An apolitical response

Dear Sir:

We agree with our colleagues, Donald Michaels and Jose Jalife, that the use of political language, while picturesque, can be dangerous because of the subjective connotations. Here we offer a more neutral comparison between the models. In their model cell properties are fixed but nonuniform, while in ours the cells are identical but subject to large amplitude channel noise. In both cases gap junction coupling overcomes the desynchronizing tendencies and leads to synchrony. In their case, a leading center is formed associated with the highest frequency cells (although the location is influenced by all the cells); in ours the leaders change randomly from burst to burst (in the absence of boundaries). In their case, the collective frequency is some average of the individual frequencies in the ensemble; in ours, the collective frequency is lower than the common frequency of the individual cells (that is, what the frequency would be in the absence of noise). This reduced frequency is a consequence, in part, of coupling cells which are bursters rather than repetitive spikers as in the cardiac case.

Dr. Arthur Sherman and John Rinzel
Math Research Branch, NIDDK
National Institutes of Health
Bethesda, Maryland 20892

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