

BULLSEYE

A TURNBULL CLAN PUBLICATION
Serving Turnbells Worldwide

Volume 21

January-February

Issue 1

TCA BOARD MEMBERS MEET IN ALABAMA, USA

By Brittany Turnbull

It was an informal and unplanned meeting in Auburn, Alabama. Most of us had attended the AGM held in Scotland last June in 2019, so this was a reunion... of sorts.

We found it quite some fun to gather together during the American Thanksgiving, to meet, discuss and celebrate our Turnbull heritage. Board members, Sandy, Jeff and Walter chatted with family and friends over ways to promote and share the vision of TCA with its members.

So, during this meeting and its outcome, it was suggested that a formal board meeting be arranged to discuss the TCA with an agenda to talk about more activities and future directions.

This first meeting was duly arranged in mid-December. The world telephone link-up included; Walter Turnbull, Jeff Trimble, Sandy Turnbull, Kenneth Turnbull, Brian Turnbull, Sue Trimble and Brittany Turnbull with the following agenda put forward for discussion... and the ensuing results:

Supporting Membership Contributions: We continue to encourage free registration for membership in TCA, but recognize



From left: Teeq Hill, Brittany Turnbull, Mary Turnbull, Russel Trimble, Jeff and Sue's son, Sue Trimble, Jeff Trimble TCA Vice President, Sandy Turnbull TCA Treasurer, Walter Turnbull TCA President

that financial support for its many activities remains real and needed. A bi-annual reminder suggesting membership contributions will be sent with details on amounts and how to contribute. Supporting members (members paying dues) are able to vote on action items. Non-financial members do not have this benefit. Extra privileges will also become available through a

Continued on Page 3 . .

Bliadhna Mhath Ur!

A Guid New Year!



The new year is upon us! TCA has a popular following. It continues to keep its clan members informed, yet it can only exist with your support.

As the Newsletter editor, my role is to inform the members and those interested, with current events and achievements of many Turnbells throughout the world. This includes stories that don't make the newspapers.

It goes without saying that the members interests and input with news, history, stories and places visited has been well worth sharing. This year, take the opportunity to make a personal contribution. Your input could well be of more value and interest to others than you may think.

So, what do you have to share . . . ? ED.

*Contact the editor at the following;
editor@turnbullclan.com*

Turnbull Clan Members

Your membership in the Turnbull Clan is a free birthright, but TCA does need financial support for the clan organisation and its activities on behalf of our members.

Please consider becoming a supporting member with your voluntary dues of \$24 annually from the date of your first contribution.

Additional contributions to provide clan tents at Highland Games are also needed and very welcome.

Contributions are tax-deductible in the US and are used only to support clan activities. Support your clan at: www.turnbullclan.com website.



THE 2020 HAWICK REIVERS FESTIVAL

SEE PAGE 3

Authors Corner

Dave Turnbull



American Dave Turnbull is an acclaimed songwriter who scored his first Top 10 country hit in 2004 with Darryl Worley's "If Something Should Happen."

That same year, Trace Adkins recorded the hauntingly beautiful ballad "Arlington," which ultimately became a Top 15 hit on the country charts. Since then, Turnbull has penned four No. 1 singles, including Kenny Chesney's "The Boys of Fall," Montgomery Gentry's "Lucky Man," and Brad Paisley's "Old Alabama" and "Anything Like Me."



He has also been involved with NSAI for a number of years playing benefit shows and championing their work in the community. He has participated in many workshops and programs for NSAI. Dave is among a select group of writers to have achieved a Triple Play Award from the CMA for his 2012 hits. He has also had hits with artists including Montgomery Gentry, Blake Shelton, Darryl Worley, and Craig Morgan.

Recently the chart topping songwriter signed up an exclusive worldwide publishing agreement with RareSpark Media Group, Inc. General Manager/Vice President Scot Sherrod commented, "I've watched Dave's career grow over the years, and I look forward to getting into the trenches with him through this new partnership."

"I'm beyond excited to be signing with RareSpark," says Turnbull. "They are clearly true song people, who really care about the strong catalogue they continue to build. Their positivity is contagious, and I can't think of a more ideal team to work with to further my career."

BULLSEYE

The Bullseye, is the Turnbull Clan Association Worldwide (TCA) newsletter published six times a year at: 5216 Tahoe Dr. Durham, NC 27713 U.S.A.

Editor: Kenneth Turnbull, Contributing Editor: Betty Turnbull, Children's Editor: Sarah Turnbull - contact: editor@turnbullclan.com

Turnbull Clan Association Worldwide - www.turnbullclan.com
Officers: Walter Turnbull - President • Jeff Trimble, Bill Trimble, Claudia Trimble, Kenneth Turnbull, Betty Turnbull - Vice-Presidents • Walter S. Turnbull, Treasurer • Christine Nelson, Secretary • Webmaster Brian Turnbull.

Founders: John F. Turnbull, Scotland • Dorothy Berk, USA

IF YOU ARE INTERESTED IN TCA TENT HOSTING THIS YEAR . .

"We can help get you started with brochures, banners, posters, and encouragement, please contact us."

At this time, TCA can help tent hosts in the USA and Canada with their initial setup supplies. Hosting a clan tent is a lot of fun, educational, and very entertaining.

Upcoming 2020 Highland Games representing Turnbull Clans:

- *Current scheduled tent hosting - Bill & Claudia Trimble and Robert Turnbull- 1st Annual New Smyrna Beach Heritage Day Breakfast in New Smyrna Beach, Florida, sponsored by The Menorcan Cultural Society. To be held on the 4th April.*

- *Dunedin Highlands Games - Dunedin, Florida and hosted by Walter and Brittany Turnbull on the 4th April.*

If you know of any other upcoming Highland Games where TCA can tent host, please contact us. Bill and Claudia Trimble - TCA VP for Events.

The Highlands games season is coming up. Watch this space!

twoscots1217@earthlink.net

GIRL ON DRUM SPECTACULAR



The annual Maryborough Highland Games held on the 1st January, was their 159th Highland Gathering. It is proudly the oldest continuous running sporting event in Australia. Ten year old Georgina Brown performed two spectacular drum dances accompanied by the Massed highland dancers and Scottish Dancing Members Association in front of the main grandstand. Submitted by Andrew Turnbull, Victoria. Aust.

MEETING IN ALABAMA

Continued from Page 1 . .

special website page. The reminders will outline to what and where the money is being used, to include special projects and tent hosting and to encourage, support, and demonstrate the importance of financial contributions.

The Turning of the Bull statue: There have been talks of interest in making the bronze replica statue available again. A tabletop bronze statue is available for a donation of \$5000. It was also discussed that a 3D print/plastic desktop version be investigated and considered. But to do this, TCA will need to seek the permission to reproduce this as a souvenir item from Angela Hunter, the sculptor/artist of the monument. Production and retail pricing will then need to be investigated. These could perhaps sell in Hawick and online. More details will be announced in due course.

Clan Whiskey Cask: The possibility to have the Borders Distillery produce a cask of Turnbull Clan whisky has been presented. Jeff Trimble and the committee will be working on the logistics of this.

AGM: Location of the next AGM in 2020 is to be determined. The board of directors is looking for some place fun, significant, and easy to travel to, perhaps centrally located in the USA. Location options are currently being investigated. More details will be announced in due course.

Social Media: TCA and Turnbull Clan have over 3,600 members. TCA is looking at being more active online through topical conversations, competitions and contests.

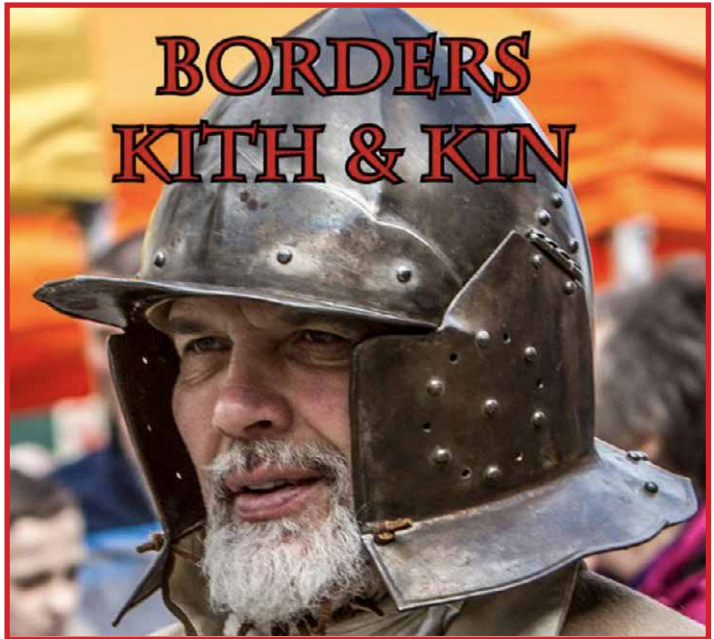
In early February a second TCA Board Meeting was held and hosted again by Walter Turnbull, President. Further discussions on the aforementioned topics took place and progressive announcements will be made throughout this year.

Did you know Turnbull Clan Association is on Amazon Smile?



Amazon Smile donates 1/2 percent of every purchase to the non-profit organization of your choice. You can choose the Turnbull Clan Association! It is free; you don't pay a penny more than you normally would! To participate, do your shopping at smile.amazon.com instead of the normal Amazon site, and choose Turnbull Clan Association as your charity!

BORDERS KITH & KIN



HAWICK REIVERS FESTIVAL

Friday 27th – Sunday 29th March
www.hawickreivers.com

Step back in time to the mid sixteenth century when the Borderlands were an area of constant feuding – when loyalties were to kinship rather than king and country and when “Reiving” was a means of survival.

Through music, drama and re-enactments experience what life was really like for the men and women in the Border Marches.

Hawick Reivers Festival aims to help visitors and townsfolk alike Experience, Explore and will endeavour to Explain day to day life in this violent and turbulent period of our history.

Fiercely loyal and independent, hard-working and prepared to fight for what they believed in, these men and women of the 1500's did much to shape the character of the modern day Borderers.

The TURNBULL Tent will be there on Saturday with hosts Fiona Turnbull and Bill and Paulette Turnbull.

Fiona will also be giving a talk on Sunday at 10am on the Dr. Robson archives, the upcoming Turnbull book, and some surprising results from the DNA Project.



USA - Spotify music localized



Since 2018 College Professor Doug Turnbull and a team of students at the college have been working diligently

to develop and activate a service meant to “make Spotify local.” Users are able sync their Spotify accounts, where Localify then generates playlists based on the users’ music tastes and integrates local music into the users’ frequently played tracks. Currently users have a choice of over 200,000 artists, 500,000 tracks, 50,000 events and 1,300 cities with at least one local music event in the current database.

USA - Skills learned in Borobot

To understand the potential of 3D printing, or the power of DIY technology in the hands of a young student, one might consider the story of Middleboro’s Drew Turnbull. Now 14 he was part of the first group of local kids to learn some new skills in CAD (Computer-Aided Design) and 3D printing with BoroBot, a local non-profit makerspace. He found the ready-to-use designs online and started printing his own replacement parts.



Canada - The opioid crisis in Ottawa



Dr. Jeffrey Turnbull, the medical director of Ottawa Inner City Health, is forthright in his assessment of the opioid crisis that has claimed the lives of more than 200 Ottawans in the previous four years, with the city’s opioid-related

death rate roughly doubling over that same period. “If you look at return-on-investment,” Turnbull says, I would put it into early childhood development. I would ensure that child poverty doesn’t exist. That’s the feeder line here.” “We have to be progressive and think differently. And we have to bring our community along and inform them and engage them in the solution.”



by Kenneth Turnbull - International News Editor

Virgin Islands – Library honours former Governor



1999 to 2007. Prior to being elected in 1998, he was a professor at the University of the Virgin Islands, Commissioner and Assistant Commissioner of the Department of Education, principal and assistant principal of Charlotte Amalie High School, and a teacher in elementary and secondary schools. Turnbull can sometimes be spotted at the public library conducting research on archived documents in the Van Scholten Collection.

New Zealand - Genealogist’s war possessions new home

Pat Turnbull, centre and her friends Clem Black and his wife Mary, with her treasured war possessions, which she and her late husband Derek have collected over the years. Her collection is being donated to the Rolleston Military Museum in New Zealand. She has books on World War I and II and the battle of Gallipoli, as well as Anzac posters, war uniforms and little toy soldiers. But her most prized possessions are the books she has on the American Civil War and the Boer War. Some of the books were more than 60 years old, she said. Clem and Mary Black knew how important it was that the collection went to a place where they could be stored for people to see.



USA - Teachers Educational grants



Indian Creek Local School District Teachers were the recipients of the Jefferson County Educational Service Center’s 2019 Best Practice Grants. They plan to use the funds to expand upon technology and literature in their classrooms. Amongst the successful teachers Ashley Turnbull, a preschool teacher at Hills Elementary, will use her windfall for purchasing “Auditory Development.” in the classroom. “We’re really excited,” she said.

Scotland - Dundee quiz nights

Local Dundee bar bosses are being encouraged to stage quiz nights to aid an animal welfare charity and boost their own trade at the same time. The appeal has been



made to licensees after the Scottish SPCA teamed up with the Scottish Licensed Trade News to swell the coffers of the charity which rescues, rehabilitates and rehomes almost 10,000 domestic animals a year. Louise Turnbull, events fundraiser at the Scottish SPCA, has backed the bid to boost their funds and said: “It’s a great opportunity for pubs.”

New Zealand - Bucking the trend

Recent findings show that females are still grossly under-represented in the music industry, But the popular Kiwi music festival ‘Rhythm & Alps’ is bucking a global trend in employing more women than men. Director Alex Turnbull says it’s still a challenge to create a gender-balanced line-up. Most department heads are female. “The majority of the management structure is female led because they’re the best people for the job,” he said.



UK - Civil War novel free download



Set in the British Civil Wars, ‘Allegiance of Blood’, written by Mark Turnbull, when he became fascinated by the subject after visiting Helmsley Castle, in North Yorkshire as a child. Prince Rupert, one of the characters in the book, was born on 17th December, 1619. He went to lead the King’s forces at the Battle of Marston Moor, just outside of York on 2nd July, 1644. More information can be found at www.allegianceofblood.com and information regarding the free e-book giveaway to mark Rupert’s special anniversary.

Perhaps you can help the Professor?

REFLECTIONS FROM OUR PAST . . .

'THE TWELVE TOWERS OF RULE'

Very little is known about the deeds of the Earl of Hertford and his destruction of 12 of the many towers around the Valley of Rule Water. What is known at this stage is that in one day in September of 1545, he with an army of 12000 foot soldiers and 4000 horsemen, devastated the Valley of Rule Water, burning the 12 Towers and much else. However, it is not clear which of the more than 12 in the Valley were burnt.

The Campaign for a Scottish Borders National Park (www.borders-national-park.scot and Facebook @scotbordersNP) has initiated a new research project on 'The Twelve Towers of Rule', in partnership with Archaeology Scotland and the local community. The Campaign's Professor Jane Bower FRSE is coordinating the project. The initial objective is to put together a more detailed picture of the event, its social context and its aftermath. The plan is also to do some investigative archaeology on the Towers, with volunteers guided by Archaeology Scotland's expertise.

The burning of the Twelve Towers of Rule in 1545 was mentioned in an article by Catriona Findlay on the Turnbull website around 25 years ago, with a quotation about the hardships visited on the community. The Professor needs to find the source of this quotation. Can you help?

It is hoped to develop some good walks, drives and rides around the area with accompanying information about these and other important events. This research is still in its early stages. The Professor has indicated that she and other project members will be available during the Hawick Reivers Festival at the Turnbull Tent.

So, if clan members have any or more information to add, please contact . . . editor@turnbullclan.com

TARTAN DAY CELEBRATIONS

Tartan Day is an annual Scottish heritage celebration held on 6th April. This day is the date when the Declaration of Arbroath signing took place in 1320. On this day, Scotland gained its independence from England, and they were then given the capability of using military action when attacked.

Wherever you live, Tartan Day is not far off! Please SHARE your Tartan Day pictures for the next edition of Bullseye.

Just send them to editor@turnbullclan.com



TURNBULL CLAN DNA HISTORY

Clan member and Genealogist, Fiona Turnbull has recently been named Project Administrator to the Trimble/Turnbull DNA Project. She is committed to helping Turnbull Clan members trace their heritage through tying family lines together through DNA results.



This is a great time to upgrade your results to higher markers as below with 67 and 111. Fiona has also pointed out that the higher marker tests are much more effective for narrowing down results.

If you haven't yet joined the program, there were significant discounts last year on the Big Y tests. However, you can still visit the www.familytreedna.com and join the Trimble/Turnbull Project.

If you have previously tested your autosomal DNA at 23andMe© or AncestryDNA™ or MyHeritage™, you can transfer your results to FamilyTreeDNA by uploading your raw data file or by providing an identification number given by an acceptable third-party company.

Once you have transferred your data you can join the Turnbull DNA project at . . .

<https://www.familytreedna.com/groups/trimble/about/>

Also FTDNA has just announced a permanent reduction in prices for their testing.

While we are no longer giving discounts on Y-DNA when joining a project, the current pricing is significantly lower than those rates were. Over the next year, we will be working on ways to recommend appropriate projects for testers and encourage them to join surname, geographic, and haplogroup projects.

Since the prices are discounted so deeply, we have discontinued selling Y-25 and Y-67, and we've made mtPlus (HVR1 and HVR2) available only through projects.

The upgrades from Y-25 and Y-67 are still available, and if you have taken a Y-12, Y-25, or Y-37, you can still upgrade to Y-67.

SINGLE PRODUCTS

Starting at \$79

| | | |
|---------------|-------|------------------|
| Family Finder | \$79 | \$79 |
| Y-37 | \$169 | \$119 |
| FMS | \$199 | \$159 |
| Y-111 | \$359 | \$249 |
| Big Y-700 | \$649 | \$449 |

EARLY DAYS OF THE TURNBULL CLAN ASSOCIATION

A LIGHT HEARTED LOOK AT OUR HISTORY . . .

GLASGOW HERALD Saturday December 20 1986



TURNBULL has got a kilt.

Although it is a bold red-and-green job, it does (he said) have a streak of yellow through. For its first outing he adorned a thrash some gentleman artists held on St Andrew's Day. One Bohemian buf-foen touched the new skirt with a cigarette. "I brushed him and the ash aside," he said. From all appearances he seems to have decided to be one of the fighting Turnbulls.

Since he stands 6ft. 2in., and spent his formative years at the back of rugby scrums, hardly anybody is arguing.

Assembling the new clansman has taken since the autumn. Since when few intelligible sounds have been heard from him but war cries. As well as wearing his tribal robes he has been digging them up. "I think the Turnbolls have tended

more to be gangsters than great fighters - less heroes than survivors," he has concluded.

For his next public appearance he plans to leap into Ne'erday, complete with knife and all the bits. He is so pleased with being a kiltie. "I seem to fall into it quite well" he felt moved to admit.

I tell you all this for two reasons, or three if you count an early warning to all the clan enemies of the Turnbolls, who are many.

First, though, the devious intention is to try to con him into doing a drawing of himself. Since for long enough he has been rustling from other people their most prominent features in order to caricature them in the paper, it is time to find out what kind of fist he makes of his own face.

A second reason is that, suddenly,

all the world has been made aware of the Turnbull name. An attempt has even been made to work it into dictionaries. Space is being squeezed for the new word Turnbullophilia.

Specifically, it refers to Malcolm Turnbull who has put the tribal name into the world's headlines for his nifty way with flat sword as well as knife in the spy trial in Australia.

This Turnbull has insisted that his forensic enthusiasm is not fuelled by feelings of nationalism. He is, he says, neither an Anglophile nor Anglophobe. Wags are saying that any emotion he feels along these lines is in the direction of Tumbullophilia.

That's fighting words. But it may, however, explain some of the feuding that has gone on in Sydney. For the foe whom this Turnbull has cut up worst has been Sir Robert Armstrong - and the Armstrong gang are the historical Border neighbours of the Turnbull Team.

What the high drama and the low comedy of the Sydney trial have been about is not Anglo-anything, nor even about nambly-pamby stuff. It is a straightforward extension of how history taught Borderers to treat the people next door.

Border neighbourliness took various forms - blackmail, arson, robbery, kidnapping, murder, extortion. MI5 tricks are not in the same alphabet.

Of the three dozen Border families (Elliot, the murderous Johnstones, Laidlaws, Lowthers, and the like), the Armstrongs come first. Only alphabetically, I hasten to add. And the last are the Turnbolls. All of the high jinks Down Under can be explained in terms of a clash of tartan extremes.

It hasn't helped that the Armstrongs world-wide are mob handed, whereas the Turnbolls are one of the smaller and newer lots. They therefore, eager to make name for themselves.

One reason it has taken Turnbull (our one) so long to put on a kilt is that until recently the clan didn't have one. There wasn't even a clan until 1977 when the late John Turnbull, a licensed grocer in Hawick,

gathered one.

Previously, all that the tribe had to its name was a whisky which Mr. Turnbull's family has blended 1855.

Whisky, proved a good base for Family-building. There are now several hundred organised Turnbolls. They have had a couple of international meetings in Hawick. There are already two tartans.

Membership includes Wendy Turnbull, the Australian tennis player but not yet Malcolm, the world's most nanny lawyer, or not yet. "I'll be writing to him," said Councilor Myra Turnbull, who took over from her husband as association secretary.

About how the Turnbolls got their beefy name all I can tell you is what Myra Turnbull told me.

Once upon a time (so the Turnbolls say) the family' name was Roull. When a son of the tribe was hunting in woods around Stirling with Robert the Bruce, a wild boar rushed on the King, who was unarmed.

"Howbeit (a chronicler inscribed) one came running unto him who overthrew the bull by plain force and held him down until the hunters came who killed him outright."

So Roull became Turnbull, or to begin with, Turn-e-bull.

There was a later Turnbull (or it may have been the same one) who stood in front of an English and dared any Saxon to take him on. (One Sassenach did, and killed him). A more recent clan hero was known as John Out-with-the-sword Turnbull.

Not every family moment has been glorious. It is said, possibly by Armstrongs among others, that James IV lined up 200 Turnbolls in their nightshirts and with ropes around their necks. Further to improve their manners he hanged one in 10 of them.

On the whole, however, the Turnbolls may have had enough winning encounters with their mouths as well as mits for any sensible Lowlander to be wary of them.

Reprinted by kind permission of The Herald, Glasgow

Turnbull Ministries on the beach . . . in Hawaii since 1970

Bob Turnbull stepped forward to the microphone on the sands of the Duke Kahanamoku Lagoon at the Hilton Hawaiian Village Hotel and gave a big ALOHA greeting on a February 1970 Sunday morning before nearly 400 beach-clad tourists and locals. That was the 'official launch' of the new Waikiki Beach Chaplaincy ministry and with God's blessings and guidance, it has continued since that day and in February this year, the chaplaincy celebrated its 50th anniversary.

As Bob's spiritual development kept growing and wanting to get into full-time ministry adventures, he exited his 10 year Hollywood acting career and was brought to Hawaii to serve as the director of a college-career age group at the Prince of Peace Lutheran "Penthouse" Church in Waikiki Beach.

One Sunday while speaking from the pulpit at the Penthouse Church he looked out and a 'vision' hit his mind, heart and soul - in wanting to take a ministry also outside of the building and out on the beaches where the vast majority of the tourists and locals were.

After two years of service at the church and with the approval and guidance of the church pastor, Bob left his position to start the chaplaincy and so he served as the Founder/President for ten years before again following the leading of the Lord to return to the mainland.

The chaplaincy continued with Gene Ozbun taking the reins for eight years followed by Alex McAngus who has continued in that leadership role right up to today. It is worthy of note, that during his early ministry times in Hawaii, the then Governor of Hawaii, John Burns, extended to him the honorary title of The Chaplain of Waikiki Beach.



Bob Turnbull's first beach Chaplaincy Ministry

THE VARIATIONS OF TURN-E-BULL SEPTS SINCE 1315

The name Turnbull occurs in many references throughout history and the clan includes the following septs. If you are a descendant of one of these families, then you are of the Turnbull Clan and we invite you to join the Turbull Clan Association. Here is a current listing of 68 . . . for those who thought they may have missed out.

| | | | | |
|-------------|-----------|------------|-----------|------------|
| Thrumbald | Thrumball | Tornbule | Tornebule | Tournboeuf |
| Tourneboeuf | Tournebu | Tournebul | Tornebule | Tournebull |
| Tournebulle | Trambell | Tremblay | Trembeley | Tremble |
| Trembley | Trimbil | Trimbill | Trimble | Trimbill |
| Trimbole | Tromble | Trombel | Trombil | Tromboul |
| Trubul | Trumbald | Trumbel | Trumbil | Trumbly |
| Trumbo | Trumbold | Trumboli | Trumbul | Trumbulle |
| Trumme | Trummell | Trunball | Trumbel | Trumble |
| Trumbul | Trumell | Trummel | Trummell | Trumbull |
| Trymbille | Trymbulle | Turnbal | Turnbale | Turnball |
| Turnbel | Turnbell | Turnbill | Turnboll | Turnbile |
| Turnbill | Turnbo | Turnboo | Turnboll | Turnbough |
| Turnboul | Turnbow | Turnbuck | Turnbull | Turnbyle |
| Turnebu | Turnebull | Turnebulle | | |

. . . and the sept (subdivision) clan family name 'of Rule' or 'Ruhl'

| | | | | |
|----------|----------|---------|--------|-------|
| De Rolle | De Rollo | Regulus | Rewel | Rieul |
| Roall | Rollis | Rollis | Rolous | Rool |
| Rouel | Rouley | Roull | Rowell | Rowl |
| Rowle | Ruele | Ruhl | Ruhll | Rule |

SCOTTISH INVENTIONS - ARTIFICIAL TONGUE TO ID FAKE WHISKY

Compiled by Kenneth Turnbull

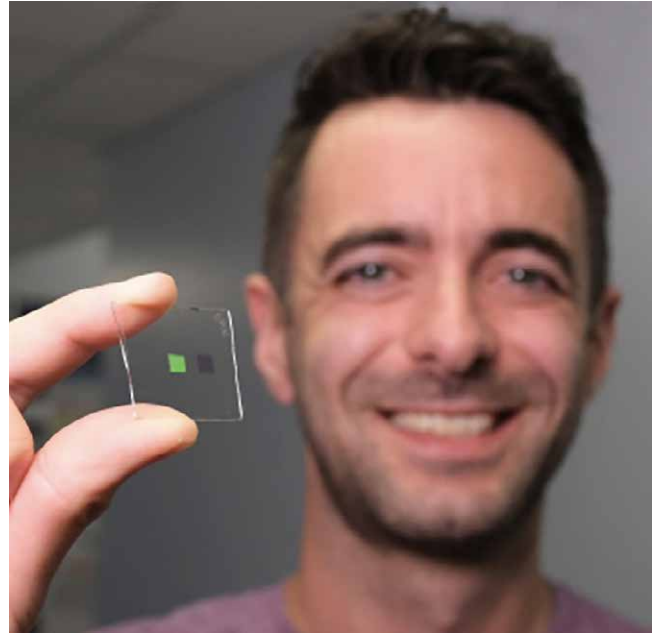
Artificial tongue for the tasting

Scottish Scientists have invented a new variation on an artificial tongue that has the ability to respond to taste as a human tongue.

The aim of their invention was to authenticate genuine whisky labels from the emerging counterfeit alcohol trade. This artificial tongue is so sensitive, it can even discern the subtle differences of a matured whisky with a 99% accuracy rate.

The Scottish engineer/inventors explained that the 'tiny taster' now uses the optical properties of gold and aluminium as their testing method. This unique method comes about through sub-microscopic slices which have been arranged in a checkerboard pattern to act as the tastebuds.

When the 'tiny taster' is submerged into a sample, the artificial tastebuds use the plasmodia light resonance, calculated to be around 500 times smaller than the human equivalents. When tested with various label samples, this invention had the ability to accurately distinguish not only when, but where each label sample originated. Measurements are made by statistical analysis through the amount of absorbed light. The new 'tiny taster' also opens the way for other forms of liquid testing.



Dr. Alasdair Clark of the University of Glasgow and the artificial tongue
- University of Glasgow

Turnbull Clan Association
5216 Tahoe Dr.
Durham, NC 27713

