The Space-sci Sherlocks Deduce

Gravitational Impulse Per Second Transmitted by Earth							F
	Hectii		**Pico**		**Tera**		
time	$\Delta\rho$		$\Delta\rho$		$\Delta\rho$		
t1-t0	**-9.81**	ρ/s/kg	**-9.81**	ρ/s/kg	**-9.81**	ρ/s/kg	
t2-t1	**-9.81**	ρ/s/kg	**-9.81**	ρ/s/kg	**-9.81**	ρ/s/kg	
t3-t2	**-9.81**	ρ/s/kg	**-9.81**	ρ/s/kg	**-9.81**	ρ/s/kg	
t4-t3	**-9.81**	ρ/s/kg	**-9.81**	ρ/s/kg	**-9.81**	ρ/s/kg	

Gravity vs Energy Transmission

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. At the Gravity Spa, they perform gravity experiments, and deduce the relationship between gravity and energy.
—Excerpted from *Murdered Energy Mysteries*, Part 2, Chapter 3, by Du-Ane Du, (Amazon, Kindle, ebook 2018, paperback 2021).

"Does Earth transmit gravitational energy (gravitational speedy impulse) to all falling objects at a specific rate?" Was written on the large computer screen in the middle of the living room wall.

“It sounds a lot like the experiment you did in the elevator room,” Tera remarked warmly, as she began loosening one of Pico’s many tiny braids. Hectii had finished unbraiding the left side and was waiting for Tera to complete her half.

Hectii began brushing the left half of Pico’s hair, “I agree, only this question specifically asks about Earth.”

“But that involved a lot of math,” Pico said, as she helped untie the braids on the front half of the side that Tera was supposed to have finished. “I’m certain we can use this smaller screen to do a simulation, but…”

“And this is a yes-or-no question,” Tera said absentmindedly.

“Either Earth does transmit gravitational energy at a constant rate, or it doesn’t. One carefully designed experiment should answer the question.”

“I think there’s a way to shorten the math part,” Hectii suggested. “The grav- ρ-giving rate is measured in momentums per second per kilogram, ρ/s/kg. A similar energy unit should be measured in joules[IC] per second per kilogram, J/s/kg.”

"How does that help?" Pico said.

"If we measure in seconds, then we don't have to divide by seconds," Hectii said. "And if we experiment with 1.0 kg balls, then we won't need to divide by kilograms either, because that's the same as dividing by one!"

"What?" Tera said.

"In Pico's experiment, yesterday, she used a 200 kg gold ball and a 105 kg ball of silver," Hectii elaborated. "That was fun, but it meant we had to divide by kilograms to find the grav- ρ-giving rate per kilogram."

"I see what you're saying," Pico said as she loosened the last weave. "My hair is really curly this time. And I agree with Hectii. If we use 1.0 kg balls, then the division is done automatically, and our answer will automatically have *per-kilogram* in it. We won't have to divide every time—let's use Hectii's shortcut."

"After all, this type of transmission rate must involve a unit like joules[IC] per second per kilogram, J/s/kg." Hectii reiterated.

"I think we should throw the balls this time," Tera said with growing interest, as she joined in the brushing. "I'll throw mine downward, and Hectii can throw her ball upward."

"And we can be at different heights," Pico said excitedly, as she stood and walked up to the wall display. "Chip, make a simulated cliff like we did yesterday, only use the computer screen here in the living room. The question was about Earth, so use Earth's value for gravity. Put Hectii's avatar on a ledge in the middle of the cliff, put my avatar on a ledge ¾ the way up the cliff, and put Tera's avatar at the top of the cliff."

"Great idea," Hectii said supportively. "When I throw my ball upward, and Tera throws her ball downward, the balls will pass each other."

"Exactly," Pico said. "And we'll be doing all three experiments in the same region of space, so the height above the ground won't matter."

"Give me a 1.0 kg blue ball of… copper," Tera requested. "Since I'm throwing my copper ball down from the top of the cliff, and downward is negative."

"My vanadium ball will go up from the middle of the cliff," Hectii said. "And my 1.0 kg vanadium ball should be red—for upward."

"Then I'll use a black ball of platinum," Pico said. "Because my ball won't have a starting direction. Ready, Chip?"

"Certainly," Chip said. A tall cliff appeared on the screen. Tera's avatar stood at the top of the cliff, Pico's avatar stood on a ledge 90% up the cliff, and Hectii's avatar stood on a ledge located about 75% up the cliff. Each of the avatars were holding their respective colored metal balls.

In sisterly unison, the three girls said, “Three, two, one, now!”

On the screen, Hectii’s upward vanadium ball almost hit Pico’s downward platinum ball. Tera’s downward copper ball passed Hectii’s vanadium ball and Pico’s platinum ball… then splash, splash, splash, the balls struck the muddy lake that Chip had placed at the bottom of the cliff.

“Wonderful splashes,” Pico enthusiastically assessed, pointing to the mud that now coated the bottom of the cliff. “Ok, Chip. Show us a data table of the velocities of each of the three balls at one second intervals, for the first ten seconds.”

“Here,” Chip said, as he placed the following on their data screens:

Velocity of falling 1.0 kg balls						A
	Hectii		**Pico**		**Tera**	
Time	**m/s**		**m/s**		**m/s**	
t=0s	**33.3**	m/s	**0**	m/s	**-56.7**	m/s
t1	**23.49**	m/s	**-9.81**	m/s	**-66.51**	m/s
t2	**13.68**	m/s	**-19.62**	m/s	**-76.32**	m/s
t3	**3.87**	m/s	**-29.43**	m/s	**-86.13**	m/s
t4	**-5.94**	m/s	**-39.24**	m/s	**-95.94**	m/s
t5	**-15.75**	m/s	**-49.05**	m/s	**-105.75**	m/s
t6	**-25.56**	m/s	**-58.86**	m/s	**-115.56**	m/s
t7	**-35.37**	m/s	**-68.67**	m/s	**-125.37**	m/s
t8	**-45.18**	m/s	**-78.48**	m/s	**-135.18**	m/s

t9	**-54.99**	m/s	**-88.29**	m/s	**-144.99**	m/s
t10	**-64.8**	m/s	**-98.1**	m/s	**-154.8**	m/s

"Excellent," Pico said. "If you look at the red column, you can see that Hectii's red vanadium ball started with an upward, positive velocity. Then it slowed down, came to a stop, and began accelerating downward."

"In the data table, your black platinum ball only went downward," Hectii said observantly. "It had a starting velocity of zero, and the ball continued accelerating until it had a final velocity of 98 m/s, downward."

"The data table shows that my blue copper ball started with a downward, negative velocity," Tera noted. "It's a good thing I was standing on the top of the cliff! Look how high the final velocity was—no wonder my blue copper ball hit the muddy lake-water first!"

"Chip," Hectii said. "The equation for kinetic energy is.

$$\Delta KE = (im\Delta\rho)(speedy)$$

$$\Delta KE = (mv_f - 0)\left(\frac{v_{final} + 0}{2}\right)$$

$$\Delta KE = ½v(mv)$$

"Perform the calculations for our 1.0 kg balls and show us the amount of kinetic energy that each ball has each second."

The following Kinetic Energy Table appeared on their screens:

Kinetic Energy of falling 1.0 kg balls						B
	Hectii		**Pico**		**Tera**	
time	**1/2mv²**		**1/2mv²**		**1/2mv²**	
t=0s	**~554.445**	$J_{[IC]}$	**~0**	$J_{[IC]}$	**~1607.45**	$J_{[IC]}$
t1	**~275.89**	$J_{[IC]}$	**~48.1181**	$J_{[IC]}$	**~2211.79**	$J_{[IC]}$
t2	**~93.5712**	$J_{[IC]}$	**~192.472**	$J_{[IC]}$	**~2912.37**	$J_{[IC]}$
t3	**~7.48845**	$J_{[IC]}$	**~433.062**	$J_{[IC]}$	**~3709.19**	$J_{[IC]}$
t4	**~17.6418**	$J_{[IC]}$	**~769.889**	$J_{[IC]}$	**~4602.24**	$J_{[IC]}$
t5	**~124.031**	$J_{[IC]}$	**~1202.95**	$J_{[IC]}$	**~5591.53**	$J_{[IC]}$
t6	**~326.657**	$J_{[IC]}$	**~1732.25**	$J_{[IC]}$	**~6677.06**	$J_{[IC]}$
t7	**~625.518**	$J_{[IC]}$	**~2357.78**	$J_{[IC]}$	**~7858.82**	$J_{[IC]}$
t8	**~1020.62**	$J_{[IC]}$	**~3079.56**	$J_{[IC]}$	**~9136.82**	$J_{[IC]}$
t9	**~1511.95**	$J_{[IC]}$	**~3897.56**	$J_{[IC]}$	**~10511.1**	$J_{[IC]}$
t10	**~2099.52**	$J_{[IC]}$	**~4811.81**	$J_{[IC]}$	**~11981.5**	$J_{[IC]}$

"The numbers are all different, so how'll we know if we find what we're looking for?" Tera questioned.

"I think the theory we're testing…" Pico postulated. "Good question, Sis. Centuries ago, I guess some people theorized that gravitational energy is leaving Earth and going to the subatomic particles that make up the mass of the balls. If Earth is transmitting gravitational energy to the balls at a specific rate, then the balls should receive the same amount of energy each second."

“J/s/kg, to be exact,” Hectii said. “The table is already divided into seconds and kilograms. Which means, if Chip subtracts second #2 minus second #1, and repeats the process for each one-second interval in our experiment—then we’ll know how much energy per second per kilogram Earth sent out during each time interval.”

“That’ll give us an energy transfer rate, for each second and for each kilogram of mass in the objects,” Pico said deductively, “and the unit will be J/s/kg—just like the grav-ρ-giving/transfer rate, which was measured in ρ/s/kg.”

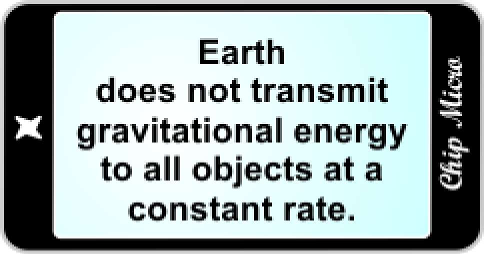
“Can you do the subtraction, Chip?” Hectii said.

“Here it is,” Chip said:

Energy per second transmitted by Earth							**C**
	Hectii		**Pico**		**Tera**		
Time	ΔKE		ΔKE		ΔKE		
t1-t0	**278.55**	J/s/kg [0.0352]	**48.1181**	J/s/kg [0.2093]	**604.345**	J/s/kg [0.0162]	
t2-t1	**182.32**	J/s/kg [0.0538]	**144.354**	J/s/kg [0.0680]	**700.581**	J/s/kg [0.0140]	
t3-t2	**86.083**	J/s/kg [0.1140]	**240.59**	J/s/kg [0.0408]	**796.817**	J/s/kg [0.0123]	
t4-t3	**10.1534**	J/s/kg [0.9662]	**336.826**	J/s/kg [0.0291]	**893.053**	J/s/kg [0.0110]	
t5-t4	**106.389**	J/s/kg [0.0922]	**433.062**	J/s/kg [0.0227]	**989.289**	J/s/kg [0.0099]	
t6-t5	**202.626**	J/s/kg [0.0484]	**529.299**	J/s/kg [0.0185]	**1085.53**	J/s/kg [0.0090]	
t7-t6	**298.862**	J/s/kg [0.0328]	**625.535**	J/s/kg [0.0157]	**1181.76**	J/s/kg [0.0083]	
t8-t7	**395.098**	J/s/kg [0.0248]	**721.771**	J/s/kg [0.0136]	**1278.00**	J/s/kg [0.0077]	

t9-t8	**491.334**	J/s/kg [0.0200]	**818.007**	J/s/kg [0.0120]	**1374.23**	J/s/kg [0.0071]
t10-t9	**587.57**	J/s/kg [0.0167]	**914.243**	J/s/kg [0.0107]	**1470.47**	J/s/kg [0.0067]

"Wow, that certainly answers the question," Tera said unequivocally. "No!"



"This data makes it obvious, Earth *does not* transmit gravitational energy to receiving objects at a specific or consistent rate," Pico said. "This means the Space-sci Sherlocks should be able to deduce a new scientific fact."

"What can we conclude so far?" Tera said.

"So far, it appears that it's mathematically impossible to determine the rate at which a planet gives/transmits gravitational energy to nearby objects based on mass (joules/s/kg)." Hectii determined. "That suggests we're looking in the face of another scientific improbability."

"And another murdered form of *energia*," Tera said.

"Are we certain our numbers are correct?" Pico said cautiously. "After all, energy often involves multi-parabolic equations."

"We can always double check our data by running the numbers for gravitational momentum transfer," Hectii said.

"Good idea, let's check the momentum figures," Tera proposed. "Chip show us the velocity table again."

"Here:"

Velocity of falling 1.0 kg balls						D
	Hectii		**Pico**		**Tera**	
Time	**m/s**		**m/s**		**m/s**	
t=0s	**33.3**	m/s	**0**	m/s	**-56.7**	m/s
t1	**23.49**	m/s	**-9.81**	m/s	**-66.51**	m/s
t2	**13.68**	m/s	**-19.62**	m/s	**-76.32**	m/s
t3	**3.87**	m/s	**-29.43**	m/s	**-86.13**	m/s
t4	**-5.94**	m/s	**-39.24**	m/s	**-95.94**	m/s
t5	**-15.75**	m/s	**-49.05**	m/s	**-105.75**	m/s
t6	**-25.56**	m/s	**-58.86**	m/s	**-115.56**	m/s
t7	**-35.37**	m/s	**-68.67**	m/s	**-125.37**	m/s
t8	**-45.18**	m/s	**-78.48**	m/s	**-135.18**	m/s
t9	**-54.99**	m/s	**-88.29**	m/s	**-144.99**	m/s
t10	**-64.8**	m/s	**-98.1**	m/s	**-154.8**	m/s

"It's the same as the previous velocity table," Pico confirmed. "Chip, now multiply each number by 1.0 kg of subatomic mass, so we can see the momentum value for each second."

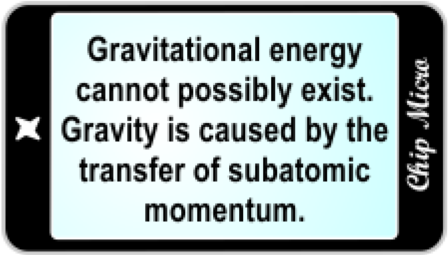
"Done:"

Momentum of falling 1.0 kg balls							E
	Hectii		**Pico**		**Tera**		
Time	**mv**		**mv**		**mv**		
t=0s	**33.3**	*ρ*	**0**	*ρ*	**-56.7**	*ρ*	
t1	**23.49**	*ρ*	**-9.81**	*ρ*	**-66.51**	*ρ*	
t2	**13.68**	*ρ*	**-19.62**	*ρ*	**-76.32**	*ρ*	
t3	**3.87**	*ρ*	**-29.43**	*ρ*	**-86.13**	*ρ*	
t4	**-5.94**	*ρ*	**-39.24**	*ρ*	**-95.94**	*ρ*	
t5	**-15.75**	*ρ*	**-49.05**	*ρ*	**-105.75**	*ρ*	
t6	**-25.56**	*ρ*	**-58.86**	*ρ*	**-115.56**	*ρ*	
t7	**-35.37**	*ρ*	**-68.67**	*ρ*	**-125.37**	*ρ*	
t8	**-45.18**	*ρ*	**-78.48**	*ρ*	**-135.18**	*ρ*	
t9	**-54.99**	*ρ*	**-88.29**	*ρ*	**-144.99**	*ρ*	
t10	**-64.8**	*ρ*	**-98.1**	*ρ*	**-154.8**	*ρ*	

"That looks great," Hectii said. "Now we're looking at the momentum of each ball each second. Please subtract time #2 minus time #1, and do the same thing for each one-second interval in our experiment. That'll enable us to see the amount of gravitational momentum that Earth transmits each second—you know, *ρ*/s/kg."

"How's this?" Chip said, as he placed the following on their computer screen:

Impulse per second received from Earth						F
	Hectii		Pico		Tera	
time	Δρ		Δρ		Δρ	
t1-t0	-9.81	ρ/s/kg	-9.81	ρ/s/kg	-9.81	ρ/s/kg
t2-t1	-9.81	ρ/s/kg	-9.81	ρ/s/kg	-9.81	ρ/s/kg
t3-t2	-9.81	ρ/s/kg	-9.81	ρ/s/kg	-9.81	ρ/s/kg
t4-t3	-9.81	ρ/s/kg	-9.81	ρ/s/kg	-9.81	ρ/s/kg
t5-t4	-9.81	ρ/s/kg	-9.81	ρ/s/kg	-9.81	ρ/s/kg
t6-t5	-9.81	ρ/s/kg	-9.81	ρ/s/kg	-9.81	ρ/s/kg
t7-t6	-9.81	ρ/s/kg	-9.81	ρ/s/kg	-9.81	ρ/s/kg
t8-t7	-9.81	ρ/s/kg	-9.81	ρ/s/kg	-9.81	ρ/s/kg
t9-t8	-9.81	ρ/s/kg	-9.81	ρ/s/kg	-9.81	ρ/s/kg
t10-t9	-9.81	ρ/s/kg	-9.81	ρ/s/kg	-9.81	ρ/s/kg



“This is as conclusive as it can be,” Pico realized. “Earth definitely transmits/gives gravitational momentum at a fixed rate of –9.81 momentums per second per kilogram.”

“Same data, and incredibly consistent findings,” Tera said.

“This confirms our **kinetic fact #4 of grav- ρ-giving [transmitting],**” Hectii said logically. “Gravity is the continuous giving/transmitting of downward subatomic momentum. A planet (or other object) has gravity because the subatomic particles inside it continually give the same amount of negative (downward) subatomic momentum to all objects, based on distance away.”

“And a receiving object’s subatomic mass (in kg) determines its grav- ρ-wreceiving rate [***W***hole-receiving rate],” Pico said.

“Exactly what we discovered before,” Tera validated. “Receipt of negative gravitational momentum causes an object’s subatomic particles to move downward at a faster and faster rate.”

“And that’s know as gravitational acceleration and gravitational attraction,” Pico said.

“But,” Tera said confrontationally, as she tapped an icon-tab on the display screen. “When we do the calculations for gravitational energy transmission per second per kilogram we get this table:”

Energy per second transmitted by Earth							**C**
	Hectii		**Pico**		**Tera**		
Time	ΔKE		ΔKE		ΔKE		
t1-t0	**278.55**	J/s/kg [0.0352]	**48.1181**	J/s/kg [0.2093]	**604.345**	J/s/kg [0.0162]	
t2-t1	**182.32**	J/s/kg [0.0538]	**144.354**	J/s/kg [0.0680]	**700.581**	J/s/kg [0.0140]	
t3-t2	**86.083**	J/s/kg [0.1140]	**240.59**	J/s/kg [0.0408]	**796.817**	J/s/kg [0.0123]	
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t6-t5	**202.626**	J/s/kg [0.0484]	**529.299**	J/s/kg [0.0185]	**1085.53**	J/s/kg [0.0090]	
t7-t6	**298.862**	J/s/kg [0.0328]	**625.535**	J/s/kg [0.0157]	**1181.76**	J/s/kg [0.0083]	
t8-t7	**395.098**	J/s/kg [0.0248]	**721.771**	J/s/kg [0.0136]	**1278.00**	J/s/kg [0.0077]	
t9-t8	**491.334**	J/s/kg [0.0200]	**818.007**	J/s/kg [0.0120]	**1374.23**	J/s/kg [0.0071]	
t10-t9	**587.57**	J/s/kg [0.0167]	**914.243**	J/s/kg [0.0107]	**1470.47**	J/s/kg [0.0067]	

“And this is as inconsistent a data set as one can imagine,” Pico said, with a note of frustration. “None of the answers match each other. This means Earth definitely *does not* transmit gravitational energy at a specific rate.”

“Wait, have we established that gravitational energy is actually a type of speedy impulse?” Tera asked.

“Good question,” Hectii said. “Chip, where did the idea of gravitational energy come from?”

“It came from the idea of Gravitational Potential Energy, or GPE,” Chip said. “The equations are:”

$$GPE = mgh = mg(\frac{1}{2}gt^2)$$

"Well Hectii," Pico said, "Do you see speedy impulse in either of those equations?"

"I can get there," Hectii predicted as she thumb-tapped data into her phone. "Impulse is the same thing as *mgt*, and average velocity is the same as…"

$$mgt = im\Delta\rho$$
$$\frac{1}{2}gt = \frac{v_2 + v_1}{2} = average\ velocity$$

"If I substitute both of these into the second GPE equation," Hectii said, "we get:"

$$\boldsymbol{GPE = mgh = (im\Delta\rho)\left(\frac{v_2 + v_1}{2}\right) = (im\Delta\rho)(speedy)}$$

"Allow me to assist," Chip said. "The height equation (*mgh*) can also be expressed in terms of speed infused impulse, using the following equation:"

$$\boldsymbol{GPE = (m\sqrt{2gh})(\frac{1}{2}\sqrt{2gh}) = (im\Delta\rho)(speedy)}$$

"So the philosophical concept of gravitational energy does involve speed infused impulse," Pico said.

"Ok, let's think about how this relates to our fundamental rules of pure science," Tera said.

Pico picked up a brush and began brushing her hair. "Our #1 rule of pure science says, when something can be measured, then it exists in the natural world."

"And you *can not* measure the transmission rate of gravitational energy (gravitational speedy impulse)—you can't calculate the gravitational energy transmission rate for Earth, for Mars, for the moon, for the Sun, for anything!" Hectii articulated as she entered a side room, opened a faucet, and began filling the sink with warm soapy water.

"That kicks us over to our #3 rule of pure science," Tera said. "Pure science is the study of things that exist in the natural world—things that cannot be measured are viewed as (1) philosophical precepts, (2) components of a spiritual belief system, or (3) aspects of a new unproven theory."

"This'll be our **kinetic fact #5 of improbable gravitational energy transmission**," Pico surmised as she entered the side room, dipped her head in the sink, and began washing. "Let's say, it's experimentally and mathematically impossible to determine the rate at which a planet allegedly gives/transmits gravitational energy (gravitational speedy impulse) to nearby objects based on mass (joules/s/kg).

[The belief in gravitational energy transmission is based on a circular equation set that was merged with a commonly held philosophical precept. The circular equation set is valid in most situations, but it should not be confused with the improbability of energy transmission.]

"What cannot be measured, probably doesn't exist—and gravitational energy transmission cannot be measured," Pico concluded, "therefore gravitational energy transmission is either a philosophical precept, or it's a component of a spiritual belief system. This is a Space-sci Sherlock's scientific fact!"

"It looks like gravitational energy is another murdered myth," Hectii said, as her hand tested the water. "Kinetic energy is dead, chemical kinetic energy is dead, chemical work energy is dead, and we just killed gravitational energy."

"Murdered, murdered, murdered," Pico retorted, "the bodies are piling up! It seems like every time we test a new concept, we find more murdered *energia*."

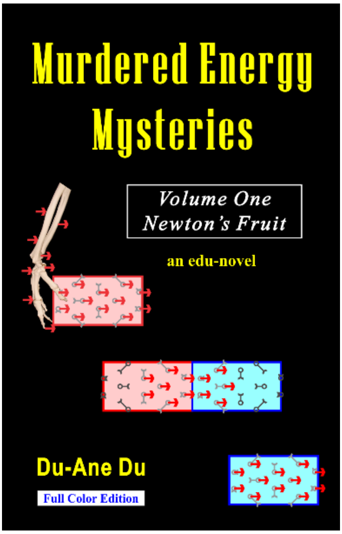
"But is *energia* like a phoenix that rises from the ashes?" Tera wondered.

"Do you want to bleach it a little this time?" Hectii asked.

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.

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



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