Day 4 of the key drop inquiry in the $(MSP)^2$ summer workshop. See the models handout for background on the debate in progress.

- 1. Elaine: Did you, did you agree with this part? Let me figure out if you agree because I'm gonna get you caught up now ((laughter)). Did you agree that when, when, um, Alyce was saying when it gets like in the middle that it was both kinetic and potential, but at this point it loses potential and becomes all kinetic? Did you agree with that?
- 2. Janella: Yes.
- 3. Elaine: Okay. So how does that happen? There would have to be some add, add, adding up of kinetic for it to totally take over.
- 4. Janella: No.
- 5. Elaine: Yes it would!
- 6. Janella: By virtue of the movement.
- 7. Elaine: Yes because you want to always put, you want to put a number on it. When you're talking about 80, 20, you want to put a number on it. So kinetic is building up, that's why potential leaves. If they stayed 100 and 100, there would always be both kinetic and potential.
- 8. Janella: No, but it's as it's falling. It's as it's falling that the kinetic is building up. And it becomes more kinetic as it's falling.
- 9. Elaine: Mm-mm. That don't make sense.
- 10. Janella: What would you say, I'm sorry, were you-
- 11. Alyce: I don't want to be involved. ((laughter)) I don't want to be involved.
- 12. Elaine: We know it becomes more because-
- 13. Geoffrey: It becomes more-
- 14. Elaine: Because it's building up.
- 15. Janella: Right.
- 16. Geoffrey: Yes. Uh, but then when it falls, it becomes- then when it falls, it loses all kinetic and becomes potential.
- 17. Jen: So like, you're saying when it hits the ground-

- 18. Geoffrey: Yeah.
- 19. Jen: That's the end of the kinetic.
- 20. Geoffrey: Yeah.
- 21. Jen: And then there might be potential to do something else?
- 22. Geoffrey: It becomes potential.
- 23. Elaine: We were just saying that. We didn't want to use that context. We didn't want to change the context.
- 24. Janella: I agree with you there.
- 25. Elaine: But I know what you're saying-
- 26. Geoffrey: But Elaine-
- 27. Elaine: Because it depends on the context of it. Because guess what? After we dropped those keys in there, we picked them right back up, didn't we?
- 28. Geoffrey: Yeah.
- 29. Elaine: So I mean, I hear what you're saying there, I do. But I'm still saying, in order for something, I mean, to me if you put it in a number amount, that just makes sense for something to take over. That kinetic energy totally takes over and there's no potential at some point, then kinetic was adding up, and it was obviously more than potential energy because it took over.
- 30. Brigitte: Okay, so I'm curious. If and when we pick the keys back up, what potential are we saying now? Where do you feel that- do you agree that when we pick it up, we are- are we storing potential, or are we building that potential back up? When we pick that key up- pick the keys back up from the trash can?
- 31. Elaine: When they're here, when they're in our hands, and we're not moving-
- 32. Brigitte: No no no.
- 33. Elaine: I think that's potential.
- 34. Brigitte: They're in the trash can.
- 35. Elaine: You're talking about from the trash, you're talking about this in between then.

- 36. Brigitte: No, I'm talking about it's in the trash can now.
- 37. Elaine: Okay.
- 38. Brigitte: When you pick up the keys, what are you saying that- where's your thought process then? When you pick up the keys, what potential does that have?
- 39. Elaine: What do you mean, what potential?
- 40. Brigitte: I mean when we pick the keys back up-
- 41. Elaine: That's potential energy.
- 42. Brigitte: Which one? Are you building it up? Are you saying, are you building up this?
- 43. Elaine: Can I say this though? I'm not saying that at all. Because I ain't never talk about picking the keys up out of the trash can.
- 44. Brigitte: I'm just asking you.
- 45. Elaine: I know you're trying to get me to talk about that ((laughter)) ().
- 46. Janella: No, we're not doing that.
- 47. Brigitte: No, I just want to know, I feel like, I almost feel like-
- 48. Elaine: I just haven't said that.
- 49. Brigitte: I almost feel like I- we should talk about that because then this may solve the issue of where these keys are originally because it's kind of like that's the starting point. I almost want to say make this your starting point. At the trash can. And picking it up. So what are we saying?
- 50. Janella: Trial 2.
- 51. Brigitte: Right, there you go. For trial 2, when we pick it up, what are we saying? Are we saying that this is Janella, Janella potential, or are we saying this is Elaine? Because from here, when you get the key to pick it back up to go and try to do trial 2, what potential are we having?
- 52. Jen: And I like, what I think we're doing right now, just- and we'll come back to that question, but I just want to go meta about it for a second with what I think we're actually doing, which is Brigitte has a way of thinking about switching up the situation that would call into question kind of like these two definitions of

potential and seeing what's going on in those scenarios. So it's not something that I think we've been talking about so far, it's a new thing, but at the same time I think you're bringing it up-

- 53. Elaine: We'll introduce it.
- 54. Jen: Because you think-
- 55. Elaine: Okay, okay.
- 56. Jen: It has a way of helping us think about this issue, right?
- 57. Brigitte: I think that if we could figure out-
- 58. Elaine: You want to know if I think it's stored potential. Do you want to know if I think that coming from the trash can up is stored potential?
- 59. Brigitte: Is it stored potential, or are we- are you gonna still say the same thing, that you're building up that kinetic energy?
- 60. Elaine: Mm-mm, mm-mm.
- 61. Jen: If you're just picking it straight up from the ground?
- 62. Brigitte: What mm-mm, what's mm-mm?
- 63. Elaine: No. It's an answer to your question.
- 64. Brigitte: Which one?
- 65. Janella: Can we () I'm sorry because I don't understand this no.
- 66. Brigitte: I don't either, can you clarify what you mean? I just want to know-
- 67. Alyce: Is this stored or built up?
- 68. Brigitte: Right, that's all I want to know.
- 69. Alyce: Is this stored or built up?
- 70. Brigitte: Right, which one is it?
- 71. Alyce: Stored, or built up? From here to here, stored or built up?
- 72. Elaine: I think it depends on the context of what we're doing.

PERG 11/29/12

73. Brigitte: Don't say that!

74. Elaine: I do! I think it depends on what we're doing with it!

75. Brigitte: We're about to do trial 2.

76. Elaine: Okay.

77. Brigitte: We're about to do trial 2.

78. Elaine: So, in this, in this context, I think, um, it coming up, you want to know if I think it's built up or if I think it's stored.

79. Brigitte: Right.

80. Elaine: Um, let me see, I gotta think about it because I never thought about it. And I don't want to just come out with an answer right away, you'll all go ahhhhhh. You know what I'm saying, like really? Let me think about it because I haven't thought about it in that sense before. Hold on. And it may take me some time, so you all go on.

81. Janella: That's okay.

82. Elaine: And I'll come back to you with what I think.