

The Yardstick

ISSN 1361-7435

Journal of the British Weights and Measures Association

Number 8

June 1999

Patrons

Lord Monson
Rt. Hon. Lord Shore, PC
Vice-Admiral Sir Louis
Le Bailly, KBE, CB
Dr Patrick Moore, CBE

Honorary Members

Peter Alliss
Clive Anderson
John Aspinall
Trevor Bailey, CBE
Michael Barry, OBE
Christopher Booker
Ian Botham, OBE
Dr N C Chaudhuri, CBE
Jilly Cooper
Fred Dibnah
Sir Ranulph Fiennes, OBE
Edward Fox
Dick Francis, OBE
Sandy Gall, CBE
Candida Lycett Green
Prof. Richard Holmes, OBE
Richard Ingrams
Bernard Levin, CBE
Leo McKern, AO
Dr Richard Mabey
Christopher Martin-Jenkins
Robin Page
Jennifer Paterson
R W F Poole
Sir Tim Rice
Andrew Roberts
Dr Charles H Sisson, CH, DLitt
Fritz Spiegl
Quinlan Terry
F S Trueman, OBE
Keith Waterhouse, CBE
Sir Rowland Whitehead, Bt

Pounds and ounces in the balance

At its meeting on 12th May, the European Scrutiny Committee of the House of Commons was ready to approve the Draft Directive giving effect to the proposed ten-year extension to "dual marking" of pre-packed goods – the concession permitting imperial units as "supplementary indicators" alongside primary metric indicators. So far as it went, this Draft Directive was uncontroversial and welcome.

But the Committee had overlooked the disastrous consequence of approval, which would have been its tacit agreement to the expiry at the end of this year of the parallel derogation authorising display of imperial units for fresh foods and other goods sold "loose from bulk". The Committee was apparently unaware that, as the law stands, it will be a criminal offence from next January for greengrocers, butchers, fishmongers, builders' merchants, etc, to deal in customary measures, even though these trades (overwhelmingly small businesses) are entirely domestic and of no concern whatever to a Single European Market.

Fortunately, the Committee Clerk gave us the opportunity to submit representations beforehand. We stressed not only the iniquity and unenforceability of banning pounds and ounces for fresh foods, etc, while permitting them for dual marking on labels, but also the secrecy with which this was being imposed, hiding behind the publicity given to the extension for dual marking which had created the public impression that imperial weights and measures *generally* had been granted a reprieve.

Thanks to our intervention, the Draft Directive was *not* cleared. The Committee has sought from the Minister concerned a response to the issues that we raised. Now is the time for all interested parties urgently to press the case for exemption from compulsory metrication for fresh foods, etc, or at least a dispensation for another ten years as for dual marking. Also we ask every member to write to his or her MP about this important issue. Pounds and ounces now hang in the balance.

On other pages: Campaign update – Transatlantic dialogue defeats metric-only labelling – BWMA news – The legality of imperial weights and measures – Going metric? What today's public thinks
Some remarks on the metric system – That's beside the point
Metrication insidious but resistance growing – We stand corrected
The changing world of information & communication.

Campaign update

John Gardner

On February 6th 1999, the European Commission proposed to the European Council of Ministers and the European Parliament that the deadline for metric-only labelling be delayed by ten years to January 1st, 2010. This follows lobbying by European and American exporters concerned that metric-only labelling would force them to duplicate product lines, with metric-only labelling for the EU and dual customary/metric for the USA. In the words of an EC official in 1998: "... **the trade implications of Directive 80/181/EEC requiring metric-only labelling had not been thoroughly measured**".

This extension means that, while metric units continue to be compulsory, retailers may use imperial units as "supplementary indicators" for ten more years. This will be the second time that the deadline has been delayed, the original deadline having been January 1st, 1990, but the rules governing the *display* of supplementary imperial units remain unchanged. These are: UK units must appear to the right of the metric, and be no more prominent.

In April, BWMA submitted its response, *A Half Measure?*, to Dr Kim Howells, DTI minister for Consumer Affairs. In this document, we have argued that, while a ten-year reprieve for supplementary indicators is welcome, the EC's proposed amendment is woefully inadequate in all other respects. Most importantly, it does not resolve the two fundamental questions of principle: whether it is right to compel metric as a matter of course; and whether it is right to prevent the use of measurements *additional* to metric, as will be the case after 2010. Of particular concern is the EC's decision not to propose an extension for the exclusive use of pounds and ounces for foods and goods sold loose, due to expire on January 1st, 2000. *A Half Measure?* further argued that the EC directive is legally unsound for four reasons. These are as follows.

1) Whereas the compelling of metric indications is legally workable, the prohibition of additional units after 2010 is *not*, since it means denying the right of two private parties to exchange information. For example, should British retailers be asked by American visitors to provide conversions of metric labelling, retailers will be obliged to explain that, under the directive, quantities may no longer be expressed in non-metric terms. In other words, retailers and consumers will be limited to communicating solely in metric, even if neither understands the other. This is not only unenforceable but is totally unreasonable, and constitutes an infringement of civil liberties.

2) The wording of the EC directive is ambiguous. For example, the directive states that metric must be used for all "economic purposes", but there are many interpretations as to what constitutes economic. For example, an economy cannot consist of just sellers; it

must also have buyers. Since the EC directive refers to economic purposes, it may be regarded as applying to consumers as much as retailers because a consumer placing an order in a shop represents one half of an economic transaction. Under the directive, therefore, laws should be passed compelling shoppers to order goods in metric. This is also unenforceable.

3) The EC directive fails to recognise the overlap in the use of British measures as precise units and as part of colloquial English. Many retailers use UK units to communicate information in "popular" terms, such as the describing of hamburgers as quarter-pounders. Such uses of customary units are illegal under the EC directive because they are economic but they would appear seemingly impossible to outlaw because they remain part of the English language. Terms such as "pint" reflect exact measures, but they are also used in general conversation to mean certain products, such as alcoholic drinks. The difficulties for the government are twofold: the EC has not provided an exemption for colloquial uses of English weights and measures; and, even if it had, it would be impossible to distinguish colloquial uses from other descriptions.

4) There is a vast range of "tertiary measures" that appear illegal under the EC directive. Eggs are described by egg producers as "small" instead of "53 grams". Paper is referred to as "A4" in place of "210 x 297mm". The widths of beds are described as "king size" instead of "1.52 metres". When drawing up the directive, the EC appears to have been aware of its blanket application and accordingly added a series of detailed exemptions (for sea, air and rail traffic, for measuring optical systems, precious stones, farmland, textile yarns, etc). There are, however, no exemptions for eggs, paper or beds. It follows logically that these and other fields are required to go metric. This has enormous implications for British and European industry.

A Half Measure? expressed the further concern that an EC directive that cannot be implemented fully creates conditions for *arbitrary* implementation. For instance, there are innumerable instances where the directive has not been implemented by EU governments; many Continental traders use the "livre", a unit that is neither part of the metric system nor authorised by the EC directive. Under the terms of the directive, a livre equal to 500g is no more legal than a unit equal to 454g (1lb). Yet, member states have taken no action against the use of such units.

Conversely, the directive has been applied strictly to the letter when interest groups discover trade advantages and start lobbying for its application. Lobbying appears to be the source of the pressure for the abolition of supplementary indicators after 2010, possibly from domestic

European producers wishing to raise the costs of American imports, or EU manufacturers wishing to force US industry over to the metric system, thereby opening US markets to more EU exports.

Thus, the EC directive exists not as law in the British sense of the word, but as a wide sweeping edict that can be left dormant or “activated” depending on expediency, whim or vested interest. BWMA is of the view that the EC directive, originally intended to promote a European single market, has been “hijacked” by European industries wishing to undermine the global influence of US inch-pound standards.

Due to the federal nature of the US constitution, however, Washington has little power to compel metrication in the US. Many American states do not even teach metric in schools and the prospect of a “metric America” remains improbable. Given the pivotal position of the USA in world production and trade, we believe that the EU will be in no more of a position to adopt metric-only labelling in 2010 than it

is now. This means that, unless the EU is prepared to pay the costs of metrication, the deadline for supplementary indicators will have to be again extended.

In the meantime, the directive creates an intolerable situation for exporters, who face a perpetual game of brinkmanship with the EC, and for domestic British retailers who are hamstrung by EC demands that they show metric units regardless of context or consumer preference. We believe that the only respite from this directive will have to come either from a “flexible” interpretation by the British government – that is, to leave the adoption of metric units to the market – or by seeking a compromise by maintaining compulsory metrication but with one important proviso: *metric need not be the most prominent or only descriptor*. In other words, so long as the UK ensures that consumers have access to complementary metric information, there is no reason why retailers should not be allowed to use other descriptors as the more prominent if desired.

Transatlantic dialogue defeats metric-only labelling

The Transatlantic Business Dialogue Briefing Paper (‘Group One: Standards and Regulatory Policy’) was produced last November for the Conference held in Charlotte, North Carolina, to review the EU proposals for metric-only labelling.

It provides the evidence that compelled the EU to grant a ten-year extension for dual marking (metric and imperial or US inch-pound) and demonstrates how absurd were the Brussels bureaucrats, not merely to imagine that there was any prospect of prohibiting dual marking after the end of this year, but to pretend that they can prevent a third ten-year postponement after 31st December 2009, and another after that. The following four paragraphs show that the cost to US industry of abandoning dual marking in favour of a metric monopoly would be prohibitive.

“Article 3 of Council Directive 80/181 (amended by Article 1 of Council Directive 89/617) requires that all products sold in the European Union – whether domestically produced or imported – must have metric-only labelling beginning 1 January 2000. The current EU practice of allowing supplemental units of measurement (e.g. the US inch/pound) in addition to metric will no longer be permitted. The incompatibility of impending EU “metric-only” with the US dual labelling requirement (metric and inch/pound) is a serious problem for affected European and US companies because of the enormous non-value added costs (separate packaging, labelling, warehousing and inventory systems), the potential environmental impact, consumer safety issues, and the effect of increased costs on global competitiveness.

“Potentially exposed to increased costs from the metric-only labelling requirement is annual bi-lateral

trade of more than \$118 billion in consumer goods and \$142 billion in capital goods. Compliance with the Directive will require companies engaged in US-EU trade to create separate packaging and labelling, manuals, product information inserts, software, design and engineering drawings, as well as maintain separate warehousing and inventory systems for metric and non-metric markets. Significant and unnecessary costs will be imposed on manufacturers on both sides of the Atlantic, for many exceeding tens of millions of dollars/EUR annually, that will have to be passed on to consumers. The additional costs could force some small and medium-sized enterprises out of the Transatlantic market-place or discourage their entry.

“The metric-only labelling requirement could significantly compromise packaging and waste reduction objectives in the EU. Metric-only labelling, and other measures which restrict consumer information on packaging, force EU manufacturers who sell globally including the US, to utilise more packaging; e.g. one set for metric-only and one set for dual units, whereas today the same package can often be used for both. This increases the amount of packaging that has to be produced and ultimately disposed of in the EU environment. Metric-only and similarly restrictive labelling requirements appear at odds with provisions of the EU Directive on Packaging and Packaging Waste (No. 94/62) which encourage standards that prevent packaging waste.

“For some industries there are serious safety concerns. The elimination of inch-pound measurements in design and engineering drawings and instrumentation could compromise product integrity and safety. Higher risks of human error are

also introduced if the end-user is not proficient in metric. Equipment manufacturers point out that the conversion of inch/pound units to metric is not exact and theirs is a sector where precision is vital."

The conclusion reached was as follows:

"TABD recommends a 10-year deferral of the metric-only requirement in order to prevent imposing additional costs on industry and to eliminate uncertainty. The 10 years could be used to review sectors for longer or permanent exemption. However, the ultimate solution is one that eliminates the incompatibility of the US and EU product labelling regimes. This means balanced and equivalent action in the US and EU to amend their respective labelling laws to accommodate both metric-only labelling and dual units of measurement labelling ..."

Note that there is no suggestion of inevitable US conversion to the metric system eventually, contrary

to EU propaganda, nor even any suggestion of a trend towards gradual metrication. On the contrary, the solution offered requires balanced and *equivalent* action in the US and EU to amend their respective labelling laws; so the EU would have to concede as much as the US. Yet the EU's version of the present ten-year expedient is that it has been generously granted as a final period of grace for the US to "catch up" with the rest of the world!

The notion of the most powerful and successful economy in the world having to "catch up" with the increasingly depressed countries of the EU would be hilarious were it not so pitiful. But, given this arrogant and unrealistic mindset of the EU, it is unlikely to compromise, or seek any form of reconciliation, with the US as the forthcoming decade wears on; in which case either another ten-year deferral *after 2009* is unavoidable or the US may lose patience and take unilateral action.

BWMA news

New Patron and Honorary Members

The Rt. Hon. Lord Shore of Stepney, PC, has greatly honoured BWMA by accepting our invitation to become a Patron. He writes: "I deplore and condemn, unreservedly, the ludicrous legislation that would make the sale of foodstuffs in the United Kingdom in pounds and ounces a criminal offence from the end of this year. Indeed, something must be done to change it. I shall most certainly talk to my old friend and colleague Mrs Dunwoody to see what might be done to assist."

Politically and in public life nationally, he will further enhance BWMA's standing and influence.

In this issue we welcome Fritz Spiegl and Fred Dibnah as Honorary Members, and thank them for their invaluable moral support. Fritz Spiegl, whose musical and literary accomplishments are myriad, sends us this message; "I support your aims passionately, in spite of having been born in centimetres and kilograms, at an early enough age for it to have left no mark. All good wishes and many thanks for your kind invitation".

Fred Dibnah's "Industrial Age" series was recently shown on BBC television and found an enthusiastic following among BWMA members. In a script as strong and well-crafted as one of his machines, he writes: "In my job as a steeplejack I will always measure everything in yards, feet and inches. I also use 56lb weights as a counterweight for my bosun's chairs and cradles".

Other welcome correspondence includes the following message from Jilly Cooper, whose new novel *Score!* is the current best-seller: "I'm so proud of being an honorary member of the British Weights and Measures Association and [The Yardstick] is a lovely magazine and I'm very proud of all you're doing".

Christopher Martin Jenkins writes: "Feet and inches ARE miles better and I shall waste no chance to say and write so". Edward Fox assures us of his constant support and writes; "Would not the entire world be wise to adopt our British weights and measures system! Sophisticated simplicity." We are grateful for these and all other expressions of support from our Honorary Members, which are very encouraging. Incidentally our brief pen-picture of Dr C. H. Sisson in the *Footrule* omitted to mention his standing as a poet. His *Collected Poems* were recently published by Carcanet.

Annual General Meeting and Conference on 20 March 1999

After a comfortably full house for the morning AGM – by far our biggest attendance yet – in the New Cavendish Club, extra chairs were brought in to accommodate the capacity audience for the afternoon Conference. The Chairman, Bruce Robertson, opened the AGM with a welcome to all present and apologies from absentees. Minutes of the previous AGM (9th May 1998) were taken as read. A Statement of Accounts had been circulated and was presented by Vivian Linacre.

John Gardner had circulated (in his absence abroad) a "Campaign Update". Both the Chairman and Director also reported fully on the past year's activities, with lively participation from the floor. Bruce Robertson made it clear that, while absolutely committed to our cause, he is too busy to continue performing as Chairman as actively as he would wish and as the role requires, so it was with reluctance that he agreed to remain as caretaker Chairman while a more leisured successor is sought.

Then, after the speedy re-election of Vivian Linacre as Director, Robert Carnaghan as Editor and

Membership Secretary, John Gardner as Research Officer, David Delaney as Press Officer, Pamela Shaw-Hesketh as Subscriptions Secretary, Michael Plumbe as Events Officer, Adrian Liddle as Minutes Secretary, and the rest of the committee, there followed a lengthy discussion on the need to appoint a competent Honorary Treasurer – a post that had never been properly filled – until Fabian Olins kindly volunteered, to the grateful applause of all present. The AGM closed at 12 noon, after a very positive discussion on the progress of our campaign.

The entire proceedings at the Conference, which the Chairman opened at 2 p.m., were recorded by an independent TV documentary film-maker from London and also by a BBC2 TV reporter from the Bristol studios who was gathering material for a possible future programme. Vivian Linacre presented a full campaign report. He also elaborated on John Gardner's "Campaign Update". He then presented the BWMA Annual Awards (in absentia): the "Inch Perfect" Award to the Rt. Hon. Paddy Ashdown (who had sent a gracious letter of acceptance) and the "Metrickery" Award to the BBC (see below).

Dr Patrick Moore was sadly unable to come owing to illness (and we informed those who had booked for the Conference about this), but he promises to make it up to us on another occasion. After correspondence with Prof. Harald Witthöft it was agreed that his research on traditional German measures would make too specialised a topic.

Warwick Cairns, Board Member of Abbott Mead Vickers BBDO, delivered a masterly presentation on "Measuring Public Opinion," focusing on two recent exercises: the Survey by BMRB International Ltd, and the "New Guidelines for Food Writers". With his expertise in market research and the media, Warwick is a great asset to BWMA.

The other principal speaker was Michael Shrimpton, the eminent barrister and barnstormer, who delivered a characteristically erudite and entertaining speech. Finally, Bill Peters reported on his stewardship of Honorary Members and the new Corporate Membership. After a rousing discussion from the floor, the Conference closed at 5.15 p.m.

Members' Reception on 11 Sept. 1999

A Reception for Members will be held at our favourite venue, the New Cavendish Club, London W1, on Saturday 11th September 1999, commencing at 2.30 (Registration and coffee) for 3.00 p.m. After Tea at 4.30, proceedings will close around 5.30.

As well as the opportunity to meet one another, Members will receive the latest news, as the campaign against compulsory metrication will then be entering its fiercest stage. Tickets, inclusive of refreshments, are only £5 each. Book now!

The BBC replies

Sir Christopher Bland, Chairman of the BBC, wrote a charming personal letter on 22nd April to our Director, as follows: "Thank you for your letter and enclosures of 29th March. The BBC is used to winning awards, but the 'Metrickery' accolade is a first. We are not in the business of imposing anything on the public; we merely try to reflect and report on what is going on

in the world and let them make up their own minds. But I will certainly pass your comments on to BBC Education. Your certificate will, I'm sure, rank as a collector's item."

The Guild of Food Writers

Some years ago, the Guild of Food Writers published a set of guidelines for food writers.

Based on the Government of the day's timetable for a changeover to metric measures in the shops, and on estimates of likely demand for metric-only recipes from a new generation of home cooks, they recommended a short-to-medium-term phasing-out of pints, pounds and ounces in food writing.

Since then there have been two developments:

- New EU legislation has significantly altered the Government's "changeover timetable".
- New market research has now measured the actual size of the demand for metric-only and other recipe formats, both from the public at large and from a number of key groups (the metric-educated 15-24s, for example), with surprising results.

The BWMA has updated the old guidelines to take these changes into account, and published them in the form of a colour leaflet which has been sent, with a covering letter, to all members of the Guild.

Corporate Membership

This issue of the *Yardstick* sees the introduction of our Corporate Membership. The first seven Corporate Members are: Bertram Bennet Fireplaces Ltd; The Claridge Press; Midland Chilled Foods Ltd; Natrass Giles Partnership; Production Pattern (Bristol) Ltd, The Compact Hanson Trust, and Trago Mills Ltd.

Trago Mills is a family business founded in 1965, with an annual turnover of over a hundred million pounds and three West Country stores. Its Chairman, Bruce Robertson, tells us that, "As the principal tenet of any successful transaction is the shopper understanding the retailer's offer, we always speak with our customers in language they understand. Until they wish otherwise our customary units remain the order of the day".

Natrass Giles is a firm of Chartered Surveyors comprising fifteen partners. It deals in all aspects of commercial and industrial property throughout Britain. Its policy is explicit: "*Measurements in feet, prices in sterling, details in English*". Senior partner Mike Natrass tells us that, though perfectly conversant with metric and fully aware that its use has been legal in Britain for the past hundred years, nevertheless *compulsory* metrication has prompted the firm to decide *never* to use metric measurement, on principle.

Established in 1976, Midland Chilled Foods covers the entire country with its distribution service. Its Managing Director, Peter Shirley, MA, writes: "Along with thousands of our customers we cannot understand why we are being forced into the unwanted and unnecessary adoption of metric weights. We price in pence per pound which is what our customers want, and quite frankly we intend to continue to do so."

Research Officer's address

Our Research Officer, John Gardner, is in the process of moving house. Until further notice, please send correspondence to him c/o 45 Montgomery Street, Edinburgh EH7 5JX.

The legality of imperial weights and measures

Michael Shrimpton, LLB (Hons), of Gray's Inn, Barrister

Even before we took leave of our national senses and joined the European Communities (as they then were) in 1973, there were five words, appropriately enough in a dead European language, which made nonsense of the whole enterprise and struck fear into the hearts of the shamefully large numbers of lawyers who were pro-Marketeers: *leges posteriores priores contrarias abrogant* – “A later law repeals an earlier, to the extent of any inconsistency”.

No words of repeal are required, nor can Parliament stop the operation of the rule, because Parliament cannot bind its successors. The present Parliament is as sovereign as the Parliament which met in 1971 and 1972 to pass the European Communities Bill. Some MPs in that Parliament were good enough lawyers to point out that any future Act which conflicted with Community law would take precedence over it. The discomfort of the then Solicitor-General (Sir Geoffrey Howe) leaps off the pages of Hansard.

The draftsman of the notorious S.2 of the 1972 Act was well aware that he could not bind future Parliaments and knew that a previous attempt to exclude the doctrine of implied repeal (which is a fundamental doctrine of constitutional importance) had been emphatically rejected by the Courts and rightly so. His quite improper attempt to bind future Parliaments (“to be passed”, “shall be construed and have effect”) is ineffective and mere surplusage.

What the pro-Europeans hoped for was what Sir William Wade QC has described as a legal revolution, whereby the judges would refuse to give effect to the express words of an Act of Parliament and transfer their allegiance from the Queen in Parliament to the new institution of the EEC: what constitutional lawyers call a crisis of recognition. It has happened before: e.g. in Southern Rhodesia, where the judges gave effect to the *de facto* authority of the UDI legislature; and in the Channel Islands, under duress, during the Nazi occupation, when primacy was given to the unlawful edicts of the occupying power.

The hopes of the pro-Europeans have not quite been fulfilled, however. In the *Factortame* case, the Government was too nervous of domestic political reaction, or too afraid of upsetting our Community partners, to stand up for Parliament and press the implied repeal point. Because it was never argued the case is not authority and has no legal standing. (Much of it was reversed subsequently anyway in *M v Home Office*).

Besides, *Factortame* was before the Maastricht crisis and the re-emergence of a powerful national Eurosceptic movement, symbolised by the effective campaigning of the British Weights and Measures Association, to whom the British people owe a great debt. A case such as *Factortame* would today be argued in a blaze of international publicity, with intense media, parliamentary and public scrutiny of the judges, who would find it very difficult to transfer allegiance to Brussels. If any judge did refuse to obey Parliament (which is unthinkable), he could be removed by a simple vote in either the House of Commons or the Lords.

Imperial weights and measures are expressly authorised by Parliament. The Weights and Measures Act 1985 *postdates* the European Communities Act 1972, which is the only authority for the Weights and Measures (Units of Measurement) Regulations 1994.

Therefore these Regulations are *ultra vires*, null and void. The Weights and Measures Act 1985 (Metrication) (Amendment) Order 1994 is arguably valid, because it purported to be issued under the ‘Henry VIII power’ (to amend primary legislation) in the 1985 Act itself; the Henry VIII power, as its name implies, being a highly controversial and despotic power designed to place Minister and officials above Parliament. The draftsman of these second Regulations, however, was labouring under the misapprehension that the Units of Measurement Regulations were valid. The outlawing of imperial weights and measures really needed *both* sets of Regulations to be valid.

Any prosecution relying on the first set of Regulations would be unconstitutional and a *praemunire* [preferring the laws of another jurisdiction over and above Parliament], as it would necessitate inviting a Court to defy the express will of Parliament. It is not to be imagined that any Court in the land would behave in such a way and trigger a constitutional clash between Parliament and the Courts (in which Parliament would inevitably triumph anyway).

A prosecution relying on the second set of Regulations (SI 1994 No. 2866) would need to be considered carefully – some of the Regulations are probably lawful but others may clash with the primary legislation of the 1985 Act, which takes precedence.

16th April 1999

We are most grateful to Michael Shrimpton for his valuable expert legal judgment.

We must add that the BWMA, as a non-political body, has no view on the UK's membership of the European Union, either for or against. We welcome, and need, support from all sides. – Editor.

Going Metric?

What today's public thinks

Research Findings

Access Surveys — BMRB International Ltd

Introduction

Britain has been 'going metric' for thirty years, and we are now in the final stages of the official changeover. On 31st December 1999, it will become a criminal act — punishable by heavy fines or even a prison sentence — for shopkeepers and market traders to sell fruit and veg, meat and other 'loose from bulk' goods in pounds and ounces.

So, after all of the years of official conversion, just how metric are the British public?

There is a sense, particularly amongst middle-class metropolitan *bien-pensants* of a certain age, that it's already a done deal; that people in general — and certainly most people under the age of forty — have either already made the change, or, if they haven't, are doing so. Based on their experience, based on the people they know, this might be a reasonable assumption. However ...

Back in November 1997, a survey of 1,000 people was carried out by Research Services Ltd, to discover which units of measurement the public prefer to use 'for most everyday purposes', and which units they want to see displayed on packaging on supermarket shelves and in recipes in newspapers and magazines.

The results were decisive: over 70% of the public, and 82% of women, said they preferred to use familiar UK units for most purposes. Even more significant, perhaps, was the fact that a clear majority of the youngest group sampled — the metric-educated 15-24-year-olds — preferred feet and inches, pints and pounds to metres and kilograms.

As for packaging and recipes, 70% said they wanted 'dual marking', allowing them to choose their own preferred system, whilst only 7% wanted metric-only labelling.

Since that survey, the proposed abolition of 'dual marking' has been postponed for a further ten years. However, the abolition date set for 'loose from bulk' goods still stands. So it seems appropriate, on the verge of the time when a stallholder could go to prison for selling apples by the pound, to ask, again, what the public actually want. Accordingly, a new survey was carried out in February 1999.

Summary

To the question "Thinking about buying fresh foods, do you prefer to think of weight in pounds and ounces or in kilograms and grams?" 72% of the public said they preferred to think in pounds and ounces, while only 15% preferred kilograms and grams.

As with the 1997 survey, women — who tend to do a lot more shopping than men — were much more in favour of the familiar UK units than men, with 83% of them preferring pounds and ounces.

Again, as with the 1997 survey, young people — educated solely in metric for many years — were more evenly balanced, but (surprisingly) showed a preference — by 46% to 43% — for the UK system. This issue is discussed in some detail below.

And, as before, the middle classes — and particularly those living in London and the East Midlands — had a higher proportion of metric users than any other social group, although even here the balance was still in favour of imperial.

The Issue of the Young

The education system has long been wholly metric, as has children's publishing and children's television. Even the *Young Telegraph* (of all things!) only ever talks about measurements in metres and kilograms, and gives no sense that there is — or ever has been — any other way to measure things.

So the question that leaps out is, Why? Why is it that the majority of an age group who've never been taught anything about imperial measures say that they prefer them? Why is it that the figure for those preferring metric is 43%, and not 100%. And why — if the pace of total metrication has speeded up so much in the past year or two — is that 43% figure exactly the same as the figure for 15-24-year-olds preferring metric 'for most everyday purposes' back in 1997?

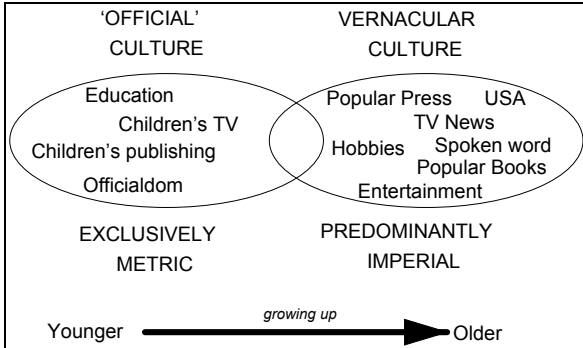
The best explanation we can come up with is to do with two different cultures to which the young are exposed, to varying degrees, during their upbringing.

The 'official' culture, the educational one determined by people whose job it is to know what's good for you, is completely metric, and acknowledges nothing else. Even the non-metric measures still in common use elsewhere — speed limits on motorways, distances between towns, people's heights and weights — are always translated.

However, at a certain age, children begin to break out of the path laid out for them by adults, and to make their own choices. And it seems that the vernacular culture into which they graduate still makes wide use of customary measures.

So, children begin to choose their own reading material: the most popular self-chosen children's author by far is Roald Dahl, whose books are full of feet, inches, pints and pounds and never mention the metric system at all. And when children grow out of

The Beano, the most widely read publication is, in fact, *The Sun*, in which goals are scored from ‘thirty yards’, pop stars are 6ft 2in tall, if they’re Jarvis Cocker, or a more ‘pint-sized’ 5ft 6in, if they’re Ronan from Boyzone; and balloonists make epic 29,000-mile journeys, reaching heights of 30,000ft.



Hobbies are another area where imperial measures are often the norm. The horses in *Your Pony* are advertised for sale in hands; the fish in *Angler's Mail* are so many pounds, if you're lucky, or so many ounces if you're not. Even newer sports and activities – particularly those with a strong American influence – don't make much use of metric. In *Sidewalk Surfer*, for example, a British skateboard magazine read mainly by teenage boys, boards are advertised for sale sized in inches, and the ramps and obstacles used to do tricks on are always measured in feet.

So, for as long as young people want to break out of the ‘official’ culture laid down for them by their elders and betters, as long as they ‘graduate’ to hobbies and media in which imperial measures are the norm, and as long as they remain influenced by the USA, the proportion saying they prefer metric is unlikely *ever* to reach anywhere near 100%.

The Research

A telephone survey of a nationally representative sample of 1,010 people aged 16 and upwards, carried out between the 26th and 28th February 1999 by BMRB International Ltd.

Overall/By sex

- 72% of the British public prefer to shop in pounds and ounces.

	Imperial	Metric	No pref/DK
Total	72	15	13

- Women – who do a lot more shopping, on average, than men – are far more likely to think in pounds and ounces. Only 8% prefer kilograms.

	Imperial	Metric	No pref/DK
Male	60	22	18
Female	83	8	9

By Age

- The under-25s are more evenly divided than the over-25s. However, a majority at every age from 16 to 65+ prefer imperial to metric.

	Imperial	Metric	No pref/DK
16-24	46	43	11
25-34	63	21	16
35-44	78	8	15
45-54	81	8	11
55-64	83	7	11
65+	79	7	13

By Social Class

- The preference for imperial over metric is clear for every social class. However, it is most marked amongst average-income and lower-income groups.

	Imperial	Metric	No pref/DK
AB	62	21	17
C1	69	18	13
C2	83	9	7
D	76	12	12
E	81	8	11

By Region

- The preference for imperial holds true across the country. However, the more urban and multi-cultural areas of Britain – like London and the East Midlands – have a stronger contingent of pro-metric and undecided people.

	Imperial	Metric	No pref/DK
London	56	28	16
Wales*	68	19	13
E. Midlands	70	12	18
North-West	71	18	10
W. Midlands	72	9	19
South-East	74	14	12
Scotland	74	13	14
Yorks/Humber	76	11	12
North	78	7	15
South-West	79	12	9
East Anglia	84	11	4

*small sample size in Wales – 66 people, compared with 132 in London.

Conclusions

“The fact that at the end of this year shopkeepers in Britain will not be able to display pounds and ounces on fresh foods, even if by doing so they help their customers ... is lunacy”

Rt. Hon. Paddy Ashdown MP,

March 1999

The complete metrication of Britain's shops and market stalls is settled policy, both of this Government and the previous. It will become a criminal offence to sell 'loose goods from bulk' by the pound on 31st December this year. And yet – beside the fact that it meets Britain's obligations under European law – it is hard to conceive of any benefits whatsoever in the prosecution a small greengrocer selling, say, a pound of apples to a customer who asks for it.

The law also requires small shopkeepers working with old scales to buy expensive new weighing equipment. This cost has no discernible benefit to trade, whether on a domestic, European or global

level; nor, as the results of this and other surveys show, is there any appreciable public demand for it.

Even the assumption that 'young people' are all metric nowadays, and therefore that shops ought to make the change, for their own good and for the sake of a future generation of customers, has very little basis in measurable fact. And even if it had, shopkeepers are perfectly capable of making changes to safeguard their own profit, without having to have a law telling them to do so.

So, if no-one wants it to happen; if it imposes unnecessary costs on small traders; and if no-one benefits from it, the question that needs to be asked is, why is it happening?

Warwick Cairns

Some remarks on the metric system

John Strange

The object of this article is to say a little about the metric system and to show that some of the units which are replacing British ones in the name of metrication are not in fact metric.

As every schoolchild used to know, $5\frac{1}{2}$ yards equals one rod, pole or perch and 160 square perches equals an acre. At one time, the French had three different types of perche: "perche de Paris" (18 French feet), "perche ordinaire" (20 feet) and "perche des eaux et forêts" (22 feet). Thus, the French acre, which was always 100 square perches, could have been nearly equal to our own, about as small as 4,000 square yards, or almost as large as 6,000 square yards.

By the 18th Century, France's weights and measures were generally in disarray; on the 18th Germinal of year 3 of the French republic (7th April 1795), France scrapped its old measures entirely and adopted a new system, called the metric system. In contrast, Britain's weights and measures were sufficiently refined to require no more than being standardised and codified by the Act of 1824.

Since its inception, and from the scientific point of view, the metric system has undergone many improvements, notably at the hands of Lord Kelvin and Giorgi. Further improvements were made at the 11th Conférence Générale des Poids et Mesures in 1960 when the metric system was renamed the *Système international d'unités* (SI), although it is still known informally as the metric system. It is today the best system we have for most technical purposes but not, I suggest, for everyday use.

The essence of SI is that each type of magnitude (length, volume, time, etc.) has only one unit to measure it. Scientists are quite happy with this position; if the metric unit seems disproportionate to the thing being measured, they just multiply the unit by a suitable integral power of 10. Thus, in his school physics books, G R Noakes declares that the mass of the sun is $1.99 \times$

10^{33} grams and that the charge of an electron is 4.77×10^{10} electrostatic units. This is fine for scientists but not much good for the rest of us.

As the metre is too big for small things and too small for great distances, we have the millimetre (one thousandth of a metre) and the kilometre (1,000 metres). The prefixes "milli" and "kilo" can be applied to any metric unit (except the kilogram), as can "mega" (one million) and "micro" (one millionth).

However, already anomalies appear. The SI unit of mass is not the gram but the kilogram. Furthermore, one thousandth of a cubic metre is usually called a litre rather than a cubic decimetre and a megagram is usually called a metric ton (or tonne). It should be emphasized that the litre and the metric ton are not SI units: the metric unit of volume is the cubic metre and the metric unit of mass is the kilogram, and we must respect the principle mentioned above according to which there is only one metric unit for each type of magnitude. There is a very subtle distinction: the International System of Units (SI) includes not only the SI units themselves but also the various decimal multiples of SI units, such as the litre, the metric ton, the kilometre and the millimetre. However, these decimal multiples and submultiples are not SI units. Don't blame me for this – take it up with the Bureau International des Poids et Mesures, Pavillon de Breteuil, Sèvres 92, Hauts-de-Seine, France.

The measurement of angles, by the arcs they cut on a circle, is as old as the notion of angle itself and was already known to the Babylonians of 4,000 years ago. They used the degree to measure angles; each degree was divided into 60 minutes and each minute into 60 seconds. The number 60 was probably chosen because it is divisible by 2, 3, 4, 5 and 6 (and 10, 12, 15, 20 and 30). We still use these units today, despite French efforts to decimalize angles. The French tried dividing the right angle into 100 grades or gons but the system never became popular; it does not fit in with time, as we shall soon see.

The metric unit for measuring angles is the radian. Two right angles equals 200 gons, 180 degrees or 3.14159265... radians (yes, it is the number π). There is, however, a technical difficulty. As the Greeks recognized, angles are not true magnitudes and the methods developed in Book V of Euclid's Elements cannot be applied to them.

Suppose for a moment that the earth were a perfect sphere. The meridians are semi-circles, drawn on its surface, whose end points are the North and South Poles; the polar axis is the straight line which runs through the centre of the earth, joining both poles and extending indefinitely in both directions beyond the earth.

The nautical mile is the distance between two points on the same meridian whose latitudes differ by one minute; so the distance along a meridian from the North or South Pole to the equator must be 90 times 60 or 5,400 nautical miles.

However, because the earth is squashed at the poles, its curvature is greater near the equator than elsewhere and consequently the nautical mile, as defined above, varies from nearly 6,046 feet near the equator to about 6,107 feet near the poles. The Admiralty decided that the nautical mile should be 6,080 feet but the international nautical mile has since been defined as 1.852 kilometres which is just under 6,076' 1½".

The French wanted to define the metre in terms of the distance from the North Pole to the equator measured along the Paris meridian. This distance was to be 10 megametres so that any two points on the meridian, whose latitudes differed by one grade, would be 100 kilometres apart. Each grade is divided into 100 parts and the kilometre was to replace the nautical mile.

However, the earth is divided by meridians into 24 time zones. The two meridians which bound one of these time zones meet at the poles at an angle of 15° (360° divided by 24). This relationship between angles and time zones turns out to be rather awkward if the angles are measured in grades. The French had foreseen the difficulty and, on 5th October 1793, the Convention decreed the decimalization of time. This proved to be a failure and a further decree on 7th April 1795, the date of birth of the metric system, suspended the application of the earlier one for an indefinite period. So, in a certain sense, the metric system was stillborn. As a result, we still use traditional units for time and navigators still use nautical miles. Scientists, who do not mind if the unit they are using is sometimes disproportionate to the thing they are measuring, are usually quite happy to use the Second for time and the Metre for distance.

One of Kepler's laws of planetary motion tells us that the average, α , of the greatest and least distances of a planet from the sun is related to the time, T , taken to complete the orbit and is represented by the equation $\alpha^3 = \lambda T^2$, where λ is a number which depends only on the units used to measure α and T , and is the same for all the planets.

Now, when talking about the solar system, astronomers measure distances in astronomical units. One astronomical unit (AU) is the average of the greatest and least distances of the earth from the sun.

If the average distance of a planet from the sun, α , is measured in AUs and the time to complete the orbit, T , in years, then the numerical value of the constant λ in the equation $\alpha^3 = \lambda T^2$ is 1. Clearly the astronomical unit and the year are the right units in this case.

Similar considerations lead particle physicists to prefer the electron-volt to the joule as the unit of energy, whereas those working in the field of relativity use units in which the speed of light is 1.

The SI unit of time is the second. The hour, being 3,600 seconds, is not a decimal multiple of the second and consequently does not belong to SI. It follows that any unit involving the hour, such as the kilometre per hour or the kilowatt-hour, is not metric. The metric unit of speed is the metre per second and the metric unit of energy is the joule, and to these units we may adjoin the standard metric prefixes. For example, we might measure the speed of a rocket to the moon in kilometres per second and that of a woodlouse in millimetres per second. If we use a one-bar electric fire for an hour, it will transform 3.6 megajoules of electrical energy into heat.

The SI unit of temperature is the Kelvin. Zero on the Kelvin scale is the temperature of something that has no heat at all; it corresponds to -459.67° Fahrenheit. The Fahrenheit scale is well suited to the climate of Great Britain in that the temperature is almost always between 0°F and 100°F. However, from the scientific viewpoint, it does not make very good sense not to start at the beginning. So we have the Rankine scale which, like the Kelvin scale, starts at absolute zero but fits in with British units, such as the British thermal unit. Many of the equations in the theory of heat are valid only if the temperature is measured on an absolute scale such as those of Kelvin and Rankine. The Celsius scale, which is being forced upon us in the place of the Fahrenheit scale, is not metric. Indeed, we are expressly forbidden to use the metric prefixes in conjunction with Celsius.

The following table shows a sample of temperatures, on these four scales, relating to: absolute zero; freezing point of water, body temperature; boiling point of water:

degrees Kelvin	degrees Celsius	degrees Fahrenheit	degrees Rankine
0	-273.15	-459.67	0
273.15	0	32	491.67
310.05	36.9	98.42	558.09
373.15	100	212	671.67

The SI unit of stress or pressure is the pascal. Various units are used in the United Kingdom to suit the circumstances: pounds weight per square inch, pounds weight per square foot, inches of mercury and tons weight per square inch are among those commonly used. Pounds weight per square foot might be used for floor loadings, whereas tons weight per square inch would be suitable for measuring the tensile strength of steel. Pounds weight per square inch is often used for tyre pressures and inches of mercury for atmospheric pressures. Mariners are accustomed to having atmospheric pressures given in millibars. The millibar is not a metric unit but is equal to 100 pascals. So French

shipping forecasts use millibars but throw a sop to the metric Cerberus by calling them hectopascals.

To sum up, it seems that our masters in Brussels are (naturally) far more interested in banning the use of British units than in introducing metric ones; for example, the Calorie of 4.1868 kilojoules used by nutritionists is not under threat. However to replace a British unit by a non-metric one and to call the process metrication is to add insult to injury. The system being forced upon us by the European Union enjoys neither the practical advantages of British weights and measures nor the intellectual rigour of the metric system. I believe that we can cause trouble in the EU's anti-British camp by insisting on true metric units wherever the use of British ones is banned, as the authorities seem to be ill-prepared for this line of attack.

I've got a little list (the kilometre per hour has partially replaced the mile per hour on inland waterways and the kilowatt-hour has completely replaced the therm in gas bills):

Banned British unit	Imposed replacement	Metric unit
° Fahrenheit	° Celsius	Kelvin
mile per hour	kilometre per hour	metre per second
therm	kilowatt-hour	joule

That's beside the point!

Lance Haward

This article was written for *PASS*, the journal of the Mastermind Club, and published in its Autumn 1998 issue. Having been drawn to our attention by Joe Hand, a Club member and our Area Representative for West Surrey, it is here reproduced (slightly abridged) with the author's and editor's kind permission.

The wholly unauthorised attempt (unauthorised, that is, by any democratic process) to detach future generations from their cultural heritage by imposing an educational blanket of ignorance on them was surreptitiously put in train by Harold Wilson's government long before the European so-called Union pointed its bulldozer in our direction. From Shakespeare to the idiom of the football terraces, from the food we eat to the occupations of our leisure hours and the very map we move across, fathoms and cloth-yards, pints, inches and ells, ounces, miles and groats are the very stuff of our existence.

In this matter, the effects of Waterloo have been overturned at a stroke. The French may lament (as we also may) the rampant triumph of 'Franglais', but finally it is we who are the victims of that Gallic irrationality which is responsible for laws more bizarre than anything concocted by the Medes and Persians. It seriously believes that the basic unit of measurement is "the length of the path travelled by light in a vacuum during a timed interval of one 299,729,458th of a second."

Now the virus has crossed over into our bloodstream. An alternative definition has found its way into English statute law, compared to which the above is as simple as Do Re Mi. Here the metre is (hang on tight): 1,650,763.73 wave-lengths in a vacuum of the radiation corresponding to the transition between two specific but quite inexplicable levels of the Krypton 86 atom. Note that the one element common to both these definitions is the *vacuum*, which, as we all know, nature abhors. Whereas, if you want to define a yard, you don't even have to catch a 'bus to Trafalgar Square': all that's necessary is to lay hold of the nearest bystander of average build, stretch one arm out to one side, measure

off a span of cloth or piece of string from his nose to his finger tip, and — for *practical* purposes — that's it. People who used to work in the optics industry tell me that the severely pragmatic Germans, world-leaders in the trade, while paying lip-service to metrication as required by European law, converted all their actual blotting-paper calculations back into sensible imperial.

The sheer folly of metrication is certainly expressed in its megalomaniac assumption that every form of measurement under the sun qualifies for decimalisation, where the reality of both nature and universal human practice gives that proposition the lie. The figure 12 and its derivatives are imprinted upon the natural order itself. The passage of time has, arguably since 159 BC, been calculated in two phases of twelve hours each, with all subdivisions of the hour calculated in multiples of twelve. The very globe and space we inhabit have from time immemorial been measured in multiples of *six squared*. Is the structure of crystals decimal? Is the structure of snowflakes decimal?

I believe that all the major calendars throughout history, other than the Mayan, have instinctively opted for a system of twelve months as the most natural progression of the seasons. No less august a document than Magna Carta promises that 'there shall be one width of dyed cloth throughout the realm, namely of two ells within the selvages.' I bet that's being transgressed every day.

The limitations of the French system are revealed at every turn. On the athletics track, neither is the 800 metres half the distance of the 1500, nor is the 4x400 relay equivalent in distance to the 1500, in the way that the quarter/half/mile are inter-related, nor is there any relation between the 1500 and the 5000-metre events as between multiples of miles. All useful comparison of relative times, speeds and distances collapses. The lunatic obsession to reduce every quantity to tens is not just intellectual slovenliness: it also impinges on life and convenience in ways which, even when not positively disruptive, are always bizarre. How soon before it becomes impossible to buy a dozen red roses or we have only 'Ten Days of Christmas'?

I'm now prevented from replacing the damaged lock on one of my doors without first gouging out an entirely new hole, as manufacturers no longer produce locks that match hitherto-standard sizes. Thus the alien norms that have been foisted upon us unheralded, uninvited and unvoted-for, bring about wholly unnecessary obsolescence, destruction and waste. As always, of course, big business gets rich on the carnage – a motivation blatant for decades in pronouncements by the British Standards Institution.

Our daily measurements should, as our ancestors recognised, have an observable scale and proportion and relationship to external reality. 'XYZ recurring' of the distance from the Equator to the North Pole when the Sun's in Libra and sanity in the balance represents only the apotheosis of the Insubstantial. The pity is that, having long since dumped the silliness of Brumaire (the second month in the decimal calendar that lasted from 1793-1806) and depersonalised playing cards (only ace to ten, with no face cards!) and other figments of the disordered, Revolutionary mind, the successors of Fabre d'Eglantine haven't yet dumped the silliest or the lot, as being – in a word – *pointless!*

Haward was also kind enough to write, saying: "I was *delighted* to be introduced to the BWMA via *PASS*. The existence of the Association and, more to the (decimal) point, its success in turning *back* a seemingly unstemmable tide, is my most encouraging discovery in three decades of watching the wholesale cultural devastation wreaked by officialdom in this and many other fields. It takes only one night for the supposedly healthy body to be revealed as terminally sick: only one intellectual terrorist to feed the destructive virus into the bureaucratic system.

Those who subscribe to the fashionable and spurious creed, that all change is *ipso facto* a mark of wholesome growth, believe that time, decay and public inertia are on their side. In this climate, the survival of the truth may be less dependant on winning the occasional skirmish with Waitrose than on losing no opportunity to implant the imperial antidote into minds poisoned with metrication at school. The best hope for the future is not so much in the forensic ingenuities of BWMA members in their engagements with the powers of obscurantism as in impressionable young minds."

Metrication insidious but resistance growing

What does the law say?

Harold Parkin of Heathfield elicited a reply from The Rt. Hon. Sir Geoffrey Johnson Smith DL MP (dated 22nd February 1999), stating:

"You are correct that you can not be prosecuted for simply choosing not to use metric units of measurement. Only where there is evidence of fraud or misrepresentation will prosecution become a possibility; there is no danger of prosecution for honestly using imperial units."

This is an extremely important statement, which we shall challenge the Ministers responsible to confirm or deny – either answer providing a vital opportunity for publicising our campaign.

Death by decimals

This was the headline given by the *Daily Mail* on 5th April to perhaps the worst case of metric muddle ever seen. The full-page story concerned a new-born baby who died after being injected with precisely ten times the intended dose of a heart drug.

Doctors giving medication to children calculate the dosage according to the patient's weight. In a 1995 incident the doctor put the decimal point in the wrong place and gave the premature twin a hundred times the accepted dose of morphine. A leading consultant has warned that there could be as many as fifty overdoses a year in his hospital alone.

A study published in the *British Medical Journal* in 1995 found that only one in six doctors could produce the correct answer to a simple dosage calculation. An eminent anaesthetist commented: "Judging by the problems we have getting our junior

doctors to add up, I would venture that standards may even be falling." Those responsible for the decline in mental arithmetic, which has accompanied metrication, bear a heavy responsibility.

Metrication by stealth

Following the item in *The Footrule* (issue 4), here is a further revelation by Glenys Kinnock MEP in her correspondence with John Colegate.

On 13th March 1995, long after the legislation introducing compulsory metrication had been passed and barely six months before it came into force, she wrote in answer to his enquiry about the rumours of it to say: "I have contacted the European Commission to check whether there are any proposals in the pipeline which would mean enforced metrication in Britain and have been informed that there are no such proposals afoot. Unfortunately, from time to time such stories about Europe tend to circulate and I understand that a number of people have been in touch with the Commission recently to seek reassurance on this matter. I apologize again for the delay in replying and I hope that this information is helpful to you." How can deception be "helpful"?

Earlier, John had tried to obtain information from his Westminster MP, Paul Flynn, who had merely issued a similar denial, writing on 2nd August 1994: "I do not know of any such proposal. If you come across any written reports I would be glad to see them. It is not wise to comment on 'rumours' as so many of them turn out to be baseless."

What went wrong?

We have only just seen a piece in *The Guardian* of 14th May 1998 headed "Britain's old weights are put back in the balance", that reported:

"Consumer affairs Minister Nigel Griffiths [as he then was] yesterday announced he was in talks with the European Commission to win dispensation to keep imperial measurements alongside the metric system after December 31, 1999. He said he was 'very sympathetic' to the idea of the two systems running in tandem for up to ten years. Under current European Union law, shops will not be able to sell loose food such as fruit and vegetables in pounds and ounces from 2000. Metrication, he added, had been 'the sin which dared not speak its name' under the previous government."

This clearly implies that he wanted the ten-year extension to cover loose goods as well as dual marking. So what went wrong?

Resistance grows

There is now a fledgling **Irish Anti-Metric League** at Wingrove, Baivlanna House, Bushfield, Castle Plunkett, County Roscommon. Will any Members with regular Irish connections please notify us with a view to establishing liaison?

In the United States Erika Mann has started **Freedom2Measure** (Suite 4560, 6110 Pleasant Ridge Road, Arlington, Texas 76016). She describes herself as a 35-year-old engineer who has lived in various countries, is fully capable of working with the metric system, and is not against voluntary use of it.

On her excellent Internet site she explains, under the heading "Don't let part of our heritage get steamrollered," the disadvantages of metric units and the advantages of keeping traditional ones. She reports that the Federal Highway Administration intends to make metrication of all US highways mandatory from 30 Sept. 2000. However, the Space Shuttle programme runs with American units.

Failure of metrication in Kentucky

"Metric to English conversion" is the headline over a news release (a copy of which was obtained by David Delaney) from the Highway Design Division of the Transportation Cabinet in the State Government of Kentucky, which reads:

On October 1, 1998, an announcement was made that Kentucky would move back to English units for projects. Stated in *Design Memorandum No. 11-98*, Secretary Codell is stated as saying, "This Cabinet will continue to use metric units for projects in the development phase at present, and all current construction contracts will be brought to conclusion in the system as designed. All new projects commenced on or after October 1, 1998, will be in English units. It is realized that some years will be required to be entirely reverted to English."

The metric tide is turning!

Comments made on the Internet

David Delaney has come across the following encouraging comments on the Internet.

"Engineers use the 'Système International' based on MKS (Metre/ Kilogram/ Second) with sub-units and multiples in step-powers of 3 – giga, mega, kilo ... milli, micro, nano, pico, etc – while students arrive at University knowing nothing but CGS based on Centimetre, Gramme, Second. That is because most of their school-teachers are ageing hippies who have left their education (as well as their ideals) in the 1960s.

The first thing I tell them is to forget centimetres, which are only for Blue Peter presenters. Britain is the only country that uses SI units. But SI and CGS are completely different bases and incompatible. It is ridiculous to make 'metric' the only legal system when there are two (maybe three!) different metric systems. So people will be even more confused, some using hectares and tonnes and centimetres, while others use kilometres, kilograms and cubic metres." – Paul J. Spring.

"My local Asda (Charlton) still quotes its petrol in gallons as well as litres. So does Tesco on Kingston Park, Newcastle." – Alex Stanway.

"My local Chinese supermarket has shelf after shelf of tins ... which mostly are in metric and English; sometimes in English first with two numbers after the decimal point for the metric. Virtually all the computer hardware made in the Far East is measured in inches. In Slovakia, plumbing pipes are measured in inches. The rest of the world doesn't worry about which system of measurement is used; the real concern is about quality and price." – Dr Sean Gabb.

"The BWMA view is that, ultimately, any ban on supplementary indications is illegal because it violates Article 10 of the European Convention on Human Rights relating to freedom of expression. The EU may impose an obligation to use metric units, but it cannot also prohibit the additional expression of their equivalent in customary units. OK, so when is a case on this coming before the ECHR? Alternatively, how about a case at the European Court of Justice arguing that the directives contravene Article 3.1(q) of The Treaty of Rome (as amended)? Article 3.1 states: 'For the purposes set out in Article 2, the activities of the Community shall include ... (q) a contribution to education and training of quality and to the flowering of the cultures of the Member States.' It is surely incontrovertible that imperial measures are part of our culture; therefore their abolition violates that fundamental principle." – Austin Spreadbury.

"We at Yachting Instruments supply tide watches and measure their depth working capability in fathoms. Like the knot and nautical mile, unlike the metre, they are actually valid scientific measurements. The nautical mile at any place is the length of one minute of arc, measured along the meridian through that place. (It varies slightly in different latitudes owing to the irregular shape of the Earth, but in practice is taken to be 6,080 feet – equals 1.1516 miles – which is its value at a latitude of 48 degrees.) In navigation the unit of speed is the knot, which is one nautical mile per hour.

A cable is one tenth of a nautical mile; in practice taken as 200 yards. (It was Queen Elizabeth I who

decreed the standard land mile as eight furlongs, each of forty perches or ten chains, affording infinite flexibility.) Nautical miles and knots are universally used throughout the marine and aviation worlds. If the EU think they are going to change all this they are up the creek without a paddle!" — Bill and Ann Woodhouse.

"The entire engineering and construction industry worldwide is still grounded in Imperial units, albeit converted to metric in many cases in a rather contrived manner. So, in houses, you get doors which are 2'6" x 6'8" but are sold as 762mm x 2032mm (easy to remember, eh?); plumbing systems use ½" and ¾" pipes which are quoted as 12mm and 20mm. In heavy engineering, steel beams might still be 12" x 8" but are in our handbooks as 305mm x 203mm; and process-plant pipework might still be 6" but quoted as a nominal bore of 150mm. Perhaps you've seen the "175/70 x 14" or similar on your car tyres, which obviously means 175mm wide x 70% std. profile height x 14 inch rim diameter. You may even find that these are mounted on "5½ J" rims which, naturally tells you that they are 5½ inches wide. Great, isn't it?" — Peter Willmot.

The "metric foot"

The "metric foot" (0.3 metre) is a unit which provides a compromise between the advantages of the genuine foot and the serious lack of divisibility of officially approved metric units. Its existence indicates the inadequacy of proper metric measures.

Thanks to Bruce Moon for drawing to our attention a letter from Nicolas Wadsworth in *Physics World* (Institute of Physics Publishing) of 18 Sept. 1998. He writes that this unit is alive and well at the nearest timber yard or do-it-yourself emporium.

"There the lengths of pieces of timber are quoted in metres, but the only lengths you can buy are multiples of the metric foot i.e. 1.8 m, 2.1 m, 2.4 m, 2.7 m, etc. Similarly, the transverse dimensions of sawn wood are related to binary divisions of the metric inch (25 mm). Thus 19 x 38 mm, which approximates to ¾ inch by 1½ inch, is a standard size. And the next step up from 19 mm is 22 mm (7/8 inch). Plywood, on the other hand, uses Imperial (not metric) feet and so comes as panels measuring 2.44 x 1.22 m. A standard thickness is 12.5 mm."

In the same issue Ian Davies ends his letter on this subject: "Long live feet, inches and their convenient and logical subdivisions."

More successes by BWMA members

Patrick Carroll of Lowestoft has persuaded several authorities to replace their unwarranted metric **road signs** by imperial. He received a very positive response from Philip Reed, Curator of the Cabinet War Rooms ("I hope you will understand that it is my wish to offer the visitor here every facility that we can and that proper signage to the site is the very first facility that we should provide"); and from Keith Tyrrell, Head of Construction Services, Waveney District Council ("You are quite correct in your observation that the sub-plate to each of the signs should give the distance in "yards" not "metres". I have issued an order that the plates be

removed and, when available, new plates substituted. Thank you for bringing this matter to my attention.").

If you notice any public signs giving distances in metres or kilometres, please write complaining to the responsible body, politely but firmly pointing out that they had no authority to convert to metric, since miles and yards are *permanently exempt* from metrication for all distance and speed signs.

Simon Kirby has had correspondence with **Argos** about the use of metric measurements in their catalogue. The person whom Members should bombard with complaints is Mrs J. Underhill, Customer Service Department, Argos Distributors Ltd., 489-499 Avebury Boulevard, Saxon Gate West, Central Milton Keynes, MK9 2NW.

Roy Tubb scored another success, this time against the mighty Royal Society for the Prevention of Cruelty to Animals. His letter of complaint about metric descriptions in their catalogue was at first fobbed off, but his persistence eventually elicited a condescending reply from their Marketing Officer (Trading). She wrote: "The catalogue production and mechanics are the responsibility of ... and as one of the larger catalogue suppliers over the years I am sure they are aware of their legal responsibilities. I have had no other complaint in this area and being of an older generation myself have no problem understanding measurements and weights etc. in the catalogue but appreciate it could prove annoying to someone else. I'm sorry I can be of no further assistance to you."

Roy replied: "I have today heard from the local trading standards officer, whose job it is to enforce the law in this regard. He confirmed my understanding that there is no legal requirement for any company to use metric measurements to *describe* the lengths, widths or heights of any product for sale. ... Finally, it is not so much a matter of *understanding* measurements. It is more a case of good business sense. The vast majority of the British people better understand feet and inches. They also appreciate honesty in business. They praise those companies that show they understand good customer relations ..."

A few weeks later he received a brief reply from Anthony Baumann, the RSPCA's Head of Fundraising:

"Your correspondence with us over the last couple of years about metric vs imperial measures in our catalogue arrived on my desk this morning. You are absolutely right — we'll do something about it. Keep on campaigning."

After such an epic solo campaign, this was a real triumph. As Roy is still a fairly young man, perhaps he will take on the BBC next!

Mrs Yvonne Webber has kindly sent a copy of correspondence between her husband and *The Aviation Archive*, producers of models of classic British military aircraft which he collects, from which it appears that they have reverted from metric to imperial dimensions in their latest catalogue. This is so much more convenient when using the standard scale of 1:144.

Chris Robinson from Stockport reports that the initial results of a recent BUPA health screening gave his height and weight in kg, to which he responded by suggesting that customary measures would be more useful, eliciting a reply that stated:

"You will find your next test results sheet indicates imperial as well as metric measurements for height and weight. I would like to thank you for your comments."

Steve Fenn quotes Mr Alan Moss, Chairman of The London Oil Refining Co Ltd, who points out that goods transport containers are either 20ft or 40ft.

We stand corrected

BWMA's chief scrutineer and chastiser, our valued member John Strange, has wielded his red pencil on several items in the last *Footrule* (number 4).

On page 4 we gave 16 as "the number of points in an ordinary compass" whereas he quotes *The Admiralty Manual of Seamanship* as stating that "There are 32 points in a compass".

On page 5, he was intrigued by our mentioning the league. Can anybody confirm his impression that this originally represented one hour's walking distance?

On page 6, he responds: "There seems to be some confusion regarding the pennyweight. However, the matter is correctly stated at the bottom of page 7 and top of page 8: 240d = £1, so 240dwt = 1lb. This, of course, is the Troy pound of 12 Troy ounces because it is this unit that is used for precious metals – in this case silver. Here is the table for Troy weights: 24 grains = 1 pennyweight, 20 dwt = 1 ounce, 12oz = 1lb. So the Troy pound of 5,760 grains is quite a bit smaller than the avoirdupois pound of 7,000 grains; while the pennyweight of 24 grains is smaller than the dram (one sixteenth of 1oz avoirdupois) of 27.34375 grains.

The metric equivalents can all be got from the fact that 1 grain = 64.79891 milligrams. The old 'copper' penny weighed 3oz avoirdupois. Maundy pennies of sterling silver are still minted but they weigh only seven and three-elevenths grains – i.e. six and eight-elevenths grains of silver with six-elevenths of a grain of base metal, since sterling is 37/40ths pure silver. Incidentally, the French

word *denier*, meaning penny [one twelfth of a sou], was also used as a weight, but its only use now in French is in phrases such as '*les deniers de l'état*' meaning the 'state coffers' [although in English the word is familiar as the gauge of fineness in silk stockings]."

On page 6, he was intrigued by the cubit of Memphis and the Great Pyramidal inch. "The Earth's polar radius is about 3,949.9 miles, the equatorial radius about 3,963.19 miles, and the average – i.e. the radius of a sphere having the same volume as the Earth – about 3,958.76 miles. So the polar semi-axis is about 250,266,000 British inches or 250,016,000 GP inches (taking 1 inch to be 1.001 British inches) or 10,000,600 sacred cubits. Exactly ten million sacred cubits equals 3,949.653 miles [against Professor Smyth's calculation of 3,950 miles]." John Strange questions, however, whether the builders of the Great Pyramid could have known the Earth's polar radius to within one quarter of a mile. The origins of our customary measurers in pre-history, over 6,000 years ago, remain a mystery. Does any of our readers have an expert view?

On page 7, we stated that a gallon of water weighs 10lb. "In other words, 4.54609 litres of water weigh 4.5359237 kilograms. So 1 litre weighs 997.764 grams. Just as they didn't get the length of the Earth's meridian quite right, so they made a slight error in the gram. It should be said in mitigation that they weighed the water at about 39°F whereas we did it at 62°F. At 39°F, 1 litre weighs 999.972 grams (so still not perfectly accurate)."

The changing world of information and communication

John Douglas of Forest Hall, Newcastle upon Tyne, has kindly produced a paper on this important topic, which we have slightly abridged as follows.

The recent decision to extend the deadline for metric-only labelling of products was reported in most newspapers as being the result of the USA's "failure" to comply with the EU's requirements. It might have been more accurate to say "the USA's refusal to comply". If any of us were to write to the press pointing out this choice of words and the implied bias, would the letter be published? The BBC's bias in favour of metric has been well documented in *The Yardstick* but the prejudice of our print media is less obvious.

When the fateful day arrived in October 1995 there was precious little information on the subject in the papers and my local supermarket manager, when asked about the compulsory change to metric, said she had received nothing from the government. This is in complete contrast to the 1971 change in our coinage, when the propaganda was loud and long. What is not so obvious about the press is that there is a kind of censorship in operation, and that is the censorship of omission. What is *not* reported can be

almost as illuminating as what is. Metric measurement was introduced by stealth – it came in like the thief in the night.

Fortunately, freedom of speech is not yet dead and buried: it is alive and in very rude health on the Internet, being beyond the control of the media or the Government. It is said that the fax machine and the photocopier helped to bring about the collapse of the Communist regimes in Eastern Europe because they allowed widespread distribution of information which the governments did not want their people to read. The Internet can be used in the same way to fight against compulsory metrication.

For those not familiar with the new medium, a brief summary. There are three main ways of communicating via the net: e-mail, newsgroups and web pages. The first of these is very simple: you write a letter to somebody, type in their e-mail address and away it goes along the 'phone lines to its destination.

Newsgroups can best be described by imagining a large notice-board in the centre of your town and, instead of writing a letter to your local paper, you just pin it to the board where everyone can see. Other people will read it and either respond to it on the board or pin up their own message on the same

subject or perhaps on a different subject. Except that, instead of being local this is an international notice board read by anyone on the Internet who chooses to read it.

The third way is via web pages which are rather like electronic publications which exist only in cyberspace and can take the form of anything from company brochures to football "fanzines" and just about everything in between. Where the newsgroups are transitory with messages expiring after a certain length of time, web pages are available indefinitely.

As an example of how it all works, there was an exchange of messages last year in the architecture newsgroup on the subject of metric measurement. This drew comments from the UK, Europe, Australia and the USA with supporters and detractors stating their views. (We won, by the way!)

There was a very good contribution from an American architect and, with his permission, I have reproduced it on my own anti-metric web page.

For those of you already connected to the Internet, I hope you are promoting the use of traditional measures at every opportunity. For those who are not connected, why not try it?

My own site [see below] has grown from a couple of small self-penned notes to a fairly large collection of stories and other information on the merits of retaining our inch-pound system and it has links to other, similar web pages around the world.

My favourite link so far is to a gentleman in Australia who relates how he was determined to build a garden shed using the brave new world of metric but finally admitted defeat and reverted to proper measurements.

If anyone has a tale to tell or other useful information which deserves a wider audience, you can send it to me at *estatopia AT zetnet DOT co DOT uk* and I shall add it to my pages.

12-INCH RULER MAKES A USEFUL PRESENT

ESPECIALLY FOR CHILDREN

12-inch white plastic ruler with inch scales,
BWMA's name & address & the words
"Feet and inches are miles better."

Prices include postage: £1 for 1, £1.60 for 2,
£4.20 for 6, £7.20 for 12. Send cheque or
(if under £2) loose stamps with your order to
45 Montgomery Street, Edinburgh EH7 5JX.

Also available, with the same text, are our
self-adhesive envelope stickers (1¼" × 2½")
at £5 for 500 or £9 for 1,000, including postage.

Here is a list of relevant Web sites:

*Australian Broadcasting Corporation – talk by Arthur Marcel
on failings of the metric system:*

www.abc.net.au/rn/science/ockham/stories/s11563.htm

British Weights & Measures Association:
users.aol.com/footrule/

English Weights & Measures [Brian Parkin]:
home.clara.net/brianp/index.html

Freedom2Measure [Erika Mann]:

www.freedom2measure.org/ and:
www.hostess.com/womanhood/f2m/ourunits.html

Inch Perfect [John Douglas]:

<http://www.users.zetnet.co.uk/estatopia/inch.htm>

Irish Anti-Metric League:

pages.hotbot.com/current/iaml

Metrication – just say no [Joan Pontius]:

www.rci.rutgers.edu/~jup/metric

Weights & Measures & Ancient Metrology [Shaun Ferguson]:
www.shauf.dircon.co.uk/shauf/metrology/metrology.htm

Members' Reception on Saturday, 11 September 1999 – see page 5

British Weights & Measures Association

~~45 Montgomery Street, Edinburgh EH7 5JX~~

Tel/fax: 0131 556 6080

Internet site: <http://users.aol.com/footrule/>

Chairman: Bruce Robertson. *Director:* Vivian Linacre.

Research Officer: John Gardner. *Press Officer:* David Delaney,

~~Mill House, Mortimers Cross, Leominster, Herefordshire HR6 9PE. Tel: 01568 708820.~~

Hon. Treasurer: Fabian Olins, 22 Foscoate Road, Hendon, London NW4 3SD; tel/fax: 0181 202 7781.

Subscriptions Secretary: Pamela Shaw-Hesketh, 157 King Henry's Road, London NW3 3RD.

Membership costs £10 for a year. Send name & address (written very clearly, please)
with cheque/postal order (payable to BWMA) to the Subscriptions Secretary.