

## ***Interactive comment on* “Good Vibrations: Living with the Motions of our Unsettled Planet” by Tamsin Badcoe et al.**

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This paper brings a bold and lovely study of urban seismology that accounts for the case of a seismometer that monitors unscheduled bell-rings from the Great George tower bell, in Bristol, UK. The authors explored the relationship between scales of Earth-shaking and thresholds of habituation. The authors reveal the scope that an interdisciplinary look at the vibrations of the planet can achieve, from the point of view of geophysical analysis of the seismic signal, to artistic manifestations. The authors explored from ancient works, like poems which brought interpretations for the sensations caused by earthquakes, to modern art works, even some created from the signal registered for the research.

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## 1 General comments

Reading this work led me to two papers that I find very interesting, and I would like to share it with the authors:

a) Urban Seismology: On the origin of earth vibrations within a city, November 2017, Scientific Reports 7(1), DOI: 10.1038/s41598-017-15499-y

b) Seismometers Within Cities: A Tool to Connect Earth Sciences and Society, Front. Earth Sci., 05 February 2020 | <https://doi.org/10.3389/feart.2020.00009> (Jordi Diaz , Martin Schimmel, Mario Ruiz and Ramon Carbonell)

When I first read the paper, I thought (by the abstract) that it would be a paper on urban seismology, something in the line that Díaz et al (2020) had done in their work about urban seismic noise in Barcelona. If this was the case, I would have missed a discussion on the physics that underlies the bell-ringing due to ground shaking, and a more refined exploration of different urban sources that were identified in the seismogram.

But in my opinion, the main contribution of this research is the interdisciplinary aspects of urban monitoring, which is indeed very interesting, but it is not what the abstract emphasizes. I suggest the authors to emphasize that this paper is interdisciplinary research that will investigate human connection to seismic vibrations under the point of view of music, poems, theatre and geophysics. And I agree with Paul Denton's comment that more reflection on the collaboration with artists would be very welcome.

## 2 Specific comments

**L190** It would be nice to draw an arrow or a square showing the events of the bell-ringing in Figure 4. Specially because this paper might be read by non geophysicists.

**L255** Missed reference for the Indonesian tsunami, that is present in the references list.

**L245** I suggest to specify the station name

**L255** Where is Market Rasen?

**L313** Where the authors put: “A look at the data. . .” I suggest to indicate a Figure

**Figure 5** The plot shows the whole band (0.01 to 50Hz) or you used a filter? I would like to suggest the plot of a filtered version of this Figure, for the band 15Hz to 25 Hz, in which the authors observed the Great George peals (or I would give a try to 20-30Hz band, by Figure 6 ). Maybe the other events that are visible in Figure 5 would vanish, or appear in some other frequency range? There are some peaks that seems to be regular, would they be subway noise, or something like that?

### 3 Technical corrections

Please note that I am not an English native speaker, and my English is brazilian biased. I will point out some typos that I found, and give some suggestions that I kindly ask the authors to evaluate if they are pertinent. I put in red what I think should be erased, and in blue new words or letters that should be included.

**L10,L195** I think “bell-ringing” has a hyphen

**L14** nearly continuous, or near-continuous instead of near continuous

**L19** earth-shaking events (add a hyphen)

**L20** Replace “in order to” with only “to”

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- L53** the authors had already used the expression “daily basis”, so I suggest changing to “ground shaking daily”
- L66** remove comma “in a different and more connected way”
- L73** “others in minutes and **in** millions of years”
- L77** “partly from professional activities but also **from** personal trajectories”
- L196,L334** I think “zoomed-in” has a hyphen
- L196** remove “clearly”
- L200** Change “there are three noteworthy features that are” to “three noteworthy features are”
- L220,L249** “high-frequency” has a hyphen
- L250** “often requires”
- L258** “The P-wave and S-wave arrivals are **clearly** visible at station LMK”
- L286** “there are **a number of many** current research endeavours to study these more exotic signals.”
- L295** I think “Modern-day” seismologists has a hyphen
- L302** “signal is **clearly** visible above the regular activity near the tower (see Fig. 10)”
- L303** “the Greece event occurred closer to Bristol and was, therefore, more **clearly** visible.” (add commas)
- L321** “amplified in tall buildings particularly, when they are impacted by low” (remove comma)

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**L358** “This calculation shows that there is **clearly** a large amount of energy”

**L403** “presents these sounds via three **subwoofers** and...”

**L421** “media player will outlast the 21st-century”

**L535** “geothermal activity, or other catastrophes” (plural)

**L543** formations that contain gas trapped in **and** impermeable”

**L584** “use a MEMS (**micro-electro-mechanical-systems**)”

**L586** “and there are currently more **that than** 50 Raspberry Shake”

**L617** “where the waves travel around the inside of the Earth **are is**”

**L618** “**Reciprocally In a reciprocal way**, such realizations”

**L625** “by expanding the reach of our hearing and extending our **own** auditory map”

**L643** “vibrations travelling **through**”

**L652** “Aknowledgements”

**L669** “The numbers in the upper right corner of each trace indicates”

**L683** Spectograms

**L690** “between signal duration on **bother**”

**L379** (Blakeborough, 2001) check citing format

**L436** (see also Nicols(2014)) check citing format

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