

A Pitch for World Harmony

by S. Frederick Starr

Last January, the trustees of the John D. and Catherine T. MacArthur Foundation in Chicago awarded grants totaling \$25 million for a variety of studies of how the East-West arms competition might at last be (peacefully) ended. The news prompted a rush of proposals for further studies from within and beyond academe—among them the following, in a travel-stained envelope bearing a four-rupee stamp and a blurred postmark from India:

A Proposal to the MacArthur Foundation

Dear Madam/Sir:

My mother, who lives in Brooklyn, N.Y., has sent me a clipping from the *New York Times* saying that you are giving away \$25 million for research on arms control and the reduction of global tension. I am writing to apply for an equivalent amount and include the results of my research herein. You are free to disseminate them in any way you wish, and I am even prepared to waive film rights.

Please send a certified check for \$25 million to my account -D470361 at the Immigrant Savings Bank in Brooklyn.

The bank will forward funds as needed to the ashram here in Bhubaneswar, where I am pursuing my research and giving a series of innovative lectures with naqqara accompaniment.

In announcing your initial allocation of resources, you mistakenly as-

sume that the arms control industry in academe and the think tanks are capable of solving the problem of global tension. Perhaps you were intimidated by all the talk of those MIRVs, the SS-20s, the MX, ICBMs, and those scary Trident II SLBMs. Or maybe you were awed by the warhead counts, even though a hundred or more "atomic devices" could be stored in the senior citizens' center near my mother's home in Brooklyn without fear of detection and without much impact on social life along Ocean Parkway either.

The fact is that all of this is quite irrelevant to the great issue of peace. Fearsome as they are, the nuclear arsenals are not the cause but the *consequence* of world tension.

Now, after two successive sabbaticals in Bhubaneswar, I am prepared to reveal the cause of tension that has

so far eluded the specialists back in America. As I will show, the true cause of global tension can be measured with mathematical precision and has in fact been monitored for over three centuries. Unfortunately, as I will also show, these continuing measurements disclose that the world has now reached a moment of peril.

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While it may not be required by the terms of your grant, I am also providing gratis a list of five simple steps for reducing tension and establishing international harmony.

But first, let me introduce the cause of world tension that has heretofore eluded discovery. Recall any recent evening at a concert of the local symphony orchestra. As you settled into your seat and began working on that stubborn morsel of beef Wellington lodged between your upper molars, the oboist sounded an A to tune the ensemble. Now, that note he plays is precisely 440—repeat 440 cycles per second. If his A has a frequency of 435 vibrations per second, the orchestra will be flat, and if his A = 445, the orchestra will play sharp.

How, you may wonder, did A get set at 440?

Back in 1939, the International Standards Association met in London and agreed that this should be the standard A worldwide. Note that for several decades before 1939 the worldwide standard for A was only 435 cycles. Note, too, that the rise in pitch occurred in 1939. Immediately thereafter the most cataclysmic war in history broke out.

Was this a coincidence?

By no means.

The history of modern civilization,

properly analyzed, reveals that rises in pitch are invariably associated with mounting tensions among peoples. Back in the 16th and 17th centuries, domestic musicians in Europe pitched their charmingly serene virginals at a frequency far lower than what we use today. Outside the home, though, religious wars were ripping European society asunder. It is no accident that in so feverish an atmosphere *church* organs would have been pitched to an A pegged two full tones higher than what we use today.

The Age of Reason saw the end of religious wars and a general effort to calm things down—to be “reasonable.” Pitch plummeted. Handel’s fork intoned 422.5 cycles, while Mozart’s piano was tuned to a mere 421.5. During the relatively civilized 18th century, A stood roughly at 415–425 cycles per minute.

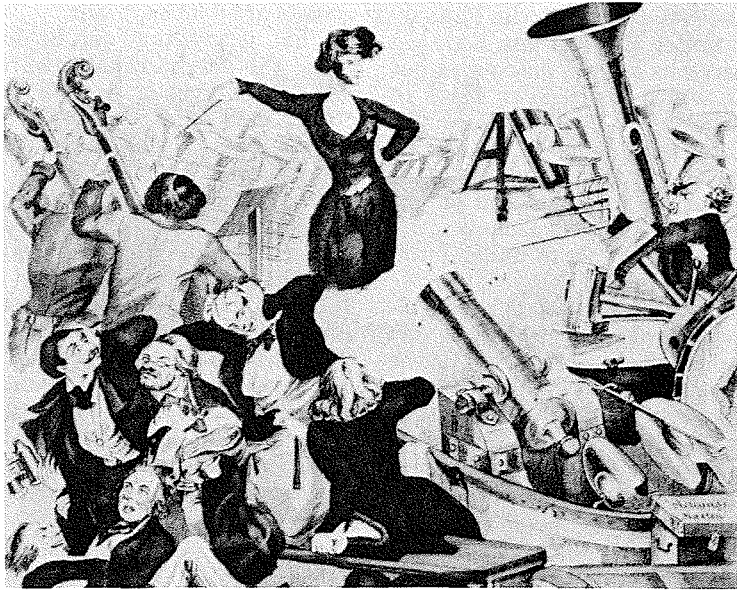
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The 19th century was an age of blood and steel, of empires and revolutions. By 1811, the Paris *grand opera* had crept up to 427 cycles. Within a few decades after the Revolution of 1848, the Paris pitch soared to a perilous 446. Meanwhile, the London Philharmonic cranked up to a frantic 452.5, as the British mounted the desperate Charge of the Light Brigade at Balaclava in the Crimea.

Fortunately for Western civilization, the Paris Academy in 1859 doused the fires by establishing A at 435, making possible (after the Franco-Prussian War of 1870) the robust yet moderate *belle époque*. Common sense triumphed throughout Europe in 1885 when 435 was acknowledged as the “international pitch.”

Except, predictably, by the British

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military. The Army held fast to a more psyched-up pitch. It took the redoubtable Col. J. A. C. Somerville a whole generation to bring the King's military bands down to 435. His final victory in 1929 marked the end of England's expansion of its world empire.

Even this brief sketch demonstrates the subtle but elemental tie between musical pitch and human tension. There are solid, accoustical reasons for this.

For a stringed instrument to produce a higher pitch, its strings must be in great tension. This in turn produces a commanding tone, lacking in nuance and texture but strident and aggressive. Lower string tension, by contrast, means a softer tone, more subtle and textured—in a word, more peaceful. A high-pitched orchestra generates a near frantic excitement. Low-pitched orchestras foster the opposite qualities. Beware when whole societies adopt a higher

pitch. Excitability and mayhem cannot be far off.

Now, gentlemen and ladies of the MacArthur Foundation, please pay close attention. It is my unpleasant duty to inform you that orchestral pitch is once more rising throughout the world and thereby placing civilization at risk. When Joseph L. Robinson tunes up the New York Philharmonic, he hits an A = 442, the same pitch now used by the St. Louis Symphony and other leading American orchestras. In high-tech Boston, the "best and the brightest" have driven A up to a dizzy 445. There is a certain tradition of such reckless heights on the Charles River; scientists at the Massachusetts Institute of Technology once clocked the Boston Symphony under Serge Koussevitsky at 447-49!

America's NATO partners seem to be competing for dubious records. To be sure, the English and Dutch, with their phlegmatic traditions, have

kept to a 440. But the Berlin Philharmonic under Herbert von Karajan has soared as high as 450 cycles per second, which oboist John Mack of the Cleveland Orchestra characterizes as "absolutely mad." French orchestras are commonly tuning to 444, a practice that no doubt played a part in the revival of a more activist foreign policy there under Francois Mitterrand.

Lest you think that our NATO allies are the sole perpetrators of this dangerous new hyperactivity, let me assure you that the Warsaw Pact orchestras are also tightening their strings. The Leningrad Philharmonic has been tuning to 444–46 for a number of years. Moscow orchestras, situated close to the Kremlin nerve center of the Soviet superpower, strain even higher. The more subservient Warsaw Pact nations follow suit. When the Czech Philharmonic toured the United States recently, it was pitched so high as to be unable to perform with American organs that were tuned to 440.

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Who is to blame for this mounting threat to peace?

The obvious scapegoats are the conductors, to whom union contracts regularly assign the power to set pitch. Sadly, too, there are all too many musicians ready to follow their lead blindly. Mr. Albert Cooper makes some of the best flutes in the world in the garage behind his London home. Cooper is also doing a lively business these days retooling the instruments of big shots in his field up to 442, 444, and even 446. The renowned Powell firm in Boston is now manufacturing flutes to these high pitches as well, thus establishing itself as a prime cog in the musical/industrial complex. Other

makers are following suit.

What, if anything, can be done to resist this frightening upward spiral? Some might place their hope in citizen activism. Unfortunately, I must tell you, the strongest champions of lowered pitches are all frank reactionaries. These partisans of early music would have us go all the way back to the pitches of Mozart's day, clearly an impossibility.

The only hope of ameliorating this situation is through prompt action at the national and international level. Once you have accepted my research and made it widely available, we need not wait. As promised, I offer herewith, gratis, a series of measures that could provide the basis for lowered pitch and hence assure domestic and international tranquility.

The United States should pave the way to negotiation by a dramatic unilateral act. I strongly recommend that all orchestras tuning to anything higher than $A = 434$ be banned by the federal government forthwith, and that oboists who persist in tuning orchestras to higher pitches be subject to federal prosecution with mandatory sentencing.

After this confidence-building measure, the United States should invite the USSR to join in umbrella negotiations at Geneva leading to a comprehensive treaty on pitch. This treaty must include provisions to

1. Establish $A = 434$ as the new international pitch.
2. Freeze the production and deployment of instruments pitched above $A = 434$.
3. Provide on-site inspection by stationing authorized representatives of each country in the other country's concert halls. (This will guarantee that the treaty is mutually verifiable.)

4. Assure nonproliferation of higher pitches by banning the sale of instruments tuned above $A = 434$ to other countries, especially those in the Third World.

The figure 434 is proposed for the following reason: 440 is obviously unacceptable because it led to World War II, while 435 prevailed on the eve of World War I. Hence, 434.

It is recognized that the difficulty of enacting these proposals all at once will be great. (An international institute named for Colonel Sommerville might be established to elaborate them in greater detail.) Through negotiations, interim "build-down" schemes might be fruitfully explored, so as to allow the production of a few new high-pitched instruments on the condition that a greater number of existing high-pitched instruments be destroyed. Realistically, one cannot expect that the international musical/industrial complex will be dismantled overnight. Messrs. Cooper, Powell, and hundreds of manufacturers of high-pitched instruments must be given time and tax conces-

sions to help them retool. As the comprehensive treaty on pitch takes hold, supplemental treaties might be negotiated to curb the sonic excesses of the electric guitar industry as well, a further contribution to world peace. Fair compensation must be provided to all, lest a dangerous coalition form among disgruntled manufacturers and aggressive elements in the music world and the general public.

The point is that the reduction of global tension is no simple matter. The artistic committee of the Pittsburgh Orchestra, for example, took the bold step of proposing that pitch be dropped back to 440 from the higher stratosphere it had reached. Conductor André Previn agreed, and the benign reform was effected. Along the way, however, there was anxiety, suspicion, and general angst. Eventually the orchestra, the music critics, and the population there readjusted to $A = 440$ and life is calmer in the Steel City. Indeed, no one now wants to return to the bad old days. But the struggle for peace is not an easy one, as your Foundation, by now, understands so well.

Yours truly,

Sybil Schwartz, Ph.D.
Scholar-in-Residence
Bhubaneswar, India

NOTE: *Dr. Schwartz has been published in Art Forum and other journals. She is seeking tenure, anywhere, as she awaits the MacArthur Foundation's reply.*