BULLSEYE

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TCA AT THE LONGS PEAK SCOTTISH-IRISH FESTIVAL

By Helen Goody

The Longs Peak Scottish-Irish Festival celebrated its 43rd year in Estes Park, Colorado, USA on 6th to the 8th September, 2019, and Clan Turnbull is honoured to say it has hosted a table there for more than half that time since the early 90s. This year was another great success for the Turnbull Clan, bringing together both old and new members.

This festival is the largest of its kind west of the Mississippi and brings tens of thousands to the small mountain town located at the gateway to Rocky Mountain National Park. It is a breathtaking venue for a Scottish festival — the events included athletic games, dance and pipe band competitions, jousting, tattoos, sheepdog and "dogs of the British Isles" exhibitions, contemporary folk and rock concerts, and plenty of food and shopping. Despite bouts of heavy rain on Friday and Sunday, attendance was still great and more than 100 clan tables were represented in Clan Row.

The festival began on Friday with healthy attendance. Thanks to Turnbull Clan member Christy Meiers for designing our new banner presenting Fatlips Castle. It was a big hit! We were also thrilled that Chris Turnbull-Grimes, one of the anchors of our Rocky Mountain contingent had returned for the festivities, journeying along with Melat Terefe who had travelled here from Ethiopia to participate. Perhaps the highlight of Friday's events came after festival hours, when we gorged on Turnbull Clan member Jeff Goody's madefrom-scratch scotch eggs . . . a Longs Peak festival tradition!

Saturday's events always begin with a parade through downtown Estes Park. There are many years when the Turnbulls have had just a few marchers, but we always make sure every new Turnbull family we meet knows how to join us for the parade, and in recent years,

THE TURNBULL CLAN DNA HISTORY

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



Look for the next Family Tree DNA sale around the holidays. Fiona says that this is a great time to upgrade your results to higher markers (67 and 111). She also points 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 throughout August on the Big Y tests. However, you can still visit the **www.familytreedna.com** and join the Trimble/Turnbull Project.



Turnbulls are gathered to march in the downtown Estes Park parade for the Scottish festival. We had 12 marchers this year!

that has paid off! This year we had 12 marchers: Helen and Gregor Goody, James Turnbull, Grace and Spencer Mechem, Chris Turnbull-Grimes and Melat Terefe, Scott, Grace, and Evie Turnbull, and Thom and Christy Meiers.

We did the Turnbull Clan proud—tossing Bullseye candies to wee onlookers, pausing to thank veterans for their service, and shouting, "I Saved the King!" whenever we were announced to the crowd.

This year we welcomed several new families at the Turnbull table, including Mike and Karen



James Turnbull prepares to march in the downtown parade

Turnbull and their family, who joined us for the opening ceremonies march on Saturday. Some of the Turnbull regulars came, including Skip and Kay Ripley, Tara Overton, and Alan and Anna Buske. Sunday included the Kirking of the Tartans ceremony, more music and food . . . and lots of rain!

We are also excited to be part of a Scottish Border Clans initiative, led by Clans Eliot and Maxwell. This group meets several times a year to discuss how joint efforts might give us all more exposure. It is this group's second year hosting a table, both at the Longs Peak games and at the Edgewater games held in the Denver metro area in July.

Continued on Page 5

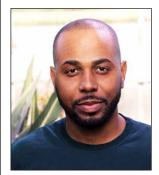
TURNBULL CLAN DNA HISTORY AND THE PROJECT DETAILS . . . PAGE 3

Turnbull Clan Association

Authors Corner

Cadwell Turnbull

As a recent graduate from the North Carolina State University, Cadwell Turnbull majored in Creative Writing with a MFA in Fiction and English MA in Linguistics. With his refreshingly new approach to writing, he was the winner of the 2014 NCSU Prize for Short Fiction.

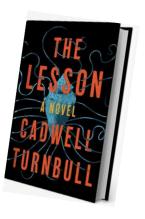


Turnbull's short story "Loneliness is in Your Blood" was selected for The Best American Science Fiction and Fantasy 2018, and his short story "Jump" was selected for this Year's Best Science Fiction and Fantasy 2019. His debut novel 'The Lesson' has just been published.

The novel shows his skills comparable to a seasoned science fiction writer. This is one novel one would find hard to put down. From beginning to end, it is intelligent and thought provoking, yet very entertaining.

Set in the Virgin Islands, 'The Lesson' is a moralistic tale of cultural conflict and colonialism, with the costs of decency and hardship in desperate times.

The novel deals with an alien ship at Water Island and for five years the locals of the US Virgin Islands have lived with the Ynaa race. They are superadvanced aliens who are on an undisclosed research mission. Eventually the relationships between the Ynaa and the locals becomes very tense. A touching and emotional novel, it heralds a bright future for Cadwell Turnbull.



BULLSEYE

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

Editor: Kenneth Turnbull, Contributing Editor: Betty Turnbull, 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

MEET THE TCA MEMBERS



Ligonier Highland Games day - East of Pittsburgh, Pensylvania, USA

TCA TENT HOSTING

"Interested in hosting a TCA tent? We can help get you started with brochures, banners, posters and encouragement, please contact us."

At this stage though, we are limited to USA and Canada only, as resources are limited to costs. Hosting a clan tent is a lot of fun, educational, and very entertaining. Outside North America we certainly do encourage participation at any Highland Games. We will be pleased to advertise any Turnbull Tent representations for up-coming events. If we can be of help, just let us know. "WE SAVED THE KING".

Highland Games in USA representing Turnbull Clans:

October: 18-20 Stone Mountain Georgia

26-27 Central Virginia Highland Games, Richmond, VA

If you know of any upcoming Highland Games with TCA tent hosts, please contact us. Bill and Claudia Trimble - TCA VP for Events

twoscots1217@earthlink.net

Welcome



Alec Evan Turnbull August 2019



Layla Jessie Turnbull Born August 27

parents! Roberto Luis Copa Born October 17

THE TURNBULL/TRIMBLE DNA PROJECT

I would like to introduce myself as the new Turnbull-Trimble DNA Project Administrator. I am a long standing member of the Turnbull Clan Association and have been a genealogist and librarian for over 20 years. I am by no means a DNA expert but I have taken enough courses and asked enough questions to be a step ahead. I presently live in Scotland although I spent most of my life in America and have Turnbull research interests in Canada and Australia.

I am happy to report that we now have 128 members in the project and I hope we can get to 200 members within a year. This chart shows our rapid growth.

If you have checked the FTDNA pages recently you will notice that I have created several subgroups to help you to more easily identify your closest matches. I plan on creating more subgroups as I get genealogical info to support the groupings.

Many of you have not submitted either your earliest known ancestor or a family tree. These can only be added by you or whoever manages your account and are helpful in placing you in our collective family tree. If you have a tree on another service you can easily export a GEDCOM file and then upload it to FTDNA.

Speaking of family trees, I have used a special tool to create what is known as a phylogenic tree based on everyone's DNA. This is generated as a .png image and is quite a large file but I am happy to send you a copy if you just let me know.

Some of the initial results have been quite interesting. Descendants of Thomas Turnbull and Jean McKay, who sailed on the Lovely Nellie in 1776 and established the Turnbulls in MacLellan's Brook, Nova Scotia, have a distinct haplogroup, I-M253. This is the same haplogroup as some Trimbles and suggests an Irish origin rather than a Scottish one. The vast majority of participants, who identify as Turnbulls, are members of the R-M269 hapolgroup.

Thomas Turnbull has always been a mystery as he boarded the boat on the Isle of Man but was known to not be from there. Some other Turn-

03-2006



bulls, who do not have a direct link to Thomas, also are members of I-M253 and do not match the larger group of Turnbulls. I have a strong connection with a group of Northern Ireland DNA researchers and will be looking to them for help in trying to sort out this branch of our tree.

Many of the Trimble members in America appear to descend from the five Trimble brothers who came from Armagh in 1740. These Trimbles are R-M269 but closely match the Turnbull lines and this supports the general theory that Trimbles in Northern Ireland were

Turnbulls from Scotland originally.

If you already participate in the project it would be really helpful if you contact your matches who are Turnbulls-Trimbles-Trumbells-Turnbaugh etc and invite them to join the project if they don't already belong. I have started doing that as I can but it is terribly slow and sometimes I get rebuffed by folks who think it will be of no use to them. You can find your matches email address by clicking on their names in your list of matches.

I plan on reworking the list of families and you can help by sending me a copy of your known line of descent. If you have place of birth, kit numbers, YDNA, MTDNA, or Family Finder, for anyone in the line then please include them after the name in parentheses. If anyone in the line is still alive please just use their initials. Your line should look something like this:

William Turnbull abt 1720 m Mary Mein, Melrose Robert Turnbull, Kelso 1760-1837 m Agnes Fairbairn, Smailholm James Turnbull, Stichill 1798-1858 m Margaret Weddell, Edinburgh Edward Weddell Turnbull, Billingshurt 1847-1897 m Katherine Jessie Cooper, Islington

Kenneth Leslie Turnbull, Newnham 1892-1975 m Grace Ellen Coase, Douglas James Turnbull (110219), Basildon 1925-2017 m MPS FT (286121)

These family lines can be found on the main FTDNA project site at https://www.familytreedna.com/groups/trimble/about - then click-

Turnbull Project showing the number of members who have joined

If you or anyone else that you know have also tested with another company you can have those results also transferred to FTDNA using this link: https://www.familytreedna.com/learn/imports/transfer-autosomal-ancestry/family-tree-dna-family-finder-transfer-program/

Last but not least FTDNA often has sales on so look for them around the holidays. Upgrading, especially from the 12 or 25 marker tests, helps to refine results and find out about when your line branched off from the main tree.

Feel free to contact me if I can help in any way.

Best Wishes, Fiona Turnbull infogoddess@hotmail.com

12-2018

Wales - Single parent success



G e m m a Turnbull at the age of just 16, was told by a teacher, via her mum, that she would ".. never get anywhere

or never amount to anything." She left school aged 16 with no qualifications, with that damning assessment and her situation could have easily left her without much hope. But the teenager dreamed of better things and qualified to become a primary school teacher. Following her graduation in July, she plans to gain GCSEs in English and Maths. She has also applied for and been successful as a parent governor.

Virgin Islands - Tour Director

Marketing and communications specialist Ian Turnbull, has been appointed to be the territory-wide director



of the new Division of Festivals. The Commissioner of Tourism Joseph Boschulte, announced that Turnbull will oversee the running and marketing of all official events and festivals taking place in the territory. Turnbull rejoins the department as an accomplished marketing strategist, event manager and fund raiser.

USA - Upward Bound Camp is growing



The Upward Bound Camp in Gates, Oregon has been developed for adults with developmental and physical disabilities. The Camp is growing, and director Diane Turnbull said it hopes to work closely with Linn County as it adds programs and activities.

This year she had the opportunity to return after being named director of operations for the Christian-based organisation. "There is only one other program of this type in Oregon that serves adults and we pride ourselves that we provide year-round camping opportunities," she said Upward Bound Camp's philosophy includes respect for self, others, nature and God.

Total Manual Manual Mews from around the world

by Kenneth Turnbull - International News Editor

New Zealand - 50 years as a chopper pilot in the sky

One of New Zealand's most experienced rescue chopper pilots, Peter Turnbull is soon to retire from the Northland Rescue Helicopter after 24 years with the service and 50 years as a pilot At the age of nineteen Peter qualified as an Aero pilot



and started by flying skiers and tourists to the slopes of Mount Cook. In 1995, he decided to join the Northland Emergency Services (now known as Northland Rescue Helicopter). At the time this service also had to deal with flying into tricky terrain and long distances. He was also involved in establishing 'Instrument Flying Rules' routes throughout Northland, allowing pilots to navigate in poor weather. Including sea rescues, he has saved countless lives. Turnbull has flown the equivalent of 110 times around the Earth; 22,000 flying hours.

Australia - Classic fundraising effort for cancer patients

When Ron 'Rocket' Turnbull (on left) the 'man from Wauchope', west of Port Macquarie in New South Wales, was



diagnosed with cancer 12 years ago, little did he expect his association with the Mid North Coast Cancer Institute to continue for more than a decade after his treatment. However, continue it did, and in September, Rocket and his mates handed over a staggering \$7000, the result of the auto club's annual raffle and its popular Swap Meet.

Canada - Saint John splash pad



hopes to work closely with Linn County as it adds programs and activities. The project community members say, has tunity to return after being for the Christian-based ore other program of this type and we pride ourselves that ang opportunities," she said isophy includes respect for didn't happen," said organizing committee member Krista Turnbull.

UK - Murals at risk from birds

Many historic wall paintings offering "priceless glimpses" into England's past may be lost because of threats ranging from bat



excrement to well-intentioned, but through botched restoration efforts. Damp weather has also combined to put at risk important wall paintings in castles, abbeys and churches. Rachel Turnbull, the senior collections conservator at English Heritage, said wall paintings were the most challenging type of art to care for, but they offered "...a precious insight" into the nation's history.

Dubai - He transformed the Airport



It was Norman Turnbull who organised the development of Dubai Airport to become the busiest in the world. His family recently received an honour in his memory from Shaikh Ahmad Bin Saeed Al Maktoum, the President of Dubai Civil Aviation Authority, Chairman of Dubai Airports and Chairman of Emirates Group. It is the world's busiest today, with 88.8 million passengers a year, and 34,000 flights a month.

USA - Medic saves Soldier's life

Spc. Micah Turnbull, senior combat medic for B. Co., 1-167th Infantry Battalion, began his assessment on yet another heat exhaus-



tion patient in the scorching summer heat of Camp Shelby, Mississippi. One soldier with heat exhaustion recorded a 106°f. We used a sheet and dunked it in the ice chest, then wrapped it around him. A few days later, he received a phone call from the patient and Turnbull said, emotionally, "There's no better feeling."

TCA AT LONGS PEAK

Continued from Page 1



Scott, Grace, and Evie Turnbull; Chris Turnbull-Grimes and Melat Terefe; Russell Rector; Gregor, Helen and Jeff Goody; James Turnbull; Skip and Kay Ripley; Kim and Ken Carpenter; and Tom and Christy Meiers.



Gregor Turnbull Goody

We are hoping to have the Border Clan table represented at a few more area festivals. Members Thom and Christy Meiers have been instrumental organizers for this group, designing banners and helping with setup and display. Thanks go to Tom and Christy!

We look forward to having more Turnbull Clan representation — without much expense — with this group. The Longs Peak Scottish-Irish Festival is always held the weekend after Labor Day, so when you are making your end of summer vacation plans to visit out west, be sure to join us!



Grace, Evie and Scott Turnbull



Melat Terefe and Chris Turnbull-Grimes (Ethiopia)



Skip & Kay Ripley, Ken & Kim Carpenter, Christy & Tom Meiers





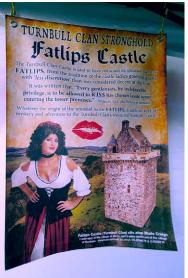
Northern Caledonian Pipe Band forming up to lead the opening ceremonies celebration including a presentation of the Clans

Your input... Where in the world are you? Do you have any of your latest Halloween pictures to share?

Simply e-mail your copy to: editor@turnbullclan.com



Mike Turnbull and his daughter



Poster designed by Christy Meiers

ORIGINAL NAMES & ARMS OF THE TURNBULL CLAN

Two years ago, a comprehensive article appeared in the March/April Bullseye, that explained the origins and background of our Turnbull Clan Association crest.

So, for those interested in the original name and identities for the Arms of the Turnbulls', this is an up-dated to the article. The following original three family crest images have been included with their origins.

The following text been added to verify the registration of the John Turnbull of Minto blazon with the Public Register of all Arms and Bearings in Scotland in 1759.

It is the account and description of the Original of the Name and Arms of Turnbull was taken from the Standard book of Scots Heraldry in the British Herald Office at Doctors Commons in London;

On 9th day of May 1759, by the proper clerk in that office in my presence; and from the following description the principal Limner in Said office made a drawing of the Arms properly coloured, which I caused to be engraved on a copper plate by one of the best engravers in London.

An impression of which is here exhibited at the desire and expense of me, James Turnbull, then clerk to Robert Dundas of Arniston Esq., His Majesties advocate for Scotland and Member of Parliament for the Shire of Edinburgh and surrounding area.



Turnbull of BADENRUELL (BEDRULE). This blazon taken from Pont's Manuscript A.D. 1624



John TURNBULL of MINTO Blazon taken from the Public Register of all Arms and Bearings in Scotland, Volume 1, p. 431, circa 1767.

The first of the name with us was a strong man of the name of Ruel, who turned a wild bull by the head, which violently run against King Robert Bruce, in Stirling Park, for which he got from the king the lands of Badyruel in Tiviotdale and the name Turnbull (Turn-e-bull).

Edward Howes in his history of England, page 231, mentions this man at the Battle of Holydown Hill. This gentleman's son Sir James Turnbull with Sir John Haliburton were killed near Nisbet Muir in the Merse in an engagement with the English. anno 1355 for which see Abercrombies History vol 2 page 105.

I have seen the Armorial of Turnbull of Minto appended to a charter of 1455 (Penis comitum de Horne) which had only one head.

John Turnbull of Stickcathren (Strickathrow) descended off the family of Badyruel (Bedrule) carries an argent three bulls heads erased. Motto 'Audaci Favet Fortuna'. John Turnbull, descended of the family of Minto, carries the motto 'Courage'.

The Turnbulls' of Philipaugh, Bedrule and Minto, appear to have used the same Clan Crest with three bull's heads, although Bishop Turnbull had only one on his episcopal seal and on carved stones in Jedburgh Abbey and Glasgow Cathedral.



John TURNBULL of STRICK-ATHROW.

(A cadet of the Angusshire Turnbulls' family, Bedrule) Public Register of all Arms and Bearings in Scotland, Vol. 1, p. 431, circa 1767.



Inside the entrance of the Old Kirk at Bedrule, is displayed an early version of the Turnbull identity, with three bulls heads on a shield.

Date unknown.

Two authentic manuscript extracts, from the limited edition of 'Bibliotheque Nationale' Compiled by Gilles le Bouvier, holding first rank as a Berry King of Armes in France.



Scottish arms: being part of a collection of armorial bearings, A.D. 1370- 1678, reproduced in facsimile from contemporary manuscripts, with heraldic and genealogical notes.

Left: Ceulx de Tourneboule (Those of Turn-

Right: Turnbull, Corrie of Kelwood, Gaudine (Gardine) of that Ilk, Kincaid of that Ilk, Durham of Pitkerro.



HAWICK'S UNSEEN KILLER - 1849 CHOLERA EPIDEMIC

In Victorian Scotland, epidemic diseases, closely linked to bad sanitation and the cramped living conditions of the urban poor, were a constant and credible threat to people's lives.

An outbreak of cholera – known as the 'Asiatic killer' – in January and February 1832, localised to the West End of Hawick, claimed four lives, and an even more deadly outbreak throughout the town in October of the same year claimed a further thirty-five, with seventy-nine cases in total (see The Hawick Paper, August 26, 2016).

In 1840, ten people were listed in the town's death register on the same day, all succumbing to cholera. This list included Betty Cunningham (wife of George, the manager at Nixon's mill); Robert Hume, mason, of Fore Raw; Robert Leyden, carrier, of 66 High Street; Isobel Turnbull of West Port (her daughter-in-law Margaret had survived the 1832 outbreak); and the mother-in-law of the Reverend Andrew Rodgie, the man who gave them "A guid, cauld cauker, frae a man that was nae Quaker".

Another minor outbreak in Hawick in 1847 claimed no victims. However, the suddenness with which strong men and women were struck down caused no end of alarm and panic. After all, it wasn't until 1854 that Dr John Snow discovered contaminated water supplies to be the chief cause; until that time, most people believed that diseases such as cholera or the Black Death were a consequence of pollution or "bad air". The Glasgow outbreak of 1848-49 did much to shape the correlation between contaminated water supplies, poor sanitation and cramped living conditions.

Hawick was no better off 170 years ago: no railway, very few metalled roads, dangerously overcrowded one or two-roomed houses (and damp lived-in cellars) with no privacy or sanitation, middens in the streets, and water chiefly supplied by wells and springs; this water was often to be found in pitchers on the floor, a few feet away from slop pails.

The coming of the railway from Edinburgh brought with it great excitement and an influx of migrant workers from Ireland – navigational engineers or 'navvies' – a double set being hired to try and complete construction at the Hawick end by August 1849.

The High Street closes and the three 'Raws'; Back, Fore and Mid were hit particularly hard due to poor living conditions. From a total population of 8,500, there were 558 cholera cases spread over a period of about fifteen weeks, resulting in 197 victims, 141 from Hawick and fifty-six from Wilton (then a separate community).

The 1849 outbreak began in Orrock Place (Sandbed) with an Irish navvy named John Crombie (or Crummie). He apparently died of "gluttony" on July 29, with his wife Margaret being buried two days later having succumbed to cholera. There is some confusion over whether he was in fact the first cholera victim, as another source states the outbreak started in Walter's Wynd.

In any case an entire group of Irish navvies were wiped out by the disease, and it was later discovered that they had drunk from a contaminated spring that fed into the Teviot near the railway goods yard (*later Mansfield Mills*). Their deaths were a factor in the delayed opening of the Edinburgh/Hawick Railway, postponed until 29th October.

Decisive steps were soon taken to combat the spread of this unseen killer. A special health board was appointed, and male and female nurses were engaged, the former paid 35 shillings a week and latter just 21 shillings. James Wilson, town clerk, was asked to accompany the board to inspect "alleged nuisances" (ie the root causes) and decide on appropriate measures to tackle them. The superintendent of police was also instructed to visit each house where a death had occurred and have it thoroughly disinfected. A plentiful supply of chloride of lime and vitriol were used as disinfectant agents.

Hawick during the 1900's. The lack of sanitation (the cause) was yet to be discovered.



In attempts to ward off an epidemic still believed to be airborne, tar barrels were set alight in the streets of Hawick and tar pitchers up the closes. The clothes of the deceased were also soaked in salt water for forty-eight hours or otherwise burned. But why? A year earlier, the London-based Anti-Cholera Tincture Depot published a poster advising on the prevention of cholera. Remedies recommended by the government included a warning to wear "a flannel or woollen belt round the belly", the avoidance of "every cause tending to depress the moral and physical energies", and the immediate purchase of "anti-cholera fumigators, for purifying the air of dwellings".

Reverend Wallace stated that since he was ordained in the year 1833 to the ministry of the parish of Hawick till the disruption, there died in the parish 1504 and since the disruption to the end of December 1849, there had died 1192. Total deaths from 1833, till December 1849, 2696; he stated that during the last year 36 families had lost 2 members by death from cholera, 13 families had 3 deaths in each family, and 2 families had 4 deaths, 12 families had lost both father and mother."

A truly devastating year in Hawick's long history. The last victim of the 1849 epidemic was buried on November 18. However, just a year later there were further fatalities in outlying areas.

The cholera epidemics of the 19th century prompted the building of new, sanitary housing up the Terraces, a town sewage works, the creation of a fresh water supply from the Allan Water, and the demolition of uninhabitable dwellings such as the Raws – each decision laying the foundations for our modern town.

To mark the 150th anniversary of Hawick's deadliest cholera outbreak, on November 27, 1999, a plaque by local jeweller Hamish Smith – mounted on a stone salvaged from Cavers House – was unveiled by Hawick Archaeological Society near the mass grave in Wellogate Cemetery where many of the victims lie buried.

This article was first published in the June 29, 2019 edition of The Hawick Paper, and was written by Alastair M. Redpath.

SCOTTISH INVENTIONS - MRI BODY SCANNER - J. MALLARD

Compiled by Kenneth Turnbull

Throughout the world the Magnetic Resonance Imaging (MRI) scanner is used for detecting abnormalities in human bodies. It is especially useful in detecting abnormalities in the brain and internal organs. The development of this important machine began in Aberdeen with a team of engineers, led by Dr. J. Mallard.

Initially designed as a huge looking donut shaped tube, the first true body scanner looked more like something out of a science fiction story. Initial scanning on patients were conducted at Aberdeen in 1980, led by Dr. J. Mallard, Scotland's first Professor of Medical Physics.

Previous to the whole body scanner, he had earlier designed a primitive nuclear machine to detect brain tumors; the precursor to the whole MRI body scanner. Such was the success of the invention, the Professor started a company to manufacture the machines. However, the high manufacturing costs limited marketing.

When used, the body is subjected to a high level magnetic field inside the scanner. The many tissues in the body react differently through the hydrogen nuclei and protons and in turn, creates an internal image of the patient. Today the MRI is recognised as being an invaluable resource for scanning the brain and organs to detect abnormalities.

Over time, issues regarding the nuclear radiation were addressed to ensure the safety of the MRI operation. However, rival companies emerged falsely claiming the technology was created elsewhere. Today's improvements on MRI scanners include colour, clarity and more precise imaging. Professor Mallard and his team deserve the credit for such an important invention.



The first MRI scanner built and used, in Aberdeen Royal Infirmary in Scotland. CC BY-SA 4.0

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