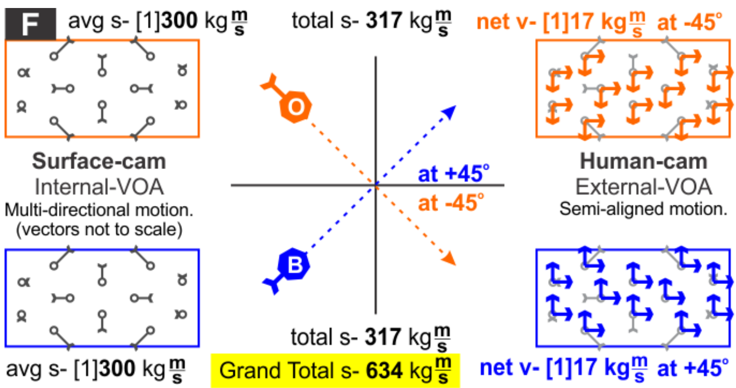
Deductions of the Space-sci Sherlocks



How Momentum Becomes Heat

Professor Du-Ane Du

www.Wacky1301SCI.com, *"Looking at serious science, sideways!"*

Three sisters, Pico, Hectii, and Tera, the "Space-sci Sherlocks," are traveling through the Asteroid Belt. They use inelastic collisions to deduce how momentum can turn into heat-impulse.

—Excerpted from *Murdered Energy Mysteries*, Part 3, Chapter 7, by Du-Ane Du, (Amazon, Kindle, ebook 2018, paperback 2021).

Hi, Grandma Aaret, this is Tera,

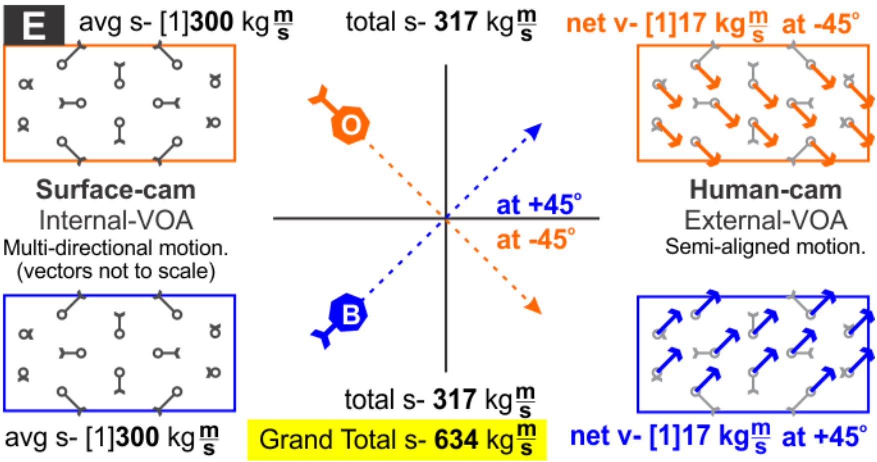
We made a great discovery, and we're well on our way to figuring out if a calorie of heat is equal to 4.958 $\pm 0.04\ \rho$ of impulse, or is a calorie equal to 4.184 $J_{[IC]}$ of kinetic energy?

Here's a quick test, when your hand is in motion, it has momentum. If you strike your hand against a wall, the momentum from your hand can't go into the wall because the wall can't move. Which means, the *exvo*-atomic s-momentum in the atoms of your hand has turned into *invo*-atomic motion. [EXVO, external view and visible motion. INVO, internal view and heat motion.]

If you strike your hand against a wall many, many times, then you'll feel it becoming warmer—because the forward s-momentum is becoming multi-directional invo-atomic heat momentum!

Of course, you don't want to hit the wall over and over, so here is an experiment that Chip and I did using the 3D virtual visor. (It's sort of like the experiment Pico and I were doing when she fell.)

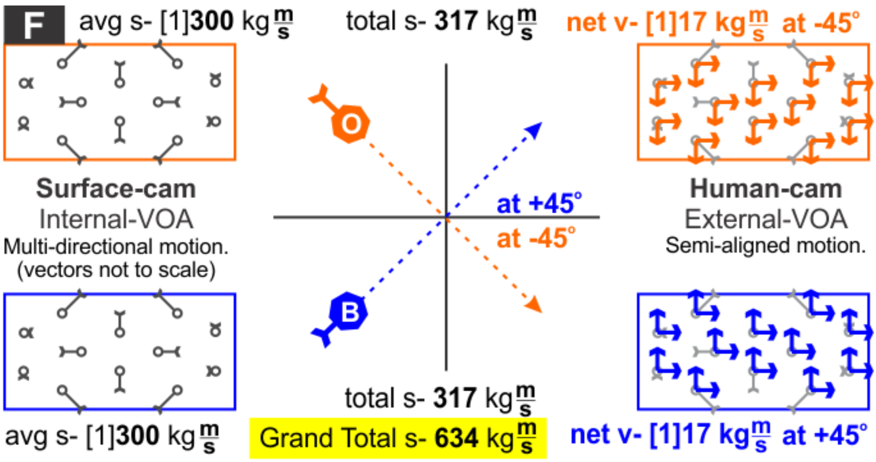
We started with an X-Y axis and two 1.0 kg balls of synthetic monatomic clay balls. We launched the orange ball toward the origin at an angle of –45°, and we launched the blue ball toward the origin at an angle of +45°. Both balls were launched at a forward speed of 17 m/s. Here is a picture of what was happening just prior to the collision:



I realize there is a lot of information on this picture. Both clay balls have a temperature consistent with an invo-atomic average speed of 300 m/s, and both clay balls have a forward s-momentum of 17 ρ—which means they both have a total s-momentum of 317 ρ for a grand total of 634 ρ of s-momentum for the entire system.

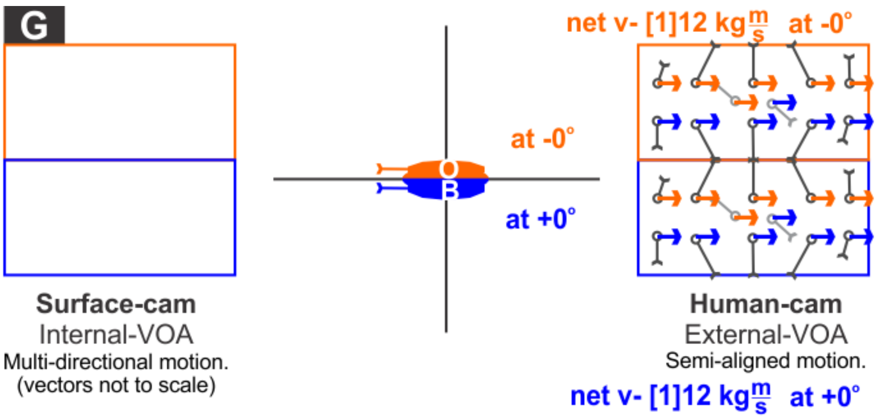
Notice on the right that the orange and blue arrows show the forward component of the s-momentum, and the two balls are traveling at different angles.

Before we analyze the collision, it's a good idea to break the forward vectors into X- and Y-components. Chip used sine and cosine to create the following adjustment:



The only real change here is that on the right there are two orange arrows and two blue arrows for each atom. Chip called these component vectors, and the important thing is that the rightward arrows are all the same length. That means the speed in the X-direction is the same for both balls.

Now let's see what happened when the two balls collided:



Notice that the internal vectors have longer Y lengths than they had before the collision. This tells us there was a change in the invo-atomic s-motion inside the balls of clay. (This means the temperature went up!)

Notice also that only the X-component is visible in the human-cam picture. The orange ball had an original velocity vector of 17 m/s at –45°. If we use cosine, we find that the X-component of the orange ball was:

$$X\text{-}component = (v)cos(\theta)$$
$$X\text{-}component = (17\frac{m}{s})cos(-45°)$$

X-component = 12 m/s, to the right

The blue ball had an original velocity vector of 17 m/s at +45°. The calculations for the X-component of the blue ball are:

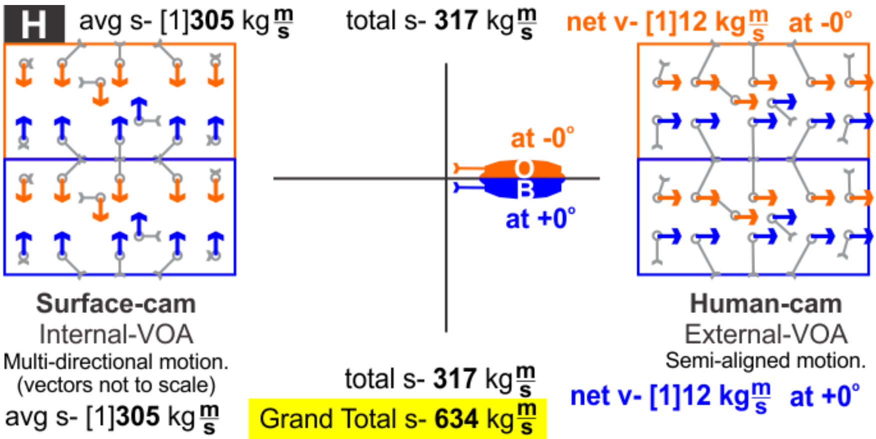
$$X\text{-}component = (v)cos(\theta)$$
$$X\text{-}component = (17\frac{m}{s})cos(45°)$$

X-component =+12 m/s, to the right

Both balls had the same X-velocity before the collision. And the X-motion vectors remained the same after the collision.

It is equally obvious that the Y-motion vectors went somewhere.

To determine what happened to the Y-motion vectors, I had Chip subtract the old invo-atomic motion vectors from the current vectors. Chip displayed the result in the surface-cam displays, and it looks like this:

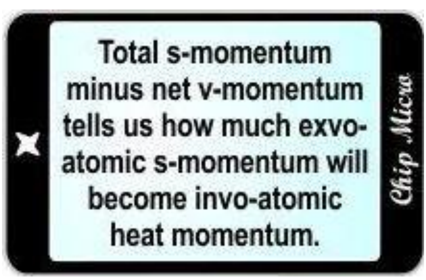


Here's what happened, Grandma, when the orange and blue balls began to collide, half of the orange downward momentum began moving across the orange/blue atomic-interface and into the blue ball. At the same time, half of the blue upward momentum began moving across the atomic interface from the blue ball to the orange ball.

The exvo-atomic momentum continued to move across the orange/blue atomic-interface until the downward momentum and upward momentum was equally distributed throughout the mass of both balls.

Downward s-momentum cannot be destroyed, and upward s-momentum cannot be destroyed (but they can be converted into atomic rotation momentum and electron-spin momentum). And in every situation, the grand total exvo-atomic s-momentum cannot be destroyed.

But, sometimes *exvo*-atomic s-momentum turns into *invo*-atomic s-motion—and that's what happened here. And remember, invo-atomic speed is related to the temperature inside the object, therefore *whenever human-level s-momentum disappears, it always becomes heat*.



That brings us to our Space-sci Sherlock **galactic fact #4 of heat-impulse transfer**.

Because atoms have mass, when atoms have kinetic energy, they must also have momentum. So, when Lord Kelvin theorized that heat is the transfer of atomic kinetic energy, his theory had to include the assumption that heat also involves the transfer of atomic momentum.

Experiments show that *exvo*-atomic v-momentum can become multi-directional *invo*-atomic s-momentum—which means human-level motion can become heat!

Human-level measurement of momentum-transfer is always identical to the galactic-level measurement. Therefore, human-level measurement of the transfer of heat-impulse will also be an exact measurement of the galactic-level transfer of heat-impulse.

During a collision, if we want to calculate the amount of impulse that has turned into heat, we use either of these equations:

$$im\Delta\rho \text{ turned into heat} = |ms| + |ms| - (mv + mv)$$
$$im\Delta\rho \text{ turned into heat} = |\text{total } ms_{before}| - |\text{total } ms_{after}|$$

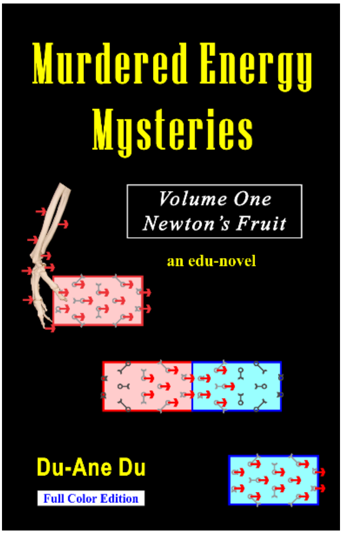
In the experiment I showed you, each of the two balls had forward s-momentums of 17 ρ—for a total of 34 ρ. After the collision, the combined balls had a mass of 2.0 kg and a forward speed of 12 m/s—that's a total of 24 ρ of momentum.

All we do is subtract, to discover that the collision caused 10 ρ of momentum to move from *exvo*-atomic motion to *invo*-atomic motion, which means there was a slight increase in the temperature of the two balls.

Isn't that amazing? It means many inelastic collisions cause human-level momentum to turn into heat-impulse!

CONCLUSION: More research needs to be done into the relationship between mechanical energy and other theoretical forms of energy. Many common beliefs may actually be philosophical myths.

Murdered Energy Mysteries seeks to increase understanding of the various forms of momentum and momentum transfer, as well as the various forms of energy and energy transfer. The lack of understanding on the part of the scientific community is substantial, and more research needs to be done.



Examine or purchase at Amazon.com

—Du-Ane Du, author of the edu-novel *Murdered Energy Mysteries* (Amazon, Kindle, e-book 2018, paperback 2021.)

More information, see:

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