

Letter to the Editor Regarding “Voice Tremor in Parkinson’s Disease: An Acoustic Study” by Gillivan-Murphy et al, In Press in Journal of Voice

To the Editor:

We just read online the article “Voice Tremor in Parkinson’s disease: An Acoustic Study” by Gillivan-Murphy et al,¹ in press in *Journal of Voice*. The article, itself, might be of interest to a significant number of researchers in areas such as Parkinsonism, speech physiology, speech therapy, acoustics, biomedical engineering, and signal processing of biological signals. However, we would like to point out a serious lack of awareness by the authors of relevant previous literature. It seems that the authors were unfortunately totally unacquainted with scientific materials published in biomedical engineering journals and even in *Journal of the Acoustical Society of America*, that to our opinion, was essential to maintain the quality and novelty of a study published by *Journal of Voice*.

During the years 1987–1992, we published the following research articles describing a signal processing technique applied to voice, aimed at detecting early signs of Parkinsonism, in addition to being a quantitative tool to follow up Parkinsonian patients under medication:

- (1) Comparative evaluation of several pitch process models in the detection of vocal tremor,²
- (2) Analysis of vocal tract parameters in Parkinsonian speech,³
- (3) On the use of pitch power spectrum in the quantitative evaluation of Parkinsonian tremor,⁴
- (4) High resolution pole-zero analysis of Parkinsonian speech,⁵
- (5) Quantitative evaluation of speech in the assessment of Parkinsonian symptoms.⁶

Articles 1 and 3 describe quantitative estimation of Parkinsonian tremor (vocal tremor). Article 2 reports on the estimation of Parkinsonian rigidity. Articles 4 and 5 outline

the complete method of quantitative evaluation of the two main symptoms of Parkinsonism, tremor and rigidity, by simple recording of a few seconds of the patient’s voice and implementation of an algorithm that can be used both for detection and for follow up. In our opinion the weakness of the study by Gillivan-Murphy et al, beside its limited novelty, is that the method was based on employing a commercial black box for voice analysis without any detailed scientific description and verification of the algorithms involved.

Isak Gath

*Faculty of Biomedical Engineering,
Technion Israel Institute of Technology,
Technion City, 32000 Haifa, Israel
E-mail: isak@bm.technion.ac.il*

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