

## How can scientists promote peace?

**Letter on: Romanovsky AA. Education and peace go together; plus the best 2015 papers of the journal *Temperature*. *Temperature* 2016; 3(4):499-501. DOI:10.1080/23328940.2016.1255487.**

This is a letter on Dr. Romanovsky's recent editorial, in which he asks, "How can a temperature scientist, or a scientist in general, contribute to peace in this world? He or she probably is not in a position to negotiate a cease fire in a confrontation area or prevent a new cold war. Nor can he or she reduce the world's nuclear arsenal, stop the arms race, or remove other countries' military bases from his or her own country. What can he or she do? What can we do?" [1].

Two hundred years ago Napoleon Bonaparte reigned over much of Europe. While constantly occupied in the "business" of war, especially with Great Britain, Bonaparte also received a number of petitions from citizens of France and other countries to overturn court or political rulings. Dr. Wickham and a Mr. Williams were political prisoners in France when Bonaparte received a request to release them and let them return to their homes in England. Bonaparte is said to have rejected the request impatiently but then was informed the request was from Dr. Edward Jenner. Bonaparte is reported to have replied, "Jenner! Ah, we can refuse nothing to that man," and ordered immediate release of the prisoners [2,3].

Bonaparte well recognized the power of Jenner's smallpox vaccine and required all his troops to be vaccinated. This was not the only time Jenner appealed to Bonaparte for a favor and Bonaparte never turned him down. Jenner made other requests to other leaders, but not too many and not too often, stating in one request "(the sciences) are never at war [4]." Jenner was also known to write notes vouching for the identity of acquaintances when they traveled, which proved better than any passport.

It would be difficult to identify a scientific "personality" today who could even approach Jenner's prominence, but his actions remind us that scientists can take a stand for justice and peace. It should also remind us that we do have a voice.

As I write this in the summer of 2017, the US is wrestling with unusual and divisive political issues to the point where marches on political issues have become more commonplace than any time in my memory since the 1960's. These marches have been more peaceful than those of that era and have yielded some good conversations. The voices and actions are having an effect – there are US representatives and senators who will not meet with their constituents for fear of negative feedback, and others who have listened and are breaking with their party to vote the way their constituents demand they vote.

On April 22, 2017, over a million scientists and friends gathered around the world in marches and speeches to make their voices heard. Over a million angry, frustrated, concerned and vocal people marched for science. Many government employees, from the Forest Service to the EPA, have been risking their careers by moving data off government computers and onto private servers or by creating resistance groups utilizing social media. Scientists presenting research at hearings in the US House and Senate find their work being challenged by quotes from the Bible, and NASA scientists' statements are interrupted by questions about whether there are Martians.

I work for a state university in Illinois. The state recently passed its first budget in 3 years but did not pass funding for K-12 education. That battle rages now in the capital and while the politicians blame each other, many local schools, who have had little funding over the past 3 years, have burned through their reserve cash and might open their doors in August only to close them in September. How can schooling our children not be a budget priority? How can a state turn children, teachers and schools into pawns of the political process? But then the

question arises – what have we, educators and scientists, done about it? What have we done for education or peace in or out of the classroom? If we teach at the college level, when was the last time we went to a high school? A grade school? Participated in a Recruitment Day for our current educational setting or an alma mater? Written and called our elected officials? If we are scientists in a business or educational setting, when was the last time we were a judge at a Science Fair? Or conducted a science workshop, e.g., Expanding Your Horizons? [5].

It is equally important that education flows both ways. It's too easy to sit in committee rooms or classrooms or labs and wonder "how could anybody think that?" It's instructive to go out into "the real world" and listen to what non-scientists think. Why do they think that? Where are they getting their information? What can we learn from them? What information are they using that we don't have that might alter our perceptions? Or what misinformation is out there that we could correct, e.g., why are people listening to a sports celebrity who announces the world is flat?

Let's leave our scientific work spaces and attend a town meeting. Speak up at a "Town Hall" meeting with a representative or senator and listen to other points of view. Join a city planning commission or fact-gathering group. How often have we said, "oh, I'm so busy... somebody else will do it." Or "nobody will listen to me." Nobody will listen if we do not speak and we will be defeated before we begin. Scientists may find themselves in a new role – educating students who aren't theirs, putting their views and actions out on social media, and promoting political ideas which have never appeared on their syllabi, topics like peace, or state budgets for education.

We may not have Edward Jenner's influence, but we have voices and we have strength in numbers. Can we expect others to raise them in the causes of education and to help others and to benefit peace if we do not? If we do not use our voices, we will never know how powerful we can be. If not now, when?

## References

- [1] Romanovsky AA. Education and peace go together; plus the best 2015 papers of the journal *Temperature*. *Temperature*. 2016;3(4):499–501. doi:10.1080/23328940.2016.1255487.
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- [5] Expanding your Horizons Network [Internet]; 2018. Available from: <https://www.eyhn.org/>

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