it is a mark of a liberal state that it largely keeps its nose out of its citizens' harmless behaviour. Nevertheless it's clear that in various societies at various times, people have been held to be morally responsible for what they do and not just what they bring about. Indeed many people are morally appalled by such apparently harmless acts as consensual gay sex or flag burning, but are completely unmoved by deaths caused by war or environmental pollution.

Now contemporary psychologists such as Jonathan Haidt and Daniel Gilbert have argued that our everyday moral conceptions (even those of liberals) are only loosely associated with harm causation. Haidt has argued that considerations involving fairness and reciprocity, in-group loyalty, authority and respect, purity and sanctity in addition to considerations about the causation of harm are at the foundation of morality as experienced by many people. There is a long quotation from Dan Gilbert that I use in all my talks that some of you have probably seen which says that the problem of global

warming is that it doesn't violate a moral sensibilities, it doesn't cause our blood to boil, it doesn't force us to entertain thoughts that we find indecent or repulsive like gay sex (for example). So as a result we don't get morally outraged by acts that contribute to global warming.

Now part of what makes understanding the relations between causal and moral responsibility even more difficult is that responsibility, even when the term is modified by a term such as 'causal', is already arguably a normative notion. So Robert Goodin writes "the notion of 'causal' responsibility is not the unambiguous, technical terms it seems. The ascription of causal responsibility for an outcome represents the conclusion of a moral argument, not the premise of one".

Now I think that Goodin overstates the case but he's right about the normativity of the ascription of causal responsibility, and I think you can see this from the fact that social change movements are often directed towards getting people to accept causal responsibility for harms rather than towards getting them to accept moral responsibility for harms for which they already acknowledge causal responsibility. So for example, the abolitionists spoke of blood sugar in their attempts to get ordinary citizens to see their consumption of sugar as causally implicated in the horrors of slavery.

So William Fox in his 1791 pamphlet "Address to the people of Great Britain on the propriety of abstaining from West Indian sugar and rum," wrote "this, so necessarily connected are our consumption of the commodity, the misery resulting from it that in every pound of sugar used the produce of slaves imported from Africa we may be considered as consuming two ounces of human flesh". The point is to create the causal association here, and then the moral association will follow because the causal association is already normatively loaded.

Climate activists make similar attempts today in order to get us to see that even apparently innocent behaviours like driving and meat eating are causally implicated in producing climate change. If we get the causal link then the evaluative responses will, to some extent, follow.

Thus far what I've been doing is distinguishing causal, moral and legal responsibility and discussing the relationships among them, but I haven't said anything yet about what distinguishes moral responsibility from other notions. John Stuart Mill writes "moral responsibility means punishment. When we are said to have the feeling of being morally responsible for our actions, the idea of being punished for them is uppermost in our mind".

Now for Mill, and many who've been influenced by him, what distinguishes moral from causal responsibilities is its relationship to sanctions. What distinguishes moral from legal responsibility is that moral sanctions can be informal and even internal. According to Mill, we do not call anything wrong unless we mean to imply that a person ought to

be punished in some way or other for doing it, if not by law (that's legal responsibility) then by the opinion of his fellow creatures. If not by opinion, then by the reproaches of his own conscience (the informal internal sanction).

So to summarise, causal responsibility concerns what we bring about and ascriptions of this are often value laden. Moral responsibility invokes an acts liability to sanctions, legal responsibility implies that a particular kind of formal sanctioning practice may be appropriate.

Now what happens in terms of the development of the philosophical literature is that, beginning with the work of H.L.A. Hart and Joel Feinberg in the 1960s and 1970s, theorists attempted to map the concept of moral responsibility and made a lot of distinctions along the way: between forward and backward looking responsibility, about the kind of thing that can be morally responsible, the grounds for judgements of moral responsibility and the kinds of sanctions that are appropriate to particular judgements. But as the literature has mushroomed, it's become increasingly difficult to get a clear view of the broad domain. And as I've already pointed out, some topics have gotten a great deal of attention, typically those which are foundational and about individual agents, while others have received much less attention, typically those that are contextual and political.

In recent years, a literature on collective responsibility has emerged but it's much smaller than those devoted to other topics: 209 papers are listed in the PhilPapers bibliography. As we move from metaphysical questions about responsibility to more practical questions, and from there to questions of collective responsibility, the topic moves from being generally unsettled to increasingly neglected.

In addition, as we'll see (but not in great detail), there are features of climate change itself that also make the application of responsibility concepts difficult. In my book, *Reason in a Dark Time*, I argue that the problems that climate change presents are quite different from those that we are used to confronting in everyday life and that this makes the language of moral responsibility even more difficult and indeterminate when it comes to application here than in many other cases.

So now again people are changing climate by perturbing the global carbon cycle, yet it is difficult to estimate precisely or even roughly the damages that will result from these perturbations. Increasing the atmospheric concentration of trace gases such as carbon dioxide does not immediately cause people to drop dead. Nor does the warming of the earth's surface which results from the perturbation of the carbon cycle cause the death of a grandmother in Venice.

The carbon cycle is being perturbed, a warming is occurring and people will die but the enormous complexity of the social and physical systems that mediate between the perturbation, the warming and the deaths makes causal knowledge or attribution

extremely difficult or even practically impossible. And what is true of deaths is true of other damages as well.

Still it does seem strange to suppose that together we can kill many people without any of us individually being causally and perhaps morally responsible for the outcome. And when you state the problem in that way, the solution seems obvious. As individuals we have responsibilities regarding how we act as members of collectives. Derek Parfit has written, "even if an act harms no one, this act may be wrong because it is one of a set of acts that together harm other people". Now I think it's really difficult to parse what's going on in that passage but the basic intuition is clear; As individuals we have duties regarding how we act as members of collectives, and that's certainly one of the threads that make up the history of common sense morality and it can be seen as providing a moral basis for volunteer fire departments, parent teacher associations and faith-based social welfare groups.

But the intuition seems to apply mainly to small homogenous groups that think of themselves as acting together. Only in extraordinary circumstances and for short periods of time can it be extended more broadly, for example to an entire nation during war time. Extending the intuition also seems to require specific enemies, and goals, (e.g. winning the war). Climate change however does not share these features. There is no specific enemy. The goal is ill-defined and the means of achieving it are too many. Moreover, rather than extraordinary, the circumstances of life in a warming world are the new normal.

Furthermore the most common models of collective responsibility discussed by philosophers do not fully capture the relations between individual emissions and climate damages. One common model is the cumulative model, in which, every relevant input produces a relevant output, though the inputs and outputs may be imperceptible. It is this model that is demonstrated by the case in which each of 1,000 torturers turns a knob, imperceptibly increasing the electric shock delivered to a victim. No single torturer is responsible for causing a perceptible increment pain but since the torturers together cause the pain it's plausible to think of them as each causally responsible for some increment even if it's imperceptible.

The second model is the threshold model, in which no effect occurs unless a specific level of collective contribution is achieved. So for example a car will not get out of the mud unless four people push. There are different ways of assessing the causal contributions of individuals in such cases, but what matters is that on this second model inputs produce outputs only when some particular threshold has been reached.

Now a cursory look at an introductory atmospheric science textbook shows how inadequate the cumulative model is to the complex relations between individual emissions and climate change damages. I think the model only seems plausible because of the seductiveness of the bath tub analogy that is often used in thinking about carbon

emissions. On this analogy emitting carbon is like running water into a bath tub and damages occur when the tab overflows. This is quite intuitive and can be useful for a certain pedagogical purposes, but it's quite misleading if taken seriously.

The carbon from individual emissions does not stack up, overflow the atmosphere, and cause damages. Rather, the carbon emitted from joyriding in a '57 Chevy very slightly perturbs the global carbon cycle affecting various fluxes and feedbacks in ways that are difficult to quantify or identify. The molecules themselves may stay in the atmosphere for centuries, be absorbed by the biosphere within a few years, or wind up in the oceans. In any case we'll never know the fate of the particular molecules that we are emitting.

The threshold model is somewhat more applicable because thresholds in the climate system actually exist. However what the analogy does not capture is the dynamic nature of the climate system, the fact that there are vast numbers of differently structured processes that occur simultaneously, the differences in scale that are involved in moving from individual emissions to damages, and the fact that the system at each level is open to a vast number of influences, many of which are not causally active at other scales.

In the end, the relation between my emissions and climate related harms is not at all like the relation between my pushing and the car getting out of the ditch in the threshold case. It's considerations such as these that led Walter Sinnott-Armstrong to claim that my individual joyride does not cause global warming and climate change or any of the resulting harms. Together we are changing the composition of the atmosphere in a way that will cause the deaths of many people. As terrible as this fact is, it does immediately translate to the robust conclusion that individuals who emit carbon are morally responsible for their emissions.

Now I want to come back to responsibility. As I've been suggesting the notion of responsibility is a contested site with partisans of particular normative outlooks arguing for attributions of responsibility while their opponents deny or reassign their attributions. Consider a fairly typical example from American political discourse. "Our lax gun control laws are responsible for gun violence," someone says. "No, they are not," someone else replies, "it's the evil and maniacal shooters who are responsible. And anyway these things just happen."

We can go on with examples like that. The point is, there is no value neutral fact of the matter about who is right in these cases. Conceptions of responsibility are constructed and then mobilised for particular purposes. Arguments in this domain are primarily a matter of persuading others to share one's outlook rather than directed towards bringing others to see some fundamental truth about the nature of responsibility and the application of the concept. The point of attributions of responsibility is practical: given its modernity, flexibility and the cross-cutting nature of its dimensions and uses, it's not surprising that it's a domain in which pluralism dominates.

For those who want us to take responsibility for climate change, the task is to construct and diffuse a notion of responsibility that supports attributions that engage and motivate us. The challenge is not to convince us that some off-the-shelf concept really applies, but rather to shape and promote the notion that will achieve our purposes.

In my work I've shaped a simple notion that I call "intervention responsibility." That's really where the focus should be for the climate justice movement. The idea of intervention responsibility is just to say that an agent's intervention is responsible for a state of affairs when the state of affairs is undesirable and the agent could significantly mitigate this state of affairs without excessive cost.

Now there is a trillion little bits of grist for philosophers to mill here. But if you start with this intuitive notion that we should take responsibility and urge others to take responsibility when they can intervene in the problem of climate change, then I think it opens up a discourse in which we begin to see responsibility as not what you or I have or the government has, but rather as something that we all have; individuals, governments, sub-national entities and especially corporations who have been largely let off the hook. There is no conflict between assigning responsibility to multiple agents since the intervention responsibility is all about the causal powers that agents at different levels of social organisation have to intervene.

I want to close by saying something about corporations because they've largely gotten off the hook in debates about responsibility. We spend a lot of time in America worrying about our carbon footprint. We spend a lot of time denouncing our government and others, but for those of you who aren't aware of this, there is a ground breaking paper published last year by Richard Heede which basically showed that essentially 90 firms have historically been responsible for 63% of all carbon and methane emissions from 1854 to present. 83 of these firms are industrial producers of oil and natural gas and coal, seven are cement manufacturers. Of these 90 firms, 50 are investor-owned, 31 are primarily state-owned and nine are entirely government-run industries. With only four exceptions, all of these firms are still in existence. They are headquartered in 43 countries around the world, some in what you think of as the industrialised world and some in the less developed world.

What I want to say is that firms can be extremely effective in reducing emissions, and when they are subjected to market discipline they can coordinate effectively. However there is no guarantee that their actions will result in fair outcomes and they can be difficult to affect, but divestment campaigns and shareholder activism are promising signs that the intervention responsibility of firms is finally becoming a priority. The picture that I have is that the way to think about responsibility is not who is responsible, but who should take responsibility, which is a fundamentally normative question.

What we see then is that there are different levels of agency, and at these different levels of agency there are different capacities, different abilities, different strengths and weaknesses to affect outcomes. That's my view about the relationship between responsibility and climate change. Thanks.