

How does the Air get Hot?

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How does the air get hot? How does the air warm at all? Just consider this – 99% of the atmosphere is comprised of Nitrogen and Oxygen which are both transparent to infrared radiation, both incoming and outgoing. Is this a scientific fact, agreed by both Warmists and Skeptics? Yes, it is.

So how does the air get warm? How is it that the Weather forecasters routinely broadcast the temperature in a given place and also project the highest temperature likely and the lowest also?

So we are all agreed on two things. The first is that 99% of air is transparent to infrared radiation and second that there is a given but moving temperature in any certain location – say London or Paris, Singapore or Jakarta. But what is causing the warming? What actually effects the warming?

There are three means of heat transference, namely Radiation, Conduction and Convection. We have already ruled out Radiation, since 99% of the atmosphere is transparent to this Radiation. So, is it only the Greenhouse gases that get hot? I don't think that anybody considers that to be a possibility. It would be totally ridiculous to say that 1% of the air is hot and the 99% is cold.

So if Radiation is ruled out, then the only real possibility left is Conduction. It cannot be Convection since that is a means of cooling. Sure, there are what are called Convection Heaters, but is not that a misnomer? When one examines them more closely one finds that the air is heated by an electrical coil that is hot, so in fact the air is heated by Conduction and Convection occurs by itself or with the help of a fan.

In the same way a Radiator does radiate a little when hot water passes through it, but the air is actually heated by touching, by Conduction and Radiation plays a minor part. Holding one's hand close to a hot radiator and then touching the same radiator easily prove this. At 3 inches away the heat is barely felt. But the heat transferred to the hand when it is laid on the radiator is instant. To be absolutely certain of this, try putting a hand on a kettle of boiling water!

In this way we can see that the mantra of Hans Schreuder 'Sun heats Earth and Earth heats Atmosphere' is correct. The Atmosphere does not heat the Earth – on the contrary the Atmosphere is a giant cooling system. The radiation from the Sun passes through the Atmosphere and collides with the mass of the Earth, be it rocks, sands, prairies, forests, lakes, rivers and oceans. Over the whole surface of the Earth there is this great unending heat exchange, by Conduction. The heat everywhere is carried upwards and away by Convection. As the molecules of the air are heated they burst out of their cage and the molecules spread out in a giant fan, getting farther and farther apart with altitude.

Only in this way can we understand why, as we ascend a hill or a mountain, the air gets progressively colder, which is even more noticeable in aviation. As the air gets thinner, that is to say as the molecules get farther and farther apart, so the temperature drops.

Yet it is true that some of the molecules of the Greenhouse gases may indeed be hot. The Warmists argue that these hot molecules effectively warm other molecules and even radiate back down towards the surface of the Earth. This is where a great error occurs, even amongst certain Physicists. They have overlooked one thing, namely that between the molecules at altitude there is 'nothing', there is space, and there is vacuum.

I have quite often written 'One cannot heat "Nothing" only for the built in Grammar check in Word to rule out what it senses as a double negative. But this concept is essential. The Radiation from the Sun passes through Outer Space precisely because it is a vacuum. A vacuum cannot get hot for there is 'Nothing' to get hot. Only 'Something' only 'mass' can get hot and have a temperature. So we see that a Space Ship, which does have mass, has to take enormous pains to keep cool when suspended in this vacuum. .

The Warmists argue that the average mean surface temperature has risen by 0.8° Celsius since 1900. That is 8 tenths of 1 degree in over 100 years. They may well be right although they admit that they have to make thousands of calculations from weather stations, ships at sea, radiosonde balloons and satellites in space to arrive at their conclusions. Above all we must remember that an 'average' temperature is not a temperature at all. If it were, then the Moon, with its extremes of temperature, would be a habitable place!

Furthermore, they argue that this same average temperature would be some 10s of degrees less without the Greenhouse gases in the Atmosphere. They might indeed make a case with Water Vapour impeding the exit of heat, as indeed it does. But what is interesting is that they show and acknowledge that the Sun is the main source of energy, of heat and light.

When we examine these arguments seriously we can see they have got a lot right. The Earth and the Oceans do indeed absorb Solar Energy. The intense heat in the dry Sahara does dissipate quickly as the Sun sets, while in Jakarta where the air is full of moisture the temperature declines slowly. However, slowly or quickly, they are conceding that the atmosphere is a great traveller for carrying heat away to Outer Space. The Atmosphere does not warm the Earth – only the radiation from the Sun does that. And it is the surface of the Earth that both warms and cools the atmosphere.

The Warmists also make a bizarre claim that the molecules of Carbon Dioxide radiate heat back to the Earth's surface. A molecule is tiny, not visible to the naked eye. Just how far can a molecule radiate? Not very far, since it is governed by the Inverse Square Law. So indeed a molecule of Carbon Dioxide may indeed absorb infrared radiation, but neither Carbon Dioxide nor Water Vapour generate heat. It is important to realise that the Warmists do not claim that the Greenhouse gases generate heat, only that these Greenhouse Gases prevent the escape of heat thus making the Lower Atmosphere warmer.

So the science is agreed by both sides, that is to say the data. The trouble is that while it is true that Water Vapour may well inhibit the exit of heat from the surface, it can clearly be shown that clouds break up and scatter incoming infrared radiation. So while Nitrogen and Oxygen are transparent, the Greenhouse gases are opaque and therefore both inhibit the entry and the exit of infrared radiation. Ergo Water Vapour can clearly be observed as a coolant.

When a cloud on a fine sunny day passes across the face of the Sun it cools. When raindrops fall the atmosphere cools. When ocean water evaporates, the sea may warm but the atmosphere above is cooled.

The Warmist scientists are not so stupid as to claim that that the Greenhouse Gases 'generate' heat, but their claim effectively is that these same gases prevent 'heat loss' – called the Greenhouse Effect. But greenhouse or ordinary brick-built house is all the same – heat always seeks an equilibrium, which is actually never achieved. In my own house, since I hate the cold, I may have the central heating on for hours, until the temperature has risen to a comfortable degree. What is the difference? My boiler is generating heat. The moment it clocks off at 11 PM the heat disperses. Nothing can prevent this dispersion. The heat will pass through walls, through windows under doors seeking equilibrium with the outside temperature.

Why then is equilibrium never achieved? For the very simple reason that the outside air masses are also seeking equilibrium and awaiting the radiation from the Sun. All sorts of other factors kick in. There are winds, there are weather fronts where one mass of warmer air may collide with a colder mass, there is the Coriolis effect, and there is rain and frost. So there is a continuous fight for equilibrium, which is never achieved.

We live in a world of flux. Those who attempt to arrive at a Global temperature are striving in vain. And those who attempt to blame mankind for upsetting the balance of Nature by burning fossil fuels ignore at their peril the enormous cosmic influences, which affect the tides, the monsoons, and even the movements of the Continents.

Surely the Earth is warming and cooling, surely the climates everywhere are indeed changing and evolving, for in spite of wars and technological advances, the cosmic forces demand that mankind makes progress at an ever increasing speed.

To return to my initial question: What heats the air? Once we realise that only Conduction can possibly heat the Air, then all the talk of the Greenhouse Gases capturing the radiation from the Earth falls into place.

So we may pose the question to ourselves? Is there any such thing as Anthropological Global Warming? Surprise! Surprise! Yes, there is some man-made Global Warming, by means of the prevention of heat loss, through the Greenhouse Gases. But since the Greenhouse Gases are together in sum only 1% of the atmosphere, then only half of 1% can be attributed to Mankind, as night follows day.

And since Great Nature produces 96% of Carbon Dioxide and only 4% is produced by man, the effect of Mankind on the Warming of the Earth can be reduced by a further 96%. So the Warmists may indeed claim 0.0048% of the Warming and the Luke Warmers may agree, but dare I say it, the Slayers of the Sky Dragon are the only ones to have understood the whole picture.

The quantities I have mentioned are so derisory as to be risible. In any case evaporation alone would negate any theoretical warming.

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