

# Quantum Gravity 141.0: Sound vs Light in Astrophysics and Psychology

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From Osher Doctorow

There are two fascinating areas of research comparing sound and light which physicists should not ignore:

- 1) Astrophysics, especially black hole Astrophysics
- 2) Psychology

There are quite a few indications that sound plays an important role in for example binary star systems related to black holes, and readers can look up those in arXiv or in some of my past threads. The Koreans cited also give considerable discussion on related topics.

Here I want to mention a few words about psychology. A curious things happens in some old people (arguably more than meets the eye so to speak), namely a "split" between vision and sound or audition. For example, old drivers often can't concentrate on driving visually when they talk. Of course, young people often can't either, but it arguably gets worse with age.

Another thing that at least sometimes happens with age is that the split between vision and sound lasts longer. That is, old people sometimes entirely focus on vision when driving and entirely ignore sound, which is usually great other than when ambulances or fire engines or police cars are racing past; or vice, versa, they sometimes do the opposite.

More interesting perhaps in some ways is when old people entirely forget "self conversations" or "rehearsal" or "reminding oneself" in a mental version of sound. Older people generally get tired more than younger ones, and there is a tendency to also get tired of repeating old habits "endlessly" including self-conversations, rehearsals, "reminding oneself". The dangers here including eating too much because the old "self conversations" of why it's disadvantageous to do so have been ignored or forgotten, drinking too much, failing to exercise, and so on.

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The deeper idea behind my examples is that sound and vision are really very close coordinated in young human beings, at least during healthy periods, and that leads me to ask whether light speed and sound speed could be similar in various ways in the Universe at a Fundamental level. If you read the Korean paper that I cited, and references therein, you might well start to think that this is the case. If it's true, then the well known Mach or Mach Speed or Mach Number which is dimensionless and which constitutes merely a boundary between subsonic, sonic, and supersonic regimes, hints at a similar division for light. But of course, some people don't see anything if it's not in front of their noses so to speak.

Osher Doctorow

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