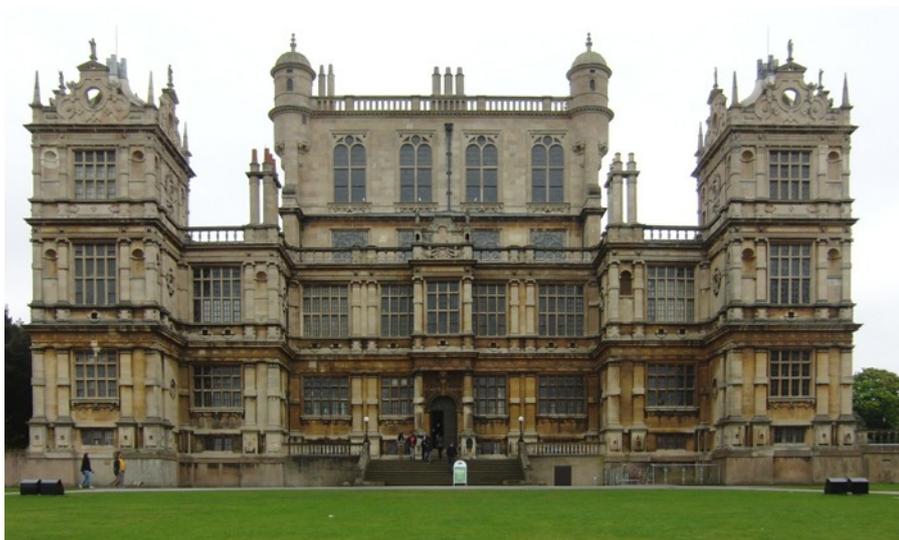
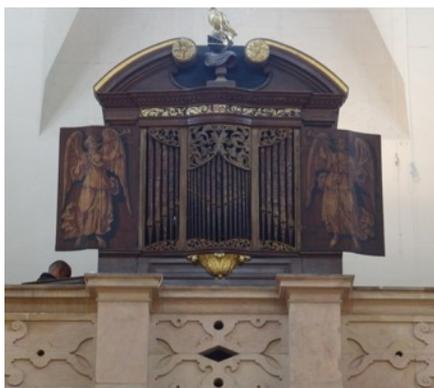


Derby & District Organists' Registered Charity No. 510567 Association



Contrasts in Wollaton

The Association visit to Wollaton in May was full of contrasts – the historic splendour of Wollaton Hall and the modern ambience of Kingswood Methodist Church in the nearby suburb. The Hall housed an historic chamber organ, reputedly unaltered since 1799 and famously tuned to unequal temperament. Members were well prepared with samples of 18th century pieces but sadly, apart from the beautiful ambience of sound in the Great Hall, the results were disappointing due to the poor condition of the instrument. The Echo manual was unplayable due to ciphers, and some bass notes on the Great became stuck when depressed. With alert console assistants we managed to cope with the lingering notes, but it was difficult to appreciate the subtlety



of the temperament due to generally poor tuning of the instrument as a whole. It is reprehensible that such a significant historic instrument has been allowed to deteriorate to the extent it has.

In contrast the organ at Kingswood was in superb order, maintained by no less than our own Ed Stow. The Organist, John Forster, gave an enthusiastic account of the history of the organ, originally built by Brindley and Foster in 1876. By the time of its transfer to Kingswood in 1986 it had acquired a variety of additional pipes from various builders. Indeed the remarkable six stops of the pedal division were



DDOA Events 2012

24th July

Evening visit to local organs: Quarndon and Holbrook. See pages 4 & 6.

22nd September

Annual full day outing, including Leeds Cathedral, St Aidan's, Roundhay and St Bartholmew's, Armley.

13th October

Members' Recital evening, Sudbury PC

21st November

Chairman's Event and AGM

Concerts & Recitals

Wednesday 4th July, 8.00 pm

St John the Baptist, Dronfield.
Organ recital by Mary Cobbold. Free.

Thursday 12th July, 7.30 pm

Melbourne Parish Church.
Guelph Chamber Choir from Canada:
Classical, Spirituals, Canadian folk songs
£5 Adults, £3 Children.

Wednesday 18th July, 4.30 pm

St John the Baptist, Buxton.
Organ recital by Ben Bloor. £10 (£8).

Wednesday 18th July, 8.00 pm

St John the Baptist, Church Street,
Staveley, Chesterfield S43 3TN.
Organ recital by Frank Berry. Free.

Thursday 26th July, 12.15 - 1.00 pm

Chesterfield Parish Church
Lunchtime organ recital by Eleanor
Cornas (Darley Dale). Free.

Derby Cathedral Organ Recitals Wednesdays, 7.45 pm

July 4th	Jane Watts
11th	Daniel Moulton
18th	Martyn Rawles
25th	D'arcy Trinkwon

August 1st	Steven Grahil
8th	Peter Gould
15th	David Liddle
22nd	Tom Corfield

Photos: Wollaton Hall, Wollaton, Nottingham.
Organ (Anon. c.1690-1799) in the Great Hall.
Members take turns to play, pump or listen.



Kingswood Methodist Church.

each of a different builder: Lloyd, Conacher, B&F, Gray & Davison, Adkins and Daniel. John played Andriessen's Theme and Variations which gave us a good impression of the tonal range of the instrument. For visiting players, the slightly idiosyncratic position of the pedalboard relative to the manuals was a slight challenge, but the lively acoustic of the church (no carpet) was rewarding.

Our thanks are to James Muckle and John Forster for arranging an interesting afternoon.

Laurence Rogers

Recent Events

The organ and Physics - Talk by Laurence Rogers at Melbourne Church

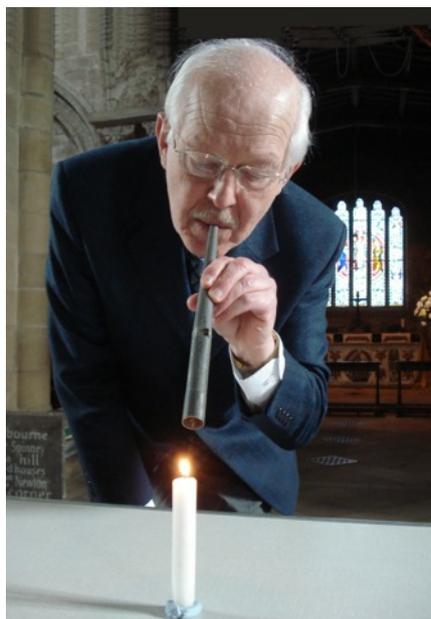
As Secretary of the Association one of my main concerns at an event is to count numbers – anything over 20 is good news and I can relax, at least a little. On this occasion I was over the moon, at least 65 in the audience by 7.25 ! My eyes were drawn to a vast array of gadgets laid out by the choir stalls, the like of which most of us had not seen since school science lessons in the 'good old days'. It was clear a lively evening was in prospect and I even began to imagine that Laurence might decide to add a touch of drama by arriving in a black cloak accompanied by flashes of light and a cloud of sulphur. Well, we did not quite get that, but we came close. With his usual boundless enthusiasm Laurence

took us through what to some is the rather obscure world of physics using his gadgetry with aplomb. Nodes, flues, reeds, sine waves, columns of air, vibrations, overtones etc. You name it, we had it. Just when the intellect was being challenged a bit much, off goes Laurence to the organ to play a short piece 'just for a bit of variety', as he modestly put it. Everything was made tangible, comprehensible and huge fun. (He even had problems with... yes, the church Sound System but what did it matter?) We were treated to the nowadays ubiquitous PowerPoint but it never became a bore, and the crowning moment for me was when he inserted a straw into his mouth, blew down it to produce a note and proceeded to raise the pitch by progressively shortening it with a pair of scissors - the best illustration of pipe length and pitch I've ever seen and it brought the house down.

We were glad for our numbers to be boosted by so many of the Melbourne community – a lesson for our future meetings, perhaps – and grateful for a warm welcome from Dr Mark Powell, the Vicar, plus excellent tea and coffee provided by members of the church.

It was a wonderful evening, indeed, a performance given by an academic, musician and educational showman all rolled into one. They don't make 'em like that any more!

Stephen Johns



Laurence demonstrates that hardly any air passes through a flue pipe while it is sounding a note.

Members' News

Queen's Hall Methodist Mission

It will have come as rather a shock to many of us to learn that the Queen's Hall Methodist Mission in Derby, so often the venue for DDOA activities in times past, is to close. Maintenance of the very large suite of premises has in recent years become more and more of a burden to the reducing and ageing membership, leading to the decision to disband. The final service is scheduled for 9th September.

At the time of writing, the fate of the main organ (1875 Hunter, installed by Matthew Copley following the 1991 fire) is not quite certain, though it is likely to return to London. The James Davis chamber organ (c.1810) has already been moved to Melbourne Parish Church where it stands in the west end to accompany the choir when it sings from the narthex.

Edmund Stow

Gordon Smith R.I.P.

In April we received the sad news that our long-standing member Gordon Smith had died at the age of 81. Along with his twin brother Norman who died in 2008, Gordon joined the Association in the mid-1980s and was a loyal and regular attendee of meetings, including AGMs. Many members will remember Gordon as a kind and gentle-natured man who appreciated the company of other members, expressing a welcoming interest in new faces and taking great pleasure from our activities as an Association. He would frequently thank officers of the Association for their hard work in organising events. He began organ playing after the Second World War, taking lessons from Stanley Mayes at St. Werburgh's Church on the 4-manual Father Willis Organ. Later, he described those formative lessons as 'excellent'. Organist at Toton Methodist Church, Stapleford, for many years Gordon also played for the Keryma Singers and the Derby Youth for Christ Choir. An accomplished player, his modesty always prevailed. We offer our condolences to his widow, Iris, and her family.

Siann Hurt

Children and the Organ: Our latest venture - James Muckle

Our most recent CATO workshop was at Melbourne, where two Year 5 primary classes each came to the historic parish church for half a day of introduction to our king of instruments. The team has been doing this now for a few years, and we handle the work with more confidence than ever.

The sessions run like this: in the initial presentation lasting about 30 minutes, the children hear the organ played and watch the player at work. They are told about pipes and the way wind is conveyed to them; they see and hear pipes of all types, shapes, and sizes, though health and safety rules prevent us from allowing them to blow through the pipes themselves. We explain pitch and how it relates to 8, 4, 2, and 16 feet; they listen to tunes played by different combinations of these ranks and try to guess which the player is using. They see and hear snatches of melody played on two manuals and pedals: 'two for the price of one.'

With their heads reeling from all this information, the children then divide into small groups of five or six and then attend a carousel of five fifteen-minute workshops: they see and examine Ed Stow's simplified model organ with its octave of keys and matching pipes, hand-blower, and wind chest; they learn to play a simple tune on a separated pedal board; they see a PowerPoint presentation which reinforces and extends their knowledge of words like 'console' (well-known to all!) 'manuals' and 'stops'; they design an organ façade using wooden dowels and coloured pipes; and - most important of all - everyone, yes everyone, has a carefully supervised go on the organ itself, exploring different stops, the swell pedal and so on.

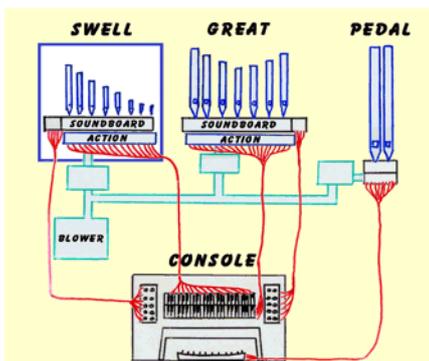


Diagram to explain to children the structure of the Melbourne organ with detached console.

PLAN OF A TYPICAL SCHOOL VISIT

PRESENTATION - 30minutes

- Organ Piece
- Whistles Wood and Wind [the basics of how the organ works]
- Tone and Tune [different pipe types produce different sounds]
- Long and short of it [pipe length and pitch, ranks at different pitches]
- '2 for the price of 1' [using 2 manuals and pedal + swell]
- Final short organ piece

GROUP ACTIVITIES - 15 minutes each, groups of 6 in rotation

1. PEDAL POWER Pedalling with a dummy pedalboard
2. HOW IT WORKS Inspecting the inside of a mini-organ
3. PLAYING THE ORGAN Feeling the manuals, pedals and operating stops
4. HOW IT LOOKS Organising pipes in an organ case
5. ORGANIST IN CONTROL PowerPoint presentation showing how many tasks organists perform when playing

PRESENTATION - 10 minutes

- Summing up
- Any questions
- Final organ piece with audience participation

The day at Melbourne was memorable in three ways: the team is well into its stride now; the children were exceptionally interested and well behaved, and the teachers extremely supportive; and we were visited by the County Music Consultant who came before it started, stayed to the end, and declared 'You have a very high quality product here.' She was keen on the follow-up materials which we have been compiling. Worksheets, recordings, PowerPoints, visual matter will all be put on CD-ROM disk and passed on to the schools. The disks will be used by teachers and also by pupils working independently in order to consolidate the knowledge and experience of the day. You may remember that we were awarded a small grant to finance the production of these materials. They are well under way.

What can you as a member of DDOA do to help?

(1) You may like to join the team: we are not by any means all able to be there on a given day, and we do some boxing-and-coxing. The trouble is that you will have to be retired or have a work-pattern which enables you to be free during a school day.

(2) You may be a primary school teacher yourself, a school governor, or a friend of a school, and therefore able to draw our offer to the notice of a school you know.

We should not underestimate the difficulties for any given school: freeing children and teachers for half a day causes some disruption to the school's regular teaching and consequent administrative work for the head. The criteria are as follows;

1. The head teacher and staff must be interested and feel the activity is worthwhile; we link it with the National Curriculum as much as possible.

2. The church must have a decent organ, preferably which the children can approach close to and see both the organ itself and the player at work.

3. The School must be within easy walking distance of the church.

4. Space for the workshops is necessary, whether in side rooms, transepts, or elsewhere where the noise of one activity does not interfere with another too much.

5. The Church personnel must be willing for the children to use the building and not be of the 'don't dare touch our organ' mentality. A bit of wear and tear to the glory of God - and in the interests of providing organists in the future - should be tolerated. (At none of the churches we have ever used has there been any complaint of damage, accidental or otherwise.)

Please let Stephen Johns know if you have any ideas that may help.

James Muckle

Exploring Organs on YouTube - David Rogers

Ask any group of classical music lovers "What do you know about YouTube?" and the chances are you'll get a variety of answers. Many will reply: "very little", believing that YouTube deals only with pop music. Some might have viewed the royal wedding spoof used as a T-Mobile advert last year; some will have received e-mailed YouTube addresses from friends, but only a minority will have kept such links filed in their library of recordings. In short, YouTube tends not to be given serious attention by most musicians, particularly organists, yet it offers an amazing collection mostly of invigorating performances. Where else would you view a film, say, of Karl Richter playing the harpsichord cadenza of the fifth Brandenburg; or Thomas Trotter performing the Thalben-Ball Paganini pedal variations at the opening of the Cranleigh School Chapel organ? Did you know there

are over 400 recordings of the Bach Chaconne available at the click of a mouse? And did you know that the company has received over 431 million hits from members of the public to view one particular film clip, according to their full-page *Telegraph* newspaper advert? Not surprisingly it wasn't for a piece of music.

So far YouTube has offered a free service to those willing to seek and find the treasures that are on offer; its search engine is fast and specific. But now, regrettably, advertising is rearing its ugly head because there is money to be made from the vast database of viewers, however, for the moment everything is there for the asking (the word 'please' isn't even needed). The website also gives an opportunity for searchers/viewers/listeners to make comment and provide feedback. You might say "do we care if Ms X or Mr Y thinks

the *Sanctus* of the B minor Mass is 'wonderful' "? Generally we don't, but quite often the level of appreciation is gratifying. How good it is to see a new generation of music enthusiasts coming upon our 'goodly heritage' for the first time. (Yes, your favourite Psalm is probably available sung by a choir of your choice). If these remarks don't convince you, then sample the favoured organ recordings nominated by members of the Mander Organ Forum. At the last count there were 1,161 recommendations listed at <http://mander-organs-forum.invisionzone.com/index.php?topic/1594-youtube/>, or if Bach is your main interest, then try <http://sebastianbach.webs.com>, a site which offers computer links to a hundred filmed Bach recordings, and where so many gems tumble over themselves for first place.

David Rogers verdi6@talktalk.net



Karl Richter plays Bach
www.youtube.com/watch?v=vMSwVf69Hc



Thomas Trotter plays Thalben Ball
www.youtube.com/watch?v=AQ0M_UKe1TM



Jean Guillou plays Bach
www.youtube.com/watch?v=hiv8gRYqTjI

Forthcoming Events

Organ visits on 24th July

See page 6 for locations and schedule.

St Paul, Quarndon

c.1874 J.M.Grunwell, Derby, including earlier material, mainly in the Great. Later work was done by various local builders. The most recent general restoration was by Edmund Stow, 2010/11. The synoptic stop list is now as first built, with the addition of a Mixture.

Gt: 8 8 8 4 4 2 Mix.III
Sw: 16 8 8 8 4 2 Cornopean, Oboe
Ped: 16

St Michael, Holbrook

1908 J.H.Adkins, incorporating usable parts of previous organ (1871 Hill). Tonal alterations were made by J.H.Poyser in the 1990s. Recently, the organ had a general restoration by Edmund Stow 2011/12, but with a radical tonal recast, introducing pipework from former Rocester PC 1867 Forster & Andrews organ.

Gt: 8 8 4 4 2
Sw: 8 8 8 4 2 Mix.II Cornopean
Ped: 16 8

Annual Outing 22nd September

Visiting three very fine instruments in Leeds and environs. Full details on attached sheet and application form.

Your newsletter

I am grateful to Stephen Johns for his generous report of the talk at Melbourne on 23rd April. What he did not mention was that lack of time led to several omissions from the advertised programme. The article on temperament on pages 5 and 6 aims to repair the omission and hopefully answers the slight disappointment expressed by some members.

Earlier this year, David Rogers sent me an interesting article on the potential of YouTube. I am glad to include it in this issue.

As always, I appeal to members to send me ideas for inclusion in the Newsletter.

Editor

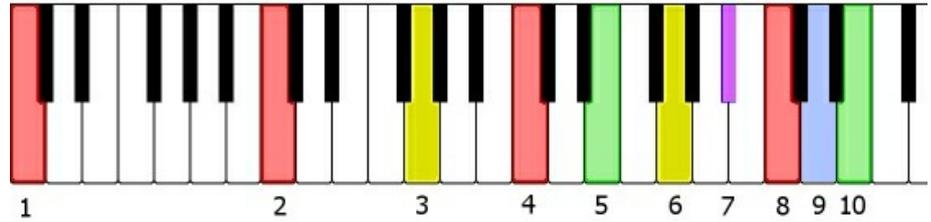
Pythagorean Tones - Laurence Rogers

A brief history of temperament

Until the 16th century musicians in Western Europe defined the diatonic scale using a method devised by Pythagoras which went back 2000 years. This was adequate for the mainly monophonic style of music of the times, but as polyphony and harmony developed, the demand for a chromatic scale evolved. The Pythagorean method proved inadequate for this and several methods of defining *meantone* temperament were devised to solve the problem, the crux of which was that melody and harmony in the key of C was fine, but all other keys sounded out of tune. From meantone evolved methods for *well* temperament, and, for organists, the most successful of these was devised by Werckmeister, which was favoured by J.S.Bach. Although *well* temperaments facilitated the use of more keys than C major, there were still limitations to modulations which were acceptable to the ear. In the 19th century, the evolution of 'romantic' music demanded the use of more and more keys. *Equal* temperament was devised to make available all 12 major and minor keys without preference to any one of them. However, the result was a compromise in which the character of individual keys was destroyed, and musicians have argued about the advantages and disadvantages ever since.

The Pythagorean Scale

To understand how this is defined one must first understand the role of harmonics. These are natural frequencies present in any musical tone. For an organ pipe such as Open Diapason, the air column in the pipe resonates at a series of frequencies related to the length of the pipe. The length of the pipe determines the 'fundamental' frequency which gives the sound its characteristic pitch. The longer the pipe, the lower the pitch, and so on. A pipe of half the length sounds an octave higher and physics shows that its frequency is exactly twice that of the first pipe. However for a pipe of any length, the fundamental frequency f is accompanied by a whole family of harmonics simultaneously present,



The first ten naturally occurring harmonics of bottom C.

where each harmonic is a whole number (integer) multiple of the fundamental frequency; $2f$, $3f$, $4f$, $5f$, $6f$, etc. Typically, some harmonics are stronger than others and the particular 'cocktail' of harmonics determines the distinctive tone of the sound. Thus diapason tone consists of a different spectrum of harmonics compared with that for a flute or a reed tone.

Starting with C as the fundamental frequency, a musician will recognise the harmonic frequencies as occurring at the pitches shown in the keyboard diagram above.

We can see from this why the octave is such an important and natural interval for making harmony; the first two harmonics define the 'octave'. The next most important interval is the 'fifth', defined by the interval between the 2nd and 3rd harmonics. Then the 'fourth' is defined by the interval between the 3rd and 4th harmonics. It must be stressed that these are all members of a naturally occurring family, so one can

describe the intervals as 'pure'. In physics, frequencies which are simple integer multiples of a fundamental frequency, to a musician constitute 'perfect' harmony. The interval between $2f$ and $3f$ is a 'perfect fifth'; the interval between $3f$ and $4f$ is a 'perfect fourth'; the interval between $4f$ and $5f$ is a 'pure major third'.

A complete diatonic scale of C major may be defined by the Pythagorean method as shown in the box below.

I won't bore you with all the arithmetic, but if you examine the ratios between various intervals you soon discover that there are two different versions of the semitone, major second, minor third and major third. Fourths and fifths are all perfect, but the other intervals are not unique. This gave rise to the different character of the ancient modes, which, using only white notes, had different intervals between the notes according to which one you started from.

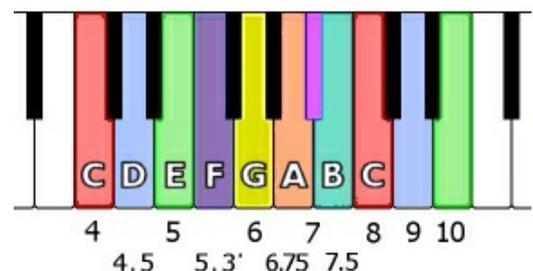
The mathematics of calculating the frequencies of the additional notes is uncomfortable because they are related in ratios rather than by simple addition arithmetic. However, the rules for the calculations are quite straight forward:

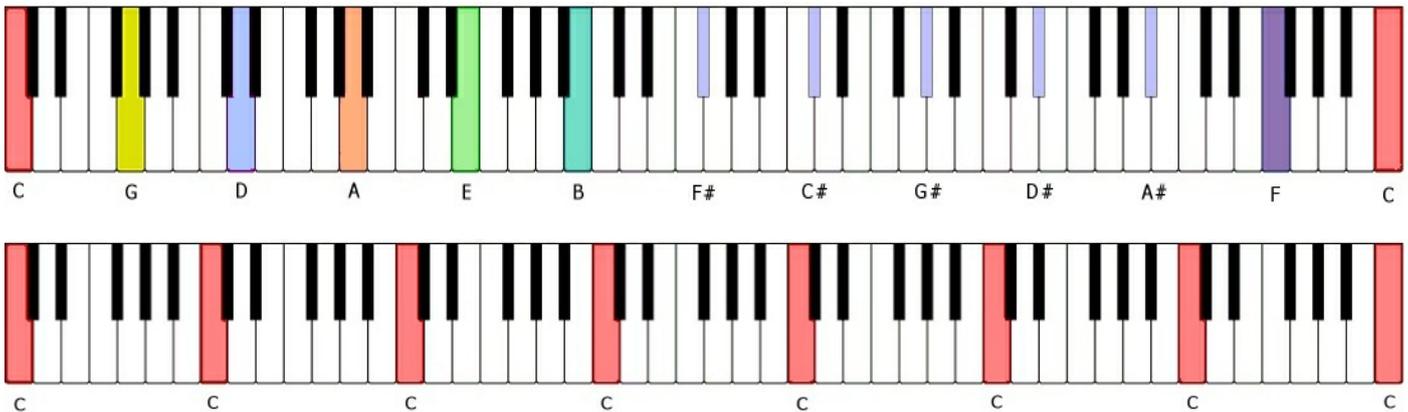
- To go up a perfect fifth, the higher frequency is $3/2$ times as much.
- To go up a perfect fourth, the higher frequency is $4/3$ times as much.
- To go up a major third, the higher frequency is $5/4$ times as much.
- To go up an octave, the higher frequency is 2 times as much.
- To go down a perfect fifth, the lower frequency is $2/3$ times as much.
- To go down a perfect fourth, the lower frequency is $3/4$ times as much.
- To go down a major third, the lower frequency is $4/5$ times as much.
- To go down an octave, the lower frequency is half as much.

Since the notes D, F, A and B do not coincide with the natural harmonic series, I have calculated their frequency ratios using fifths and fourths as follows:

- D: fourth below G
- F: fourth above C
- A: fifth above D
- B: fifth above E

These ratios define the Pythagorean scale.





If you always play your music on white notes only, in C major, the Pythagorean scale works perfectly well, but if you use the same method of ratios to define the black notes, you get into trouble. Trying this, all 12 notes, white and black, could be defined using fifths starting from bottom C. The frequency of each rising fifth is $\frac{3}{2}$ (i.e. 1.5) times the frequency of the lower notes. Doing this 12 times, the frequency of top C would be $(1.5)^{12}$ times the frequency of bottom C. Multiplying 1.5 by itself 12 times yields 129.746, not a nice number! This is even more nasty when you compare it with the alternative calculation for Top C on

the basis that it is 7 octaves above Bottom C: The frequency of each rising octave doubles. Doing this 7 times (2^7) yields 128 exactly. Thus the Pythagorean method of ratios, although fine for defining C major, is unsatisfactory for for defining black notes. The difference in pitch corresponding to these two calculations (about a quarter of a semitone) is called the **Pythagorean Comma**.

It is essential that any practical system for tuning a keyboard instrument must find a way of eliminating the *Comma*. Modern *Equal temperament* is achieved by squeezing all the fifths by an equal

amount so that the twelve fifths spanning the seven octaves work out correctly to 128 times the fundamental frequency. Clearly, such 'tempered' fifths are slightly smaller than 'perfect' fifths. But by the same token, all fourths have been slightly enlarged so that the sum of a tempered fifth and a tempered fourth still makes an octave.

In a follow-up article in the next Newsletter I shall review how generations previous to the 19th century sought to cope with the comma, devising a variety of *meantone* and *well* temperaments.

Laurence Rogers

Forthcoming DDOA Meeting

Evening visit to Quarndon and Holbrook 24th July

We shall visit two instruments by Derby builders which have received major attention during the past couple of years. When built, both contained a certain amount of second-hand material and have seen further alterations since, though their essential mechanical and constructional format remains unchanged. Brief notes on the instruments may be found on page 4.

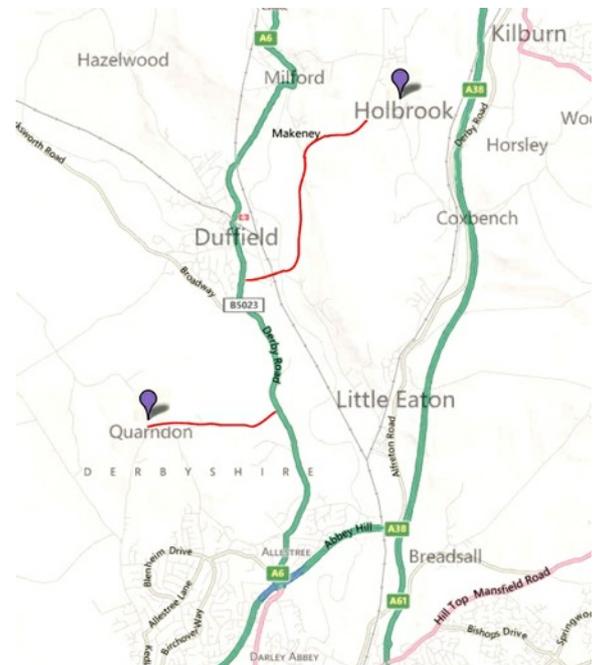
7.30 pm St Paul's Church, Quarndon

Church Road, Quarndon DE22 5JA. Parking is possible on the street outside the church or behind the Church Hall (adjacent to the church, opposite the junction with The Common).

8.30 pm St Michael's Church, Holbrook

Church Street, Holbrook DE56 0TD. On-street parking in Holbrook can be difficult to find; advice will be given before leaving Quarndon. Refreshments will be provided at Holbrook.

◆◆ **Members thinking of coming are asked to contact John Maxwell-Jones (01332 679632 johnmaxj@yahoo.com) to help him gauge the numbers for catering and to assess the parking situation. However, people just turning up on the night will still be most welcome.**



Items of news or articles for the September/October edition of the *Newsletter* should reach the Editor by **Monday 20th August**, either via e-mail: DDOAnews@gmail.com or by post: Dr Laurence Rogers, 24 St.David's Crescent, Coalville, Leicestershire LE67 4SS. The Secretary, Stephen Johns, may be reached via mail@derbyorganists.co.uk Please visit the DDOA Website www.derbyorganists.co.uk for information about Association activities, past editions of the newsletter, photo gallery and many special features of local interest.