This longer version of the Letter to Members of Congress contains further information and references.

The letter to Members of Congress follows as an appendix.

A letter to Secretary of State, Hilary Clinton, is intended as an example of the letters sent to members of President Obama's executive committee.

### **Pat Naughtin**

PO Box 305, Belmont, Geelong, Vic 3216, Australia Phone +61 3 5241 2008 http://www.metricationmatters.com pat.naughtin@metricationmalters.com

### **Dear Member of Congress,**

I am writing to you as a friend. Granted, I am a faraway foreign friend from Geelong in Australia. But I am also a life member of the United States Metric Association (USMA), which accredits me as a Lifetime Certified Advanced Metrication Specialist (LCAMS). As a good friend of the USA I feel it is my duty to write to you to criticize your approach to the metric system (I use Australian spelling).

You and your voters may base your measurement beliefs on simple, honest, and open standards such as:

**Leviticus 19:36** *Just balances, just weights ... shall ye have ...* 

**Ezekiel 45:10** *Ye shall have just balances, ...* 

**Deuteronomy 25:14 and 25:15** Thou shalt not have in thine house divers measures, ... But thou shalt have a perfect and just weight, a perfect and just measure shalt thou have.

Also your voters depend on quite specific measurement clauses in the **Constitution of the USA**, all of which require honesty, with a single set of measuring units applied with truthful scales and rulers and fixed standards. In other words the USA already has laws and regulations based on the metric system that provide for this honesty. This means that:

# All measurement in the USA is already fully metric.

The heavy legislative lifting has largely been laid to upgrade to honest measurement using the metric system. This happened during the presidencies of:

- President George Washington (1789-1797) pushed for a rational and honest decimal system of measurement based on the Constitutional requirement for national measurements.
- President Thomas Jefferson (1801-1809) produced a report that described a decimal measurement system using redefined old measuring words. Together with Benjamin Franklin, Jefferson successfully promoted the idea of using decimal numbers for a universal decimal metric system that was legalised in France in the 1790s.
- President James Madison (1809-1817) was a supporter of Jefferson's ideas about currency, weights, and measures.
- President John Quincy Adams (1825-1829) produced a report (in 1821) that favoured the metric system
- President Andrew Johnson (1865-1869) legalised the use of the metric system for the USA in 1866.
- President Ulysses S. Grant (1869-1877) Signed "The treaty of the metre".
- President Grover Cleveland (1893-1897) was in agreement with the Mendenhall Order (1893) This order defined primary standards for the USA in terms of metric system standards. President Cleveland also approved the use of metric system electrical units.
- President Gerald Ford (1974-1977) signed the Metric Conversion Act of 1975.
- President George H. W. Bush (1989-1993) Signed Law EO12770 that required Government Departments to use the metric system and specifically said: "... in order to implement the congressional designation of the metric system of measurement as the preferred system of weights and measures for United States trade and commerce ... " and later "... needed to achieve the full economic benefits of metric usage."

But, in the USA the honesty of the metric system is hidden behind many millions of old pre-metric measuring words. By my estimate the time and energy expended in maintaining this "hidden metric" is costing the USA about 1.3 trillion dollars per year. Yes, that's trillions not billions and it is wasted by government departments and industry each and every year. This is roughly twice the military budget for the USA and slightly exceeds the Congressional Budget Office (CBO) forecast average annual deficit (forecast in each of the years 2009-2012) that is now approximately \$1 215 billion.

The truth is that since 1893 inches in the USA are legally defined as metric inches and so are feet, yards, chains, nautical miles, and miles. All of these are defined for the USA by metric system units but this is hidden from your citizens. See <a href="http://lamar.colostate.edu/~hillger/laws">http://lamar.colostate.edu/~hillger/laws</a> for a brief summary of the relevant laws in the USA from 1866 to the present.

So, if the necessary laws are passed, what am I suggesting that you, as a Member of Congress needs to do? Not a lot.

### Learn a little about the origin of the metric system

The history of measurement is the history of the struggle between those who want to promote honesty between people and those who do not want to promote honesty at all.

However, this conflict potentially ceased with the invention of the "*universal measure*" by Bishop John Wilkins in 1668. Wilkins' "universal measure" evolved into the metre that became the legal basis for the "*decimal metric system*" in France in the 1790s and the Système International d'Unités (SI) and the International System of Units (SI) in 1960.

Thomas Jefferson and George Washington both extensively used Gunter's decimal chain in surveying land in the USA. They were so impressed with the ease of decimal calculation that they joined forces politically, and then with Benjamin Franklin to promote the idea of decimal currency for the USA in the 1780s. Ironically every nation in the world has now copied decimal currency from the USA.

Thomas Jefferson, at George Washington's request, also developed John Wilkins' concept of a complete decimal measuring method that he unsuccessfully presented to Congress in 1790. As ambassadors to France in the 1780s, Benjamin Franklin and Thomas Jefferson promoted their decimal currency ideas and their decimal measurement ideas to the "philosophes" of France.

Of the "decimal metric system" legally adopted in France in 1795, the decimal part was from the **USA**, the metric part was from **France**, and the system part was from **England**.

### Learn a little about yourself such as:

- How tall you are in metres: (say) 1.85 metres (Australian experience is not to use centimetres as they dramatically delay metrication).
- What is your body mass today: (say) 85 kilograms.
- What is your Body Mass Index (BMI): (using these examples) 24.8 km/m² is on the high side of normal and almost overweight but not obese.
- What was your mass on the day you were born in grams (say) 3426 grams (for the safety of babies Australian experience is not to use kilograms)

# Publicly use metric system units in your speeches, radio and television interviews, and in media releases.

In the context of open and transparent honesty, it is interesting to note that the metre has not changed in length since 1795 (although its definition has improved). However, since 1795 the UK has had about six (officially standard) inches each with a different length and a different definition and the USA has had perhaps as many as eight (officially standard) inches each with a different length and a different definition.

Since 1795 the whole world has gradually adopted the "decimal metric system" for all measuring in all aspects of our lives. All nations now have laws — all based on the metric system — that are intended to control people who would use measurement as a tool for dishonesty. We have adopted the thought of the French philosopher de Condorcet who described the "decimal metric system" in the 1790s as being:

### For all time; for all people.

Recently I read about a senior government official in the USA who had written a memo giving instructions to his staff that they did not have to use the metric system even though a Federal Law required it. It struck me that this official had driven his all-metric car along all-metric roads (using metric miles that are exactly 1.609344 kilometres, metric yards that are exactly 914.4 millimetres, metric feet, metric inches, etc.) then arrived to use his all-metric computer to write a memorandum rejecting full support for the metric system.

My first thought was that there was something profoundly dishonest in this behaviour even though I felt sorry for the government official who was reacting to the political and social forces around him. It then hit me that:

# The USA is already fully metric.

That's right, completely 100 % metric — but many citizens choose to hide the metric system units they use every day. If you live in the USA take yourself as an example.

I suppose that you are just like the government official. You drove to work in your all-metric car to do your work using an all-metric computer as did everyone else at your workplace. This also applies in all the other workplaces in the USA, and in all the schools, colleges, and other government departments. Even the people at home use all metric system units that are hidden from them by old pre-metric measuring words (that have all-metric definitions).

# And all the while you thought the USA was the last nation not to use the metric system.

On a similar theme Richard Phelps, researching mathematics education in the USA, estimated that each and every child has to spend an extra year of mathematics education learning about feet, inches, ounces, miles, pounds, rods, and yards (and how to convert between them using specific USA conversion factors). Phelps estimated that this costs each child 10 % of their school mathematics learning time and costs the education departments 10 % of their mathematics budget (one year out of ten years schooling) and prepares USA children to live – like all adults in the USA – in an all-metric world where they will drive all-metric cars, use all-metric computers, and design and construct all-metric exports for all-metric export markets. It's no wonder that USA children do not compare well in international studies of mathematics skills and talents.

Consider, again, the all-metric computer you are using right now. This was most likely designed in the USA. Its chips are designed and made in nanometres, its logic board layout in micrometres, its case and screen in millimetres, and then, you bought it as (something like) the 17" (17 inch) model.

Similarly the 10 000 parts in your car were designed and made in micrometres and millimetres, and then the car was sold to USA citizens with the letters "mph" on the dashboard and the letters "psi" on the tyres to give you the illusion that you are driving an "English measures" car and not driving an all-metric car. Let me repeat:

### The USA is already fully metric.

I mentioned earlier an estimate of how much non-metrication in the USA costs. It is about 1.3 trillion dollars a year based on the idea that non-metrication and the muddling and obfuscation of measuring words cost about 9 % of the USA GDP. See <a href="http://www.metricationmatters.com/docs/CostOfNonMetrication.pdf">http://www.metricationmatters.com/docs/CostOfNonMetrication.pdf</a> where I paraphrased the USA Senator Everett McKinley Dirksen (1896/1969) as saying:

"... a trillion dollars this year, and a trillion dollars next year, pretty soon adds up to real money."

# WIIFM

You probably know the expression, "What's In It For Me?" so let me help to get you started on this question:

# For a politician:

Show your leadership by:

- Demonstrating your commitment to education in the USA.
- Demonstrating your commitment to the health of all citizens in the USA by encouraging direct use of the metric system rather than reliance of famously inaccurate "metric conversion" of things like height, body mass, and Body Mass Index (BMI).
- Demonstrating your courage by taking on an apparently difficult issue (that is already largely completed but hidden from the citizens of the USA).
- Being seen as revealing the dishonesty involved in using the metric system secretly while hiding it with all of the many millions of old pre-metric measuring words.
- Be seen as a world leader in helping the USA openly accept the metric system in order to help to reduce dishonesty by encouraging standardised measurement around the whole world.
- Showing your support for the national bodies in the USA who are already leading the way to full use of honest measurement that is incorporated in the metric system.
- Showing that fractions, both decimal and common or vulgar fractions, can almost eliminated in the metric system by following the successful adoption of whole numbers in recently upgraded metric nations. For example the building industry in Australia chose to use millimetres for all construction and their metrication upgrade took less than a year.
- Quoting from speeches and documents that support honesty in measurement and the metric system for the USA spoken and written by: Benjamin Franklin, Thomas Jefferson, and George Washington for example.

- Showing that scientists did not create the metric system. An Englishman, Bishop John Wilkins, applied passages in the Christian Bible that promoted and supported honesty in measurement to invent his idea for the "universal measure". Bishop Wilkins invention was then developed, with strong support from Benjamin Franklin, Thomas Jefferson, and George Washington in the USA, into the "decimal metric system".
- Supporting the part played by Benjamin Franklin, Thomas Jefferson, and George Washington in creating the decimal currency methods by showing that this USA leadership is now used in every country in the world.
- Showing your support for the metric system as an honest, logical and exact system that is the most suitable for science and engineering projects (refer to NASA and Climate Explorer)
- Supporting the simplicity of the metric system to remove complexity in all trading internally within the USA to support job creation and to reduce job exports and externally to support manufacturing and service industry exports.
- Promoting the easy-to-use metric system so that calculations of metric measurements are easy to perform at all levels of education from primary schools to colleges and universities.
- Making price-to-mass (formerly weight before 1687) comparisons easier to understand in all shopping transactions.
- Promoting a "decimal metric system" where the "decimal" component came from the USA mostly from Thomas Jefferson, the "metric" came from France via Italy, and the "system" itself was from Bishop John Wilkins in England.
- Showing that standardised naming is not only simple but extremely useful for all manufacturing, trading, and service companies; for instance, when you see the prefix, kilo-, You immediately know that it means one thousand times something: 1 kilogram is 1000 grams; 1 kilometre is 1000 metres; 1 kilolitre is 1000 litres; 1 kilogram is 1000 grams; 1 kilojoule is 1000 joules; 1 kilowatt is 1000 watts; and so on for all metric system units.
- Encouraging the avoidance of errors. Errors are always costly and difficult to repair. They are dramatically reduced when you are working with just the metric system of units. Errors with commercial transactions, machinery, exports, manufacturing, NASA space probes, etc. are much more likely in the USA.
- Helping to remove the isolated position of the United States as the sole non-metric Nation.
- Increasing exports from the USA
- Advancing participation by the USA in the global economy, which is currently hindered by the retention of an obsolete measuring words used to hide the participation of the USA with the international metric system.
- Revealing that the USA in its official standards activities but does not apply this knowledge commercially.
- Revealing that the USA is now the only industrialised nation that uses the metric system but chooses to hide it.
- Supporting the activities of the more than 70 % of industries in the USA who already use the metric system.
- Promoting the integrity of the international metric system where one litre of water has a mass of one kilogram; and that one millimetre of water falling on one square metre of soil or roof will provide one litre of water for farm land, or for storage in tanks or dams.
- Helping to remove the illusion that there are two systems: the "metric system" and a single "customary system" used in the USA. This is simply untrue. The metric system is the only complete system ever invented anywhere or at any time in the world. The "customary" are not, and never were a "system"; they are a complex collection of old measuring words that have no coordination and that are riddled with internal contradictions if they are tried to be used internationally; pints UK vs pints USA and fluid ounces vs dry ounces vs troy ounces are simple examples.

# What's in t For the USA as a nation

- Reduce your national debt.
- Make all industry in the USA more efficient and therefore more competitive internationally.
- Reduce the export of jobs to metric countries where the work can be done much more simply, and therefore more economically, using metric system units.

- Increase cash flow within the economy of the USA through the expansion of companies and industries as they benefit from cost savings from the open use of the metric system.
- Reduce the frequency of foreign commercial and government sources dumbing down metric system units (often inaccurately with "*metric conversion*" confusion) to one or other of the many millions of old measuring words currently used in the USA.
- Helping industry and commerce in the USA effectively use the growing world database of industrial information that is only available in metric system units. Remember that the metric system is the only measurement system for products, processes, and information in international commerce.
- Improve exports by aligning the measurement inside the USA with the rest of the world.
- Add to international understanding of the USA.
- Increase honesty in all trading internally and externally.
- Improve stands of education at all levels for international students (and for students scores in international comparative testing).
- Future Proofing the economy of the USA. It is inevitable that the metric system will prevail as the only measurement system used throughout the world. Any nation that resists this inevitable change by hiding behind old non-metric measuring words will be left more and more behind the global economy.
- An extensive list of benefits for the economy of the USA can be found at <a href="http://ts.nist.gov/WeightsAndMeasures/Metric/5463.cfm#1">http://ts.nist.gov/WeightsAndMeasures/Metric/5463.cfm#1</a>
- Anti-metric and non-metric manufacturers, exporters, and investors in the USA are faced with a choice, they can: continue to use extremely costly methods of measurement for production (the metric system and all of the millions of other old pre-metric methods) or they can ask the world to make exceptions for goods and investments from the USA (often with their associated "metric conversion" errors and need for repairing and refitting).
- Can trade expansion proceed successfully with a hidden metric system?
- Isn't the real choice whether to reveal the predominant use of the metric system in the USA and succeed or to continue to resist change with "hidden metric" and be left behind?

#### A final thought

I don't think that you have a choice about metrication. The upgrade to the metric system proved to be inevitable in every nation in the world including the USA.

No individual, no work group, no company, no industry, and no nation who has ever used the metric system for some time goes back to using old pre-metric measuring words again.

The only difference between the USA and all others is that you chose to hide your successful upgrade to the metric system. Metrication has already happened in the United States. However it has been hidden under a plethora of old, expensive-to-use, out-of-date measuring words. Your only choice now is whether you reveal this cover-up quickly, smoothly, and economically - or slowly, bitterly, and at extremely great expense.

#### And just for fun

Some people from the USA have told me that they don't use the metric system. As an irregular visitor to the USA, I know that it is almost impossible not to use the metric system for almost everything that you do in the USA every day. So, in response to this denial and with my tongue firmly placed in my cheek, I wrote an article called, '*Don't use metric*', and I have posted it at http://www.metricationmatters.com/docs/DontUseMetric.pdf

Best wishes for your open acceptance of the metric system and for your **pro-honesty** — **pro-metric** future,

# Pat Naughtin

Pat Naughtin is a metrication consultant who has advised the Australian Government, the Canadian Metric Association, Google, NASA, NIST, the United States Metric Association (USMA), and the United Kingdom Metric Association (UKMA). He is based in Geelong, Australia.

### **Pat Naughtin**

PO Box 305, Belmont, Geelong, Vic 3216, Australia Phone +61 3 5241 2008 http://www.metricationmatters.com pat.naughtin@metricationmalters.com

Dear Member of Congress (as addressed by name),

I am writing to you as a faraway foreign friend from Geelong in Australia. As a good friend of the USA I will be blunt, and I use Australian spelling. I have studied metrication, the process that nations have used to upgrade to the metric system, for almost 50 years and I am regarded as an international expert on this subject. I feel it is my duty as a friend to write to you to criticize your approach to metrication.

# The USA is already fully metric.

Today the USA will use the metric system for every measurement made by every citizen. But this is hidden from most people – maybe even you. I estimate that hiding the metric system costs your nation at least 1.3 trillion dollars each and every year. All measurement activities in the USA fully use the metric system and have since the Mendenhall Order of 1893 (with 1959 additions) when metric inches, metric feet, metric yards, metric miles, metric ounces, metric pounds, and metric tons were defined in metric system units for the whole of the USA.

Sadly the use of non-metric measuring names means that people believe they are still currently using one or other of the old pre-metric methods, and they continue to use common or vulgar fractions instead of the far simpler-to-use metric system decimals that were developed in the 1780s for decimal currency in the USA. This means:

- Children in the USA spend the equivalent of an extra year in mathematics classes learning about metric conversion to old measures they will possibly never use. Children in the rest of the world don't have to do this.
- Today, you drove to work in an all-metric car hidden by mph and psi, on an all metric road hidden by metric feet and metric miles, to work on an all-metric computer hidden behind (say) a 17" screen.
- Many business owners and their workers do not know that they can save something like 9% by upgrading to the metric system and that this can lead to net profit increases of about 14%.
- You are losing opportunities to trade with the rest of the world. Some companies, such as Boeing, have tried and failed to import cheaper parts and materials when they insisted on using inches.
- The USA is losing jobs to foreign countries. Companies such as Caterpillar export jobs to Germany and China, places where their work can be done more cheaply using metric system units.
- Many of the 95 % of people in metric countries simply refuse to submit quotations to companies in the USA because they believe this would mean that they would have to use your measuring methods.

### How do you support a smooth and FAST metrication upgrade for the USA?

Given that a full metrication upgrade has already happened in the USA your choices are relatively easy:

- 1 Recognise that the metric system is already used so widely in the USA that it is fair to say that **the USA is now fully metric** but this fact is hidden from most citizens.
- The legislation to upgrade to honest measurement using the metric system has been done by Presidents: George Washington, Thomas Jefferson, James Madison, John Quincy Adams, Andrew Johnson, Ulysses S. Grant, Grover Cleveland, Gerald Ford, and finally George H. W. Bush who signed into law EO12770 that specifically said: "... in order to implement the congressional designation of the metric system of measurement as the preferred system of weights and measures for United States trade and commerce ... ". In other words, the necessary legislation is already in place."
- 3 Therefore you can openly support honest communication in the USA by using metric measuring words such as metre, litre, grams, and kilograms in your media releases and speeches.
- 4 You can support "direct metrication" in schools, colleges, manufacturing, and commerce, using Australia as a model for this. Actively discourage the use of the "metric conversion" process that has been shown not to work.

And that's it! These simple acts of leadership are all that's required. Your real job is to change the culture of the USA by articulating the connections between open and honest metric system use and the international commercial success of the USA as a whole.

As you know the USA and Australia share many cultural and social characteristics but Australia benefits greatly from the use of the metric system while the USA does not. Let me show some comparisons.

Australia	USA
Almost all activities openly use the metric system.	The USA is already fully metric but this is hidden.
The metric system is openly used for all measurements in Australia and thus is in the same form as the collected data. "Metric conversion" is unnecessary. For example: rainfall is in millimetres, construction - millimetres, temperature - degrees Celsius, flood heights - metres, etc. All imports and exports are in metric system units.	Most industries (for example the car, truck, and tractor industries) use metric system units such as millimetres, grams, and litres, in line with the rest of the world, then hide this from the public by dumbing it down to the old terminology. This approach is unnecessary, grossly inefficient, and extraordinarily costly.
Our economy is booming, especially with exports to all other metric nations in the world. These metric nations represent 95 % of the world population.	"Metric conversion" is expensive. I estimate that maintaining the illusion that the USA does not use the metric system drains \$1.3 trillion dollars per year from the economy of the USA <sup>ii</sup> – roughly twice the USA military budget.
Australia used a "direct metrication" policy to upgrade to the metric system in 12 years <sup>iii</sup> .	The policy of "metric conversion" in the USA is not working and there is no prospect of it working in future.
We can quote for work anywhere in the world. Examples: in Malaysia the world's largest building and a deal for an Australian company to build warships for the USA Navyiv.	Companies export work to be done more efficiently using the metric system. For example, the Caterpillar Company sends diesel engine work to Germany and China.
All children are trained in metric system units.	Some companies seek to use immigrants who have metric system training to replace people born in the USA.
Children perform reasonably well — about average — on international measurement tests.	Children are near the bottom on international measurement tests. Pascal D. Forgione, Commissioner of Education Statistics, wrote: "In short, the tests showed U.S. fourth-graders performing poorly, middle school students worse, and high school students are unable to compete."
Engineers are recruited from local talent.	Airbus imports engineers with metric experience from the UK and Germany to work in Arizona.
We have a reputation as "an honest trader" because we use the same metric system as all other nations. Commercial negotiations are simple.	Dealings with the USA are difficult. We can't be sure of measurements used in the USA. What is a pint? What is a gallon? What is a barrel? What is a troy ounce? What is a carat? What is a long/short ton?

# Notes and references:

Notes to expand and support the points made in this letter are available at <a href="http://metricationmatters.com/docs/MemberOfCongressLong.pdf">http://metricationmatters.com/docs/MemberOfCongressLong.pdf</a>

The notes include extensive speaking points for Members of Congress under the headings:



"What's In It For Me (WIFFM)" and



"What's In It For the USA".

Pat Naughtin PO Box 305 Belmont VIC 3216 Australia

Secretary Hillary Rodham Clinton Department of State Washington DC USA

#### Dear Secretary of State Clinton

I am writing to let you know that I have just written to each of the Members of Congress (copy enclosed) to let them know of my concerns about the denial of the metric system in the USA. I am concerned that this denial is costing your nation a great deal of money, but perhaps more importantly, a great deal of credibility in the international community, and that is costing you international trade.

I am a faraway foreign friend of the USA, in Geelong Australia, who is widely regarded as an international expert on metrication – the process used by individuals, companies, industries, and nations to upgrade to open and honest use of the metric system for all manufacture, commerce, personal shopping, and international trade. (Google Pat Naughtin)

Fortunately for you, previous presidents have already done the heavy legislative lifting toward open and honest acceptance of the metric system for the USA:

- President George Washington (1789-1797) who pushed for a rational and honest decimal system of measurement based on the Constitutional requirement for national measurements.
- President Thomas Jefferson (1801-1809) who produced a report that described a decimal measurement system using redefined old measuring words. Together with Benjamin Franklin, Jefferson successfully promoted the idea of using decimal numbers for the universal "decimal metric system" that was legalised in France in the 1790s.
- President James Madison (1809-1817) was a supporter of Jefferson's ideas about currency, weights, and measures.
- President John Quincy Adams (1825-1829) produced a report (in 1821) that favoured the metric system.
- President Andrew Johnson (1865-1869) legalised the use of the metric system for the USA in 1866.
- President Ulysses S. Grant (1869-1877) signed "The treaty of the metre".
- President Grover Cleveland (1893-1897) was in agreement with the Mendenhall Order (1893). This order defined the inch, ounce, foot, pound, and yard for the USA in terms of the metric system. President Cleveland also approved the use of metric system electrical units.
- President Gerald Ford (1974-1977) signed the Metric Conversion Act of 1975.
- President George H. W. Bush (1989-1993) Signed Law EO12770 that required Government Departments to use the metric system and specifically said: "... in order to implement the congressional designation of the metric system of measurement as the preferred system of weights and measures for United States trade and commerce ... needed to achieve the full economic benefits of metric usage."

So what do you need to do? Not a lot. Just occasionally mention some metric system words in your speeches and media releases. How much did your children tip the scales at birth (say 2355 grams)? How tall are you in metres (say 1.75 m)? How heavy are you (say 75 kg - so your BMI is 24 kg/m<sup>2</sup> - perfect!) Your goal is to complete the cultural change begun by previous presidents by being open and honest about the use of the metric system in the USA.

Yours faithfully,

Pat Naughtin

i http://lamar.colostate.edu/~hillger/laws

ii http://www.metricationmatters.com/docs/CostOfNonMetrication.pdf

iii http://www.metricationmatters.com/docs/ApproachesToMetrication.pdf

iv http://www.abc.net.au/am/content/2010/s3099936.htm

v http://www.youtube.com/watch?v=U5802FBaMSI