

The Yardstick

Journal of the British Weights and Measures Association

Number 65

ISSN 1361-7435

December 2017

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Anti-Metrication History

BWMA in its present incarnation was established in 1995, but other organisations came before it. There was the Anti-Metric Society during 1991-1992, and the Anti-Metrication Board during the 1970s. In this *Yardstick* John Green recalls the Anti-Metrication Board.

Christmas puddings

Asda, Tesco and Waitrose currently sell Christmas puddings in quantities of 454 grams, i.e. 1lb, but Sainsbury's Christmas puddings weigh 450 grams. This slightly reduced weight will not be noticeable to consumers, but it breaks the link to the traditional 1lb Christmas pudding, and leaves the way open for future downsizing. We shall write to Sainsbury's for an explanation, and publish their reply in the next *Yardstick*.

Wall Street Journal

In mid-October 2017, a reporter from the Wall Street Journal accompanied activist Tony Bennett on a "weekend of action" in Burnley, during which 13 unlawful metric footpath signs were amended to imperial. The WSJ published a favourable piece with photos in their edition of 23 October 2017.

A Guide to Customary Weights and Measures

In 2001, Vivian Linacre produced the original "Guide to Customary Weights and Measures" at his own expense on BWMA's behalf. As Vivian is downsizing house next summer, he wants to make the remaining copies available to *Yardstick* readers. The Guide provides articles, tables and notes to define and comment upon the modern uses and relationships of imperial units. Price per copy of this 75-page book is £5 which includes postage and packaging. Send a cheque or postal order payable to Vivian Linacre, to 21 Marshall Place, Perth PH2 8AG; or email Vivian on vtlinacre@gmail.com for alternative means of payment. Additional copies may be purchased at reduced rates: £12 for 3; £18 for 6; or £24 for 12 copies.

John Gardner, Director

BWMA is a non-profit body that exists to promote parity in law between British and metric units. It enjoys support from across Britain's political spectrum, from all manner of businesses and the general public. BWMA is financed by subscriptions and donations. Membership is £12 per year. Cheques or postal orders payable to "BWMA", 29 Chart House Road, Ash Vale, Surrey GU12 5LS

Railways – mile, chain and yard

BWMA letter to Mark Phillips, Chief Executive Officer, Rail Safety & Standards Board (RSSB), 31 August 2017

In late 2014, our Association made enquires with RSSB regarding its report “Analysing the risk of having a mix of imperial and metric measures on the railway” (report T1013). It was explained to us that initial parts of the report were complete, and that RSSB would be conducting the concluding parts in due course. We were told to approach the Enquiry Desk at a later point for an update.

On 27 December 2016, we duly requested an update (quoted below) from the Enquiry Desk, but received no response or acknowledgement. On 17 January 2017, we re-sent our request to the Enquiry Desk, but again received no response or acknowledgement.

On 30 January 2017, we re-sent the request to the Enquiry Desk, and copied it into Michael Woods and Belinda Tucker, who had been dealing with metrication previously; we included an accompanying message saying that we had not received a reply to our previous requests.

Again, there was no response or acknowledgement.

On 13 February 2017, we emailed a fourth time. Ania Feranska at the Enquiry Desk replied on 14 February:

“Please accept my apologies for the delay in responding and not acknowledging your email more promptly. It seems that an automatic response was not issued as it should have happened. Please accept this email as a reassurance that we have received your questions and are currently consulting on those with our Research and Development Team. Once again, I am sorry for the inconvenience caused by the delay. Myself or an appropriate colleague will be in contact again as soon as we can with further information”.

Two weeks passed and still no update. On 28 February, we asked by email, copied to Michael Woods and Belinda Tucker: “*If someone at RSSB thinks this enquiry is causing a problem, can the responsible person please identify themselves so we can resolve it? Thank you*”.

A week later, on 6 March 2017, we received a second email from Ania Feranska:

“Thank you for your email and your patience. We are still in the process of resolving this query which is being consulted with various colleagues across RSSB. I will be in contact with a response as soon as it is possible”.

The promised response was not forthcoming. Unless the above mentioned members of RSSB staff are uniformly forgetful or incompetent, we have to assume that the ignoring of our requests was deliberate; in which case, there would have been an agreement to this effect between Woods, Tucker and the Enquiry Desk. It must also follow that Ms Feranska’s subsequent assurances that the Enquiry Desk was consulting with “colleagues across RSSB” are untrue.

Why has RSSB acted in this way? It cannot be because we are not RSSB members, as the Enquiry Desk would have said so; and RSSB was quite happy to answer our questions the year before. For example, Mr Woods responded to me in December 2014 when I asked for a copy of the RSSB report on metrication. Moreover, we had an express invitation to follow up; Diane Lucas, Corporate Communications Manager, said in an email dated 19 February 2015: “*I suggest you come back to us (using the Enquiry Desk email address) later in the year for an update*”.

Perhaps there is another explanation. Despite starting its safety research in 2014, RSSB abandoned the later stages in June 2015, citing as its reason, “... *the lack of direction from [the rail] industry regarding implementation of metrification*”.

A policy of metrication is not undone by a “lack of direction”; either metrication is proceeding, or plans have been suspended, or plans have been modified, or there is some other explanation. A “lack of direction” does not appear from nowhere.

We asked Network Rail itself to explain, but its personnel at Head Office did not know the position, so our request to RSSB of 27 December 2016 read as follows:

“Can RSSB help fill in some of the blanks? What were the circumstances of Network Rail not providing direction; was there a formal closure of the issue, and was a reason given? Is RSSB aware whether ERTMS itself is still proceeding?”

These are innocuous questions, and could have been answered in a single email. Instead, RSSB staff have engaged in the persistent evasion described above.

The Office of Rail & Road have since advised us that Network Rail’s devolution of powers to the regions means metrication will be decided locally; metrication may proceed in some regions, but not in others. It strikes us that if RSSB had previously considered that safety research was necessary for Network Rail *as a whole*, then regional metrication represents a greater necessity, for not only are there the same risks associated with conversion, but additional and ongoing risks arising from the interface of metric and imperial regions.

The unhappy conclusion we draw is that Belinda Tucker and Michael Woods have been negligent. At no point could they have established which, if any, of Network Rail’s regions were abandoning metrication, yet they terminated the safety research at a time when they should have been expanding it to consider the new risks arising from different systems working adjacently. Rather than defend their decision, Ms Tucker and Mr Woods relied on the Enquiry Desk to ignore us.

Perhaps you could explain what steps RSSB is taking to conclude its assessment of risks posed to rail and passenger safety by (i) metrication and (ii) partial regional metrication.

Yours sincerely, etc.

Reply from RSSB, 14 September 2017

Thank you for your letter of 31 August to Mark Phillips, Mark has asked me to respond on his behalf. It's evident on this occasion that we failed to provide timely responses to your queries through our enquiry desk for which I apologise. We operate the enquiry desk primarily for our members, but it does allow for non-members to raise issues; we have taken steps to improve how this service operates and more changes are planned.

We undertake research and development activities on behalf of the rail industry. The ideas come from the industry, are assessed and those that are likely to provide the most significant benefit are taken forwards. We have to prioritise as there are insufficient funds and resources to meet the total demand. We are not a regulator, so we have no enforcement authority. We're also not a dutyholder; accountability for safety rests with our members and we provide expert, evidence-based and independent knowledge to help our members.

Our railway has significant challenges in economically meeting capacity demand. Application of the European Rail Traffic Management System (ERTMS) offers long term benefits in achieving this. ERTMS is at its core a metric system, although there are limited workarounds for the real-time display of speed in miles per hour in the UK. The idea for research project T1013 "Analysing the risk from having a mix of imperial and metric measures on the railway" was proposed by the industry to inform the application of ERTMS so that informed decisions could be taken on when the workarounds are appropriate. The project met the criteria to commence with an initial study, continuation beyond this being dependent on the results of the first phase. Whilst RSSB facilitates the process, the decisions on undertaking research are supported through relevant industry groups.

The first phase was completed and provided useful information. At the time, there was little evidence of the need for a wider review of the implications of metrication. This remains the case, but if the situation changes we might be requested to do further work, the undertaking of which would require broad industry support. In the case of ERTMS, for any follow-on work to achieve the greatest value, specific case studies were needed, determined by the ERTMS roll-out plan and application strategy. Digital Railway is a cross-industry programme developing this strategy, with infrastructure application being undertaken by Network Rail using processes, products and other information developed by the Digital Railway team. As the strategy was undergoing revision further research was not progressed at the time when the first phase of T1013 was completed.

Decisions on stewardship of the infrastructure, including application of ERTMS, is for Network Rail to propose, through the normal industry planning processes. Anyone introducing a change is required to make sure that the change is safe. T1013 can be used to inform the necessary risk assessments, and any associated controls so that the change is made safely. Further information on the Digital Railway Programme is available at digitalrailway.co.uk.

Tom Lee, Director of Standards

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Letter from Member of Parliament

Victoria Gardner received the following from Ian Liddell-Grainger, Conservative MP for Bridgwater, 14 August 2017.

Thank you for your letter dated 5th August, received today, about whether the Government intends to decriminalize and restore the use of imperial weights and measures in the UK following our departure from the European Union. I know that some people feel strongly about this matter; there are many issues to consider when we leave the EU, some large, some small, and this is just one of them. As you know, the Prime Minister has been clear that she wishes to minimise disruption to businesses and individuals as the UK leaves the EU which is why a Repeal Bill is being introduced. This Bill will transfer EU law into UK law at the point of the UK's departure from the EU. This will make sure that the UK has a functioning statute book when it leaves the EU. There will then be opportunities to change to things where we have had to adopt a "one size fits 28 nations" approach.

Obviously for export purposes we will need to continue to display weights on any goods we export in metric as well as imperial so that people in countries using metric as their adopted system know what they are getting but, as I am aware, no final decisions or guidance has been issued about changing to weights and measures in the UK after we leave the EU. I am, however, writing to Minister to put your point to them and have asked them to clarify what consideration is being given to this matter. I will let you know of the reply I receive in due course.

Pensioner charged imperial gas rates for three winters, *The Star*, 5 August 2017

A Sheffield pensioner who shivered through three winters, afraid to turn her heating on because she thought she couldn't afford to pay the bills, is urging people to check their gas meters. Susan Strafford faced rising gas bills over a three-year period before finally being notified her meter was still charging her imperial measurements - essentially double the price - despite being switched over to metric ... Mrs Strafford started paying a £75 per month with OVO when she moved into her terraced house in Hillsborough in 2013. It soon went up to £80, then £105 in July 2014. She switched suppliers to Npower, but soon, the bills were on the rise again ... "Most of the time, I'd go to bed early, because it was warmer in the bedroom," the 66-year-old said. "I've been extremely upset, worried that I'd be unable to put the heating on, or I would be unable to put the hot water on." After countless phone calls - she estimates forty - she got the ombudsman involved. That was when it was discovered that the system was still in imperial. Mrs Strafford has been refunded by both companies - £870 by OVO and £825 by NPower ... "I had no idea about metric or imperial measurements at all," she said. She urged people to check with their supplier to make sure the settings were correct. "If there's something wrong, you need to have a look," she said. "It could be imperial instead of metric."

The use of the kilowatt hour as a measurement for gas is examined on the tenth page of this *Yardstick*.

“Canada is miles – or rather, kilometres – away from a uniform system of measurement”

The Vancouver-based Angus Reid Institute conducted the following survey of 1,501 Canadians during 9-12 January 2017.¹

Question: Canada has officially been a metric-using country since the 1970s, but lots of people still use the imperial system of measurement for different things. Overall, what do you think about this?

	Total	18-34	35-54	55+
Keep using a mix of both systems	67%	71%	68%	64%
Go back to the imperial system	16%	7%	15%	24%
Work harder to use the metric system	17%	22%	18%	12%

Below are different types of measurements that we deal with in our day-to-day lives. For each one, please indicate which unit of measurement you personally think of first:

The distance between two locations:

	Total	18-34	35-54	55+
metres/kilometres	66%	83%	71%	47%
feet/miles	31%	12%	25%	52%

Your own height:

	Total	18-34	35-54	55+
centimetres/metres	8%	12%	8%	6%
inches/feet	91%	85%	92%	94%

Your own weight:

	Total	18-34	35-54	55+
kilograms	8%	9%	7%	8%
pounds	91%	89%	93%	92%

The weight of produce at the grocery store:

	Total	18-34	35-54	55+
grams	27%	31%	26%	25%
pounds	69%	61%	69%	74%

The volume of everyday liquid products at home like soap and shampoo:

	Total	18-34	35-54	55+
millilitres	56%	73%	62%	36%
ounces	37%	17%	31%	58%

Beverage volume:

	Total	18-34	35-54	55+
millilitres/litres	64%	82%	73%	40%
ounces/quarts/gallons	33%	12%	25%	59%

The air temperature outside:

	Total	18-34	35-54	55+
Celsius	87%	94%	89%	79%
Fahrenheit	11%	3%	10%	20%

Oven/cooking temperature:

	Total	18-34	35-54	55+
Celsius	21%	32%	22%	13%
Fahrenheit	76%	65%	75%	85%

The internal area of a home:

	Total	18-34	35-54	55+
square metres	10%	17%	11%	4%
square feet	85%	75%	85%	94%

The size of a large plot of land:

	Total	18-34	35-54	55+
hectares	10%	15%	9%	5%
acres	74%	64%	73%	81%

Setting aside whatever system of measurement you might use for different things, how well do you personally know the two systems?

	Total	18-34	35-54	55+
<i>Metric</i>				
Know it well	86%	90%	88%	80%
Not very well	14%	10%	12%	20%
<i>Imperial</i>				
Know it well	74%	48%	70%	98%
Not very well	26%	52%	30%	2%

The Angus Reid Institute made the following observations:

Contained within these answers is a distinctly Canadian contradiction: although this country officially went Metric in the 1970s, there are many day-to-day measurements for which Canadians have not forgotten their imperial roots ... this is especially true of older Canadians, who were schooled in a system of pounds and gallons

¹ For the full survey, visit <http://angusreid.org/metric/>

instead of kilograms and litres. Conversely, younger Canadians' stated unfamiliarity with the imperial system suggests the shift towards the metric system will continue as time goes on. But even those who came of age after the official shift have hardly embraced metric across-the-board, and it appears that Canadians, young and old, are content to continue using both systems in their daily lives ...

The [survey] includes some remarkable contradictions that bear highlighting. For example, though Celsius is the norm for air temperature, more than three-in-four Canadians (76%) think in terms of Fahrenheit when setting their ovens. Likewise, Canadians think of their own height in feet and inches, but have abandoned miles in favour of kilometres when measuring travel distance.

The same trend can be observed, to a lesser extent, when looking at weight. Despite ounces and pounds being the popular choice for both produce and people, Canadians are more than three times more likely to use metric at the grocery store than they are at home on the bathroom scale (27% versus 8%, respectively).

Canadians of all ages tend to use a mix of both metric and imperial measurements in their day-to-day lives, but there is a distinct generational pattern in their tendencies. Canadians younger than 35 are more likely to use the metric option in every situation canvassed, while those ages 55 and older tend to express a stronger preference for the imperial system Canada used at the time of their birth ...

We've got two languages, why not two systems of measurement? Fifteen years after official metrication, in response to the many Canadians who preferred the imperial system, the Mulroney government ended the threat of prosecution for those violating metric laws. Since then, metric has remained a mandatory measure, but imperial measures have been accommodated. Asked to weigh in on this current-day mishmash of measurements, more than two-in-three Canadians (67%) say they are fine with it. Those that have a strong preference one way or the other are evenly distributed between preferring a return to imperial (16%), and working harder to fully adopt metric (17%).

* * *

Metric distance sign in Stockport

Chris Robinson reported a metric sign reading "274m" to a bridge, and received the following emails from Stockport Council.

29 March 2017: Thank you for your email regarding sign on Broadstone Road. The Highways Department will inspect the sign within the next 10 working days and arrange for the necessary work to be carried out. Case reference number: 102811674. Please quote this number if you require any further assistance. Gaynor, Customer Service Officer, Customer Engagement.

31 March 2017: Enquiry 102811674 concerning a non-illuminated sign on Broadstone Road has been closed following completion of remedial works.

13 April 2017: Subject: Urgent. Please can you contact resident Chris Robinson above regarding the street sign that has not been corrected but he has received an e-mail to say this job has been completed. This was logged to the wrong department so was passed on to yourselves to get the sign corrected. The sign is on Broadstone Road Junction with Broadstone Hall road north Heaton Chapel. The information was for you to contact the resident for more information this still has not been done so resident not happy. Please can you contact him with an update. Gaynor, Customer Service Officer

18 April 2017: Dear Mr Robinson, our apologies you received an email stating the job was completed. We did ring several times to enquire the location of the sign, but did not get an answer. Now we know the exact location, we will investigate, and replace the sign if not in accordance with The Traffic Signs Regulations and General Directions. Eraina Smith, Team Leader, Network Management

27 April 2017: [to Chris Robinson] I refer to your message to the Council about distance plates to the low bridge on Broadstone Hall Road South. Thank you for bringing this matter to our attention. I have sent an instruction to our contractors to replace the signs to read in yards. Max Townsend, Network Management

13 July 2017: Good morning Chris, I have been informed that this sign has now been replaced and the distance is now in yards. An Officer will visit site within the next week to check that the sign is correct. Thank you for reporting this. Regards, Eraina



The Anti-Metrication Board

By John Green

During the 1970s, the government's Metrication Board exhorted and cajoled industry and consumers towards metric conversion. Opposing it was the *Anti-Metrication Board*. We recently asked the Anti-Metrication Board's founder and chairman John Green to relate his memories of that period.

Frustration and some anger attended the genesis of the Anti-Metrication Board. The passing of time permits me to only generalise in terms of dates and timings, but in 1976 I had a young family and decided that we needed a larger house with a small acreage of land. We found such a place at Lightwater, Surrey. The house was spacious but dilapidated and, in keeping with my profession as a civil engineer and latterly a surveyor, I decided to renovate much of it myself.

Thus, it was that the spark ignited! Dry rot was present in the floor structures and a large area of new flooring timber was required. I was expecting to change like for like but, at that stage, hadn't taken into account that metrication of building materials was under way. For instance, the existing floor boarding was three-quarter inch planed, supported by four by two inch sawn joists. To my complete amazement, I could buy only nineteen millimetre planed which meant that a fairly mundane job of replacement became time consuming and more costly due to the need to adjust by packing the difference between three quarter and nineteen millimetre. I was furious at the unnecessary waste and cost, and determined to bring the matter to the wider attention of the public and consumer organisations. I mention the flooring episode merely as an example. Other items of building and construction were similarly affected.

I placed an advertisement in the personal columns of the *Daily Telegraph*: "Who will join me in battling with Metric Madness"? The answer was almost instant and took effect with the arrival of a Royal Mail van with more mail than I could have imagined. Eventually – with the help of my wife – I replied to every enquiry. Most of the mail came from members of the public just as incensed as myself with a crop of replies from consumer organisations, academic institutions and Opposition MPs.

The die was cast, the Anti-Metrication Board was formed. Among the thousands of replies were letters from a John Michell and Candida Lycett Green, both of whom shared my rage at the apparently unstoppable progress of metrication. I met them at Candida's home in Calne, Wiltshire. From the start, we had a difference of opinion as to what philosophy

should underpin and shape the future actions of the Anti-Metrication Board. John Michell was a New Age author who wrote about mystical elements connected to Stonehenge, the Pyramids and other esoteric subjects; Candida was the daughter of John Betjeman; and both were apparently well connected in 'high places' and perhaps therefore well able to spread the Anti-Metrication Board gospel.

John and to a lesser extent Candida were keen to exploit the well established position of imperial measures and its impact on our unique British culture. They felt that the cultural approach linking imperial to the human dimension and contrasting this to the inhuman, arbitrary nature of metric measures would be the most effective route. While welcoming this route, I felt certain that we should also approach the matter from the effect that the changeover would have on peoples purses and wallets; the sheer unnecessary and wasteful cost for no other reason than observance of Common Market dogma. At our first committee meeting we agreed to adopt both strands partly, I believe, because it fitted with our personal view of the world and those things necessary to earning our living.

It was about this time that I first became aware of things called 'Enabling Acts' and 'Statutory Instruments'. The Anti-Metrication Board had been receiving excellent support from notably Sally Oppenheim, the Consumer Affairs spokesman in the Conservative opposition, our local MP Michael Grylls, and other MPs on the Opposition benches.

The then Labour Government had introduced a Metric Measure Bill, the subject of which was floor coverings; carpets, linoleum and whatever else was in use. These matters lay within the portfolio of John Fraser, the Minister, the name of whose department now escapes me. The intention was that all wholesale and retail floor covering sales would henceforth be conducted in metric measure only. Labour intended to place the Bill before Parliament on Maundy Thursday, the last day before the Easter recess [23 March 1978], knowing that the House would be empty as MPs made their way back to their constituencies, thus ensuring that the vote would go the Government's way as they would be sure to have more MPs in attendance.

About one week before, news of this matter had leaked and I received a call from the *Daily Mail* and an Opposition Conservative MP asking what the Anti-Metrication Board intended to do about this. The Tory Opposition in the Lords was led by Lord Trefgarne and I was asked to go to the Lords and give him a prepared brief enabling him to speak at the appropriate time. Additionally, Conservative MPs were contacted by the Whips and asked to attend the debate and vote in opposition. I spoke to

various consumer pressure groups up and down the country and asked them to make their views known to John Fraser. The opposition was such that John Fraser dropped the Floor Covering Bill declaring "... *that it was impossible to proceed against a background of hostility*". Those were his words.

The Anti-Metrication Board was becoming known. We were getting requests for newspaper and TV interviews. I appeared on the lunchtime current affairs program 'Pebble Mill at One'. Both John Michell and I were writing various tracts for popular and not so popular magazines including The Isis, Private Eye, and Titbits.

The Anti-Metrication Board produced a newsletter, *Just Measure*, which was John Michell's baby. I wrote one or two pieces for it. The prime purpose of the mag was to propagandize the injustice of the imposition of metric measures, although John also used it for his other more esoteric interests.

During June 1978, a New Age exhibition was held at Olympia. The Anti-Metrication Board had a stall at this show. At the beginning I was slightly sceptical but to my surprise the stall and its giveaway content of car stickers and posters were popular and the stall was seldom without a crowd of enquirers who were in the main, sympathetic to our aims.

One of the members of the Anti-Metrication Board was a chain of health stores based in Barnstaple called Sunfood, which was refusing to sell certain packaged goods in metric as prescribed by law. In October 1980, the council sent a 'jobsworth' to buy from Sunfood in imperial measures; when served, the council then sprang the trap, and Sunfood was served with a summons to appear at Barnstaple Magistrates Court to defend a charge of selling salt and sugar in non-metric bags. The Anti-Metrication Board had agreed to appear as witnesses and fund their defence. The day of the court case arrived; it was quite an occasion. TV cameras were there to record what was to be the first prosecution in the country for opposing the use of metric measures. We felt that we walked in the footsteps of the Dissenters!

I had alerted my solicitor Richard Johnston to guide us in legal matters and I was eventually called to give a statement in Court. My intention was - for just as long as the Bench would indulge me - to turn the ordinary defence into an extended political statement on a disreputable law, underlining the folly of challenging what was demonstrably the will of the people. I had previously agreed with the defence solicitor that he would ask me a number of questions, which I would then turn into a rebuttal of government policy on metrication, plus plenty of condemnation of the iniquity of imposing an unjust and unpopular assault on our personal freedoms and

native culture with the threat of fines or imprisonment. The end object was to capture media headlines. TV crews and cameras were present outside the Court, and I was interviewed on television, although whether the BBC or commercial television, I know not recall. Despite calling a number of defence witnesses the verdict was, as we all knew, a foregone conclusion. But although the store chain was found guilty, the magistrates fined Sunfood a derisory fifty pence. So, a Pyrrhic victory for the government.

One important aspect of the Anti-Metrication Board's activities were school visits. We would contact schools county by county, tell them who we were and ask for permission to visit and explain what we were doing and its benefits. We had many lively and interesting debates. I tried to be realistic and place no objection to both measuring systems being taught. I was taught both imperial and metric during my formal education many years ago when it most certainly wasn't fashionable so to do.

During the early 1980s, the Anti-Metrication Board continued to work as a pressure group. One of the more interesting ploys adopted by the Anti-Metrication Board was to found and promote a consumer group named as the Surrey Consumer Association. I used the slogan "protecting the interests of 2,000,000 Surrey consumers". Consumer groups were big business then - as they still are to some extent - and many kowtowed to them. If we were trying to influence an important corporation to change the way it dealt with imperial/metric measures, we would ask them if they would accept arbitration from the Surrey/Hampshire/Wiltshire consumer association. The mention of their name would bring about a defensive reply.

The Anti-Metrication Board as an organisation was never wound up formerly. Matters became quiet as the compulsory element receded and the public became more accepting of voluntary metrication. That this country has never imposed total metrication is I think due to the Government of the day never being totally in favour, and pressure from those who carried the anti-metric banner into the 1990s and beyond. With Brexit, I believe there hasn't been a better chance to restore imperial to its former pre-eminence as the prime measuring system of our country, with metrication being taught in our schools for those who need it for trade.

As I never tire of reminding the opposition who bring up science and mathematics and anything else they can think of to support flawed arguments in support of the use of metric measure, the most technologically intricate and advanced enterprise ever, the Moon landings, were conducted and measured entirely in imperial.

We reproduce five newspaper pieces describing the government's 1978 climb down, plus the July 1978 'victory letter' sent by the Anti-Metrication Board to its members.

9 March 1978, *Daily Express* Opinion: Give an inch, take a nation: AFTER WHAT will be a perfunctory debate in the Commons, an Order will become law making it an offence to sell skirt lengths, chair covers, hardboard or carpets in measurements of feet and inches. It will, quite unbelievably, be possible to fine a draper £250 and send him to prison for three months for selling four feet of curtain material! Surely the Metrication Board has reached a stage in its development where somebody should design a uniform for its members. Where metrication is genuinely wanted, as in heavy engineering, there is no need to enforce it; conversely where it has to be enforced it is not wanted. There is no irresistible pressure from the E.E.C. to excuse this nonsense. Metrication is the pet fad of people who rather like diminishing the identity of this country. When George Orwell wrote "1984," some 30 years ago, he took it for granted that a tyrannical State would measure things in metres, kilos, litres, and hectares. Today they don't support tyranny but they are part of the new flavourless and homogenised quality of modern life. They give a plastic taste to the goods they measure and they make the Citizen feel abroad in his own country.

To the Metrication Board and to the Eurofanatic politician, the sight of apples priced (decimally) by the kilo, doubtless brings back thoughts of his holidays in the Loire Valley "among truly civilised people." To the rest of us they are an insolent imposition upon people who have never been consulted. Any political party which has a feeling for what people want would know the wisdom of resolutely opposing all statutory measures for metrication, of rescinding the present order, of allowing a free market in measurements, and of kicking the Metrication Board back into oblivion.

29 March 1978, *Daily Telegraph*, Tories to Oppose Compulsory Metrication: GOVERNMENT embarrassment over the drafting of two metrication orders will enable the Conservatives to launch a full-scale Commons attack on compulsory metrication. A Parliamentary committee has already demanded clarification of the Government's intentions, and the Department of Prices and Consumer Protection was unable to say yesterday how soon the orders would be reintroduced. One order deals with hardware, textiles and floor coverings, for which Imperial measures will be compulsorily phased out over the next 11 months. The other deals with food, including meat, fish and poultry, for which lbs and ozs will be illegal from 1981. The Department of Prices confirmed yesterday that the maximum penalty for a persistent offender would be a fine of £250 or three months' imprisonment or both.

Government business managers were forced to withdraw the orders from the Lords last week after a watchdog committee on statutory instruments objected to the phrasing of a paragraph dealing with the ways in which shopkeepers might avoid prosecution. The committee wants to know whether it is the Government's intention that a shopkeeper unable to "go metric" should stop selling his goods altogether rather than risk infringing the new metrication rules. It is now almost certain that the orders will have to be redrafted to take account of the committee's objections, and this will give

the Conservatives the chance of insisting that both be debated in full by the Commons. The Government had originally hoped that the food order would be considered in the relative backwater of a Commons committee.

The Conservative plan to vote against both measures, the first time that they will have opposed a metrication order. The reason, they say, is that these new orders are "across-the-board measures" rather than aimed at specific items. Despite the Lib-Lab pact, there are Liberal MPs who are fervent opponents of compulsory metrication, and it is possible that Labour anti-Marketeters, who are also opposed to the changeover, will join Conservatives in the voting lobbies. Mrs Sally Oppenheim, Opposition spokesman on prices and consumer affairs, said yesterday that she favoured progress towards voluntary metrication. The effect of these orders, she added, would be that "Mrs Bloggs who runs the corner draper's shop risks going to prison for three months for taking out an Imperial tape measure." The Conservatives put forward their own amendments to the new Weights and Measures Act, and will claim in the Commons that the Government has made improper use of its discretionary powers by ignoring a successful Tory amendment retaining the foot and the inch. Mrs Oppenheim said that the new measures would cause confusion to shoppers, and were a "first step on the road to metricating the mile".

12 April 1978, *Daily Telegraph*, Labour MPs join Revolt on Metrication: The Government faced an unexpected Parliamentary revolt yesterday over two Metrication Orders due to be considered by a standing committee. Moments before Mr Healey, the Chancellor, rose for his Budget speech, Labour MPs joined with Government opponents to thwart a plan to refer the Orders to committee.

19 April 1978, *Daily Telegraph*, Minister retreats over Metrication: The Government staged a tactical retreat yesterday in its plans to impose compulsory metrication on the country by the early 1980s. It was "clearly impossible to proceed against a background of hostility," Mr John Fraser, Minister of State in Mr Hattersley's Department of Prices & Consumer Protection, said in a letter to 300 trade and consumer organisations. Mr Fraser asked whether the organisations wanted across-the-board compulsory metrication or "whether imperial units should be left to wither away in the shops over a long period." The Minister said the Department had reviewed its earlier claim "to have universal support for metrication."

Mrs Sally Oppenheim, Opposition spokesman on consumer affairs, who pledged the Tories to oppose compulsion, said last night that the Government was preparing to climb down on the metrication issue and she predicted that it would withdraw two recent controversial metrication orders. The orders cover hardware, textiles, floor coverings, meat, fish, poultry, fruit and vegetables, and lay down that it will be an offence to trade in these commodities in imperial measures after their respective cut-off dates. Earlier, Department officials were summoned before Commons committee to explain the punishment provisions after twice failing to satisfy them in memoranda. Mr Fraser had to issue a retraction when his officials threatened imprisonment for persistent offenders. Another explanation for the Government's retreat circulating among Labour MPs last night was that Mr Fraser was in desperate search of ammunition with which to stem a Labour revolt over the metrication orders.

15 May 1978, *Sunday Telegraph*, column by Patrick Hutber:

It is a poor heart which never rejoices and we are all of us delighted at the government's major climb down on metrication. The government has abandoned compulsory metrication for one simple reason. In spite of its threats, in spite of its blandishments, in spite of all the efforts of Mr John Fraser (whom I find so disconcerting to meet because he looks like a middle-aged punk rocker), it could not assemble a parliamentary majority to get its orders through. The reason it could not get a parliamentary majority is that steadily, bravely, unobtrusively, Mrs Sally Oppenheim had rallied the Conservative ranks till they were very close to unanimous on the issue ... it was a piece of uncovenanted luck that the crunch came in an election year but my consistent forecast that, when it did come, compulsory metrication would be wildly unpopular, has proved to be correct. In a sense it is a minimum victory. Metrication will still go ahead and I have no doubt that the assiduous bureaucrats of the Metrication Board will attempt to achieve by stealth what they have failed to do by force. But we have established the principle that shoppers should not be prevented from purchasing the goods they want in the dimensions they desire.

Letter from Anti-Metrication Board to members, July 1978

You have no doubt heard the good news, announced on May 17, that the Government has abandoned its plans to introduce Orders making metrication compulsory. We are now free from the threat of criminal prosecution for continuing to deal in feet and inches, pounds and ounces. In the words of Mr Neville Trotter, one of the MPs most actively associated with our cause, "Common sense has prevailed."

This defeat for the bureaucrats is a notable victory in our six-year-old campaign against the wasteful nonsense of metrication in Britain. It was achieved by a revolt of independent-minded M.P.s who refused to support the metricators' attack on the culture, customs and language of their constituents. During the crisis period earlier this year, when the introduction of the compulsory Metrication Orders seemed imminent, we were in constant communication with members of both Houses of Parliament. One of our early successes was in alerting members of the House of Lords to the sudden appearance of a metrication Order just before the Easter Recess. The Order was subsequently withdrawn and has now been finally suppressed.

Now that the crisis has, for the moment at least, abated, we have time to consider the future of our campaign. No doubt the metricators are only biding their time. They will attack again; and we must be ready to meet them. We are confident that under conditions of fair competition the British units of measure will prove their practical superiority over the inconvenient metric system ...

At a week-long exhibition which the Anti-Metrication Board held last month at Olympia we collected a vast number of signatures for a petition against compulsory metrication. That threat has now passed, and we have written to all signatories inviting them to become members of our Board. One of our objects at this time is to increase membership so as to build up a pressure group in the interests of British measures, and also more effectively to monitor the activities of the Metricators. We therefore urge members to urge others to become members and to send donations towards our expenses - with thanks for those already received. On

this subject we assure you that committee members, notably John Green, John Michell and Candida Lycett-Green, have been the largest donators both of time and money, and that all that has been received so far has gone to defray our substantial costs in postage, printing and advertising.

With this letter we enclose a petition form organized by our associate, John Finley of *This England* magazine. He calls it "The Imperial Charter", and while we have deliberately avoided the use of the word 'imperial' for purposes of this campaign, because of its unfashionable connotations, we support the petition's aims and urge members to collect signatures for it, returning it to us for sending on to John Finley. Further forms are available if wanted. Mr Finley's aim is to collect a million signatures to present to the Prime Minister of the day as proof of the strong feeling in this country against coercive legislation that would outlaw the ancient and most practical units of measurement of the English-speaking world.

Metrication is now, officially, voluntary. That means that there is to be no coercion. Yet there still exists a body, the Metrication Board of 22 Kingsway, London W.C.2, with their expensive offices, salaries and advertising costs paid for out of taxes, whose function is to coerce people, even against their own interests and preferences, to 'go metric'. They have been guilty of many misrepresentations, and their victims include the shop-keepers and manufacturers who, on the assurance of the Metrication Board that metrication would soon be compulsory, invested in expensive new weighing and measuring equipment - only to meet the type of popular resistance which we shall continue actively to encourage.

The time has come to consider whether this Metrication Board is either necessary or desirable, and whether we should be asked to continue supporting it. It is getting on for two hundred years since the metric system was imposed by law on the protesting French people and later forced upon the rest of Europe. It has never been popular on the Continent because of the inflexibility of its units, but there was some excuse for its introduction there, because at that time every city had its own individual standards of measure, and trade was thereby inconvenienced. Since that time, the British system of measure has co-existed amicably with the French system. It is used here and in America, is known throughout the world, and has proved as useful to the designers of the Apollo space project as to the market trader. Why then should we go to great trouble and expense, confusing our own and future generations, to exchange our familiar, functional system for one which experience shows is far less convenient? The Metrication Board, despite constant challenge, has always avoided giving a direct answer to this question. They have publicly refused to debate the matter with us on the grounds that it is not their function to justify metrication but to implement it. Since even they cannot justify their own existence, we believe it is time for the Metrication Board to be disbanded, to the great advantage of the tax payer. We therefore encourage members to introduce this demand into future correspondence with M.P.s and newspaper editors, so as to bring about a climate of opinion in which metrication is seen as a passing madness from which we have made a good recovery ... We will keep you informed of future developments.

John Green, John Michell, Lightwater, Surrey

The Kilowatt Hour

With reference to gas meters, BWMA's John Strange has pointed out to the government that the EC had not replaced the British therm with a metric unit, but with a non-metric unit known as the kilowatt hour, making a nonsense of 'metrication' as a policy. The government's reply is below - various points have been numbered to reference John Strange's remarks which follow.

[Regarding] the kilowatt hour as a legal unit of measurement for gas within the meaning of EC Directive 80/181, Dr Sayer¹ of Ofgas indicated in his letter to Mr Strange that there is no base² SI unit of energy, in contrast to time where the base SI unit is the second, or to mass where the base SI unit is the kilogram. Consequently, when the regulations were drafted to facilitate the introduction of metrication to the gas supply industry, there was no natural³ base SI unit with which to work. It was, therefore, necessary to consider derived⁴ and compound⁵ units, namely the megajoule and the kilowatt hour, although the latter is strictly compound unit within the terms of the Directive. As British Gas have stated in their letter to Mr Strange, while the kilowatt is a metric measurement, the kilowatt hour is not strictly⁶ so. However, legal opinion was sought as to the acceptability to the EC of this approach, and the Department was advised that the use of either would be acceptable. As Mr Strange is aware, there were already precedents in both France and Germany for using the kilowatt hour for gas, and of course, the kilowatt hour was already in use within the UK electricity industry for billing purposes. It was therefore decided to adopt the same unit for the gas industry. So, while taking Mr Strange's arguments in their purest scientific form, he is quite right to say that the kilowatt hour is not strictly a metric measurement, from a practical perspective we believe it is entirely acceptable for the kWh to be used as the relevant energy unit.⁷ I should add that the use of the kWh, or any other such unit, merely serves to show gas and electricity usage in a form that customers can readily identify,⁸ and in taking this approach, there has, in my view, been no attempt to deceive consumers over the use of the kWh.⁹

John Strange makes the following comments:

1) Dr Sayer is in fact a woman. She told me, among other things, that EC Directive 80/181 asserted that the kilowatt hour was a metric unit. I checked the Directive and it makes clear that the kilowatt hour is acceptable to the EU but it does not say that it is metric. When I informed Dr Sayer that it didn't, she did not write to me again.

2) The metric (S.I.) system of units consists of seven base units, such as the metre and the second, togeth-

er with any combination of these seven such as the cubic metre or the metre per second. There is only one metric unit for each type of magnitude. Metric units that are not base units are called derived units. For convenience, certain decimal multiples and submultiples are considered to be within the system although they are not metric units. Thus, the kilometre (a classicist would say chiliometre) is not a metric unit but is considered to be within the metric system. The litre is not a metric unit but is within the system; it is simply a name for one thousandth of a cubic metre. The radian and steradian belong to mathematics rather than to physics, though the latter is hardly used by mathematicians.

3) The word 'natural' seems inserted to confuse. The metric unit of energy is the joule. It is not a base unit, but a derived unit. It is defined in terms of the unit of force (the newton) and the unit of distance (the metre). The newton itself is a derived unit which is defined using the metre, the kilogram and the second. It is the force which gives a particle of mass one kilogram an acceleration of one metre per second per second. I think the government was trying to make me believe that the non-metric kilowatt hour was on a par with the metric joule.

4) As noted above, derived SI units are SI units that are not base units.

5) Compound units are a combination of units which are either SI or on the list of units that the EU allows (such as the hour). A *physicist* would allow just one unit standing on its own as a combination; a *mathematician* would allow a combination of no units, i.e., a pure number rather than a number of somethings (e.g. if you divide an hour by a second, you get the number 3,600). Clearly, every SI unit is a compound unit, though not every compound unit is an SI unit. So, the government introduces a red-herring when it talks about compound units; the suggestion is that some SI units may not be compound.

6) The word 'strictly' suggests that while a unit is strictly one thing, it may be something else. It is an attempt to muddy the water.

7) The kilowatt hour has indeed been used for a long time, and there is a certain logic to it; if you use a one-kilowatt electrical appliance for an hour, you will have used 1 kWh of electrical energy. This comes to 3,600,000 joules (1,000 for the kilo and 3,600 for the number of seconds in an hour; see 5, above).

8) I suppose by "identify", he means what I said in 7, above.

9) He is, of course, avoiding the point. We were told we were "going metric" when, in fact, we were replacing the British therm by the non-metric kilowatt hour.



Yardstick 64 referred to lager cans in pint sizes; here are examples. Readers who see these products may wish to make a purchase and write to the manufacturers to express support:

Stella Artois, AB InBev UK Ltd LU1 3LS;

Carlsberg UK Limited, 140 Bridge Street, Northampton NN1 1PZ (carlsberg.feedback@carlsberg.co.uk);

Heineken UK Limited (Kronenbourg), 3-4 Broadway Park, Edinburgh, EH12 9JZ (customerservices@k1664.co.uk).

Decimal Watch: Four nurses struck off by board for misconduct, *Irish Times*, 31 March 2016

Four nurses have been struck off, one censured and one admonished in the latest batch of decisions published by the Nursing and Midwifery Board of Ireland [including] ... Nurse Donna Chavez, who worked in Our Lady's hospital, Crumlin, has been censured and fined €1,500 after being found guilty of professional misconduct. Conditions have also been attached to her registration. Ms Chavez gave the wrong dose of drugs to a baby in intensive care in 2012 and deliberately hid her error. She put a decimal point in the wrong place when administering an infusion of drugs so 10 times the recommended amount was given to the child over the six-hour period.

"Practice Alert", Pharmaceutical Defence Ltd, Australia, 2016: A misread script led to a recent dispensing error where Sifrol 0.375mg was replaced with Sifrol 3.75mg due to a misinterpretation of the decimal point position in the drug dosage. In this example, the dose increased ten-fold and the consumer suffered from extreme drowsiness. In a separate and serious incident, the decimal point was misread as a pharmacist dispensed Serenace 5mg instead of Serenace 0.5mg. The resulting overdose caused the consumer to collapse and an admission to hospital resulted.

Terence Jones reports (9 October 2017): Yesterday, I picked up a bottle of Fairy liquid from the shelf in my usual supermarket, (Sainsbury's) which appeared no different from the near empty bottle in my kitchen. The bottle shape and size appeared to the casual eye to be identical; each bore a red label on the neck declaring it to be NEW in large print; even the price was the same (£1). But the second bottle appeared to be very

slightly shorter. The real difference is that the first contained 433 millilitres while the second contained 383 millilitres, 50 millilitres less, the indication for which not prominently displayed, at the bottom of the back label. The sooner we return to British Imperial measures and stop these continual rip-offs, the better.

Dick Clay-Peters writes: The temperature in my house was controlled by a thermostat reading in degrees centigrade and I found it difficult to set. Because it worked on the centigrade scale, the step between one setting and the next covered a fairly wide range of temperature. As one degree on the centigrade scale is equivalent to about three degrees Fahrenheit, a thermostat reading in degrees Fahrenheit would, I thought, control the temperature more accurately. Online, I discovered a firm (Danfoss) which makes digital thermostats, that work on either scale, and had one fitted to work in Fahrenheit. It wasn't cheap but is very sophisticated and may even reduce my bills.

Robert Goodhand comments: May I congratulate the BWMA for its principled stand against downsizing but enough is enough. When first published in 1996 the average weight of the Yardstick was around 1.35 oz. Around the mid-nineties it had dropped to a more modest 0.72 oz but has steadily risen since then. Mid 2000s we were up to about 1.4 oz but the latest issue weighed in at a whopping 2.3 oz. It's now heavier than a downsized Mars Bar and so thick it won't fit into my hole puncher. I'm having to store them in polypockets.

Edith Rouse writes: I cannot express an "informed opinion" on the proposed elimination of the British system of weights and measures, but I believe that the enthusiasm to abolish it by the so-called "political classes" is so that they can have cushy jobs and perks in "Europe" – and to Hell with the rest of us. This is the reason why I joined the British Weights and Measures Association. A small cheque is enclosed – keep up the good work!

Culture War

by John Gardner

The following paragraph is from a news article in the Canadian newspaper *Regina Leader-Post*, published 11 January 2017 (my emphasis).

“For a driver of a truck, driving through an underpass can be a stressful experience. Misjudging the height and hitting the overpass can result in huge delays for commuters and lost money and time for the driver. In an effort to keep things simple and prevent collisions, the City of Regina won't be implementing dual measurements (metric and imperial) on underpass signs. ‘The motion from council was to put the signs in both,’ said Norman Kyle, director of roadways and transportation [but] ‘We have them in metric and that is what we are going to stick with. You want drivers to have a clear and consistent message that they can glance at for the sign.’”

Readers will recall that, in the British context, a report by the Department of Transport in 2014 said: “In order to improve road safety and compliance, ministers have decided that the revised Traffic Regulations will no longer prescribe imperial-only height and width limit signs ... dual-unit equivalent must be used. Displaying dual measures of height and width restrictions make it easier for drivers and are designed to help improve safety on our roads.”

Here is the conundrum: a lorry driver in Canada is much the same as a lorry driver in the UK, and a Canadian highway official is much the same as a British one. Given that each country is dealing with the same problem – bridge strikes – we might expect them to arrive at the same solution; yet, we see opposite conclusions being reached; Canadian officials say that *one* measurement best supports safety; British officials say *dual* signs are safer. How can this be?

The inconsistency is resolved when viewed through the lens of *culture war*. The assault on imperial measurements is part of a much wider trend, away from national identity and towards ‘internationalism’ and the elimination of borders. In Britain, the first shot in this culture war was fired on 15 January 1962, when the Meteorological Office switched from Fahrenheit to Centigrade in weather reports. What made this change significant was not just that Britain was aligning with foreign units, but that a technical change within industry was imposed *externally* on the British public; the tail was wagging the dog.

In 1965, the government extended its preference for foreign standards to weights and measures; then in 1967 to coinage, with the announcement of decimalisation. Systems that had been used in Britain for centuries were suddenly repudiated by the political classes and replaced, for no other reason than that they were *ours*.

Today, weights and measures remain indicators of identity; for example, there is a high correlation between supporters of imperial measures and Euro-scepticism; conversely, there is a high correlation between supporters of metrication and multiculturalism. Metrication is an expression of globalism, while imperial, in the English-speaking world, is an expression of nation-ism.

So, returning to the apparent discrepancy in Canadian and British road signs: despite Brexit and Trump, the cultural tide is still towards globalism; when presented with imperial only, as in the UK, the reaction is to *add* metric. When presented with metric only, as in Canada, the reaction is to *keep* metric only. The policies are equivalent; the trend is *away* from imperial and *towards* metric. The inconsistency is resolved.

From this we gain a clear insight; choice of measurements has nothing to do with safety. It is a political decision; and an expression of which side is winning the culture war.

BWMA gratefully records the Patronage of the late The Hon. Mrs Gwyneth Dunwoody, MP, Lord Shore, Vice-Admiral Sir Louis Le Bailly, KBE, CB, Lord Monson and Sir Patrick Moore, CBE

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