@TroveAirRaidBot, a 24/7/365 research assistant

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This article is about the power of Trove, but I'm going to start by talking about the power of Twitter. Twitter is now widely used by historians for outreach and networking, as well as for non-academic purposes. Here I will outline one way in which it can also be used for research, through the use of Twitter bots. A 'bot' is simply a program which performs a repetitive task over the internet without human supervision. Twitter bots, then, are bots which send out tweets automatically, such as a news organisation sending out links to its latest articles. What I'm interested in here are Twitter bots which send out tweets linking to Trove Newspapers articles: a Trove bot. The tweet will consist of, most commonly, a bit of introductory text, the article's headline, and a link to the article itself on Trove.

There are a number of these Trove bots automatically tweeting away on Twitter. The original (and most complex) is @TroveNewsBot, which tweets out a random article, from any newspaper on any topic, every hour. It can also respond to tweets and websites.[1] Others are more specialised, including @astrove_bot (articles relating to astronomy), @digitisethedawn (articles from *The Dawn*, an early feminist magazine) and @CoastLimestone (articles from South Australian newspapers). I currently run three Trove bots: @TroveAirBot, @TroveUFOBot, and @TroveAirRaidBot, the subject of this article. Mostly these bots are for outreach (and fun), but I have found that @TroveAirRaidBot, in particular, helps me with my own research, to an extent that I didn't anticipate when I made it.

This is not the place for a technical discussion of how to make a Trove bot, but it is not hard. Start with Tim Sherratt's guide, 'Trove bots for all!'[2] Tim, who wrote and runs the original @TroveNewsBot, has also written the code for a number of different Trove bots which are easily adaptable for different purposes:

- trove-list-bot-2: tweets items from Trove lists
- trove-tag-bot-2: tweets items with a specific tag
- trove-collection-bot-2: share items from a Trove collection

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[1] Tim Sherratt, 'TroveNewsBot (the 2019 edition)', *Tim Sherratt*, accessed 16 August 2021, https://wragge.github.io/trovenewsbot2019/

[2] Tim Sherratt, 'Trove bots for all! (Updated 2020)', *101 Digital Heritage Hacks That You Can Do At Home* (blog), 12 April 2020, https://www.101dhhacks.net/trove-bots-for-all/

- trove-title-bot-2: share newspaper articles from selected newspapers

The code for all of these is available on Glitch, a combined coding and hosting platform which can be used for free. I based my own bots on Tim's code, but modified to search across all of Trove's newspapers. I've also made them search the text of each newspaper article for specific keywords, rather than using predefined lists or crowdsourced tags.[3] This does mean that my bots are susceptible to throwing up false positives when the OCR text is low quality; but I want my bots to be responsive to the data than its metadata – to primary sources rather than secondary ones, as it were. I've documented my bots on my blog and, like Tim, have made the code freely available on Glitch.[4] Apart from some necessary but minor technical details, the only thing needed to make them work is to decide on which keywords they will search for.

There can be multiple keywords, but in the case of @TroveAirRaidBot, there's just one keyword, or rather a key phrase: 'air raid'. As it appears in Trove Newspapers more than 300,000 times, there is plenty of material for the bot to tweet. 'Air raid' starts turning up in significant numbers in January 1915, around the time of the first Zeppelin raid on Britain, remaining common during the rest of the First World War, and then in the 1930s, the Second World War, especially, and the Korean War, largely disappearing after Trove's 'copyright cliff of death' in the mid-1950s.[5] The phrase was always used, directly or indirectly, in reference to aerial bombardment, so apart from OCR errors it yields a fairly coherent corpus of possible tweets. For example, a story about Sydney's preparations for Japanese air raids in 1942 (Figure 1).[6] Or a mock air raid held in Belgrade in 1933 (Figure 2).[7] A report of a country ball, where the lighting was said to be 'of air raid order', a seemingly remote reference to draw upon in Western Australia's Wheatbelt in 1930 (Figure 3).[8]

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[3] Brett Holman, 'Introducing @TroveAirBot', *Airminded: Airpower and British society (1908–1941)* (blog), 23 January 2018, https://airminded.org/2018/01/23/introducing-troveairbot/

[4] Brett Holman, '@TroveAirBot 2', *Airminded*, 7 November 2019, https://airminded.org/2019/11/07/troveairbot-2/; Brett Holman, 'Introducing @TroveAirRaidBot', *Airminded*, 6 May 2020, https://airminded.org/2020/05/06/introducing-troveairraidbot/; Brett Holman, 'Introducing @TroveUFOBot', *Airminded*, 10 August 2020, https://airminded.org/2020/08/10/introducing-troveufobot/

[5] Tim Sherratt, 'The practice of play', 25 February 2017, https://discontents.com.au/the-practice-of-play/

[6] 'Another Australian newspaper article about air raids! 2 Oct 1942, "Sydney Stands Alert for Jap Air Raiders Large Fleets of Volunteer Transport Read to Rush Aid and Food Where Needed.":', TroveAirRaidBot, 10 August 2021, https://twitter.com/TroveAirRaidBot/status/1424868255152414729

[7] 'Another Australian newspaper article about air raids! 18 Nov 1933, "MOCK AIR RAID SAWDUST BOMBS EXCITEMENT IN BELGRADE":', TroveAirRaidBot, 10 August 2021, https://twitter.com/TroveAirRaidBot/status/1424807863482998786

[8] 'Another Australian newspaper article about air raids! 18 Jul 1930, "Koorda Komments

Collectively, @AirRaidNewsBot's tweets, and the Trove articles they link to, provide a sense of the air raid as a cultural object, the variety of meanings which people attached to it – at least as mediated by the Australian press.

Admittedly, air raids are a fairly niche interest, and @TroveAirRaidBot currently has a tiny 14 followers. But I didn't actually make it for others so much as for myself, as a research tool. I am currently writing a monograph on the German air raids on Britain during the First World War. As Australia was then culturally and socially still very close to Britain, Australian newspapers followed what was happening there closely. So even though I am not working on an Australian topic, @TroveAirRaidBot can still actually be quite useful for me.[9] Sometimes this in a straightforward way, by finding information about British air raids that I might not have come across through my normal research methods, such as letters home from diggers visiting London, stories published in the American press, or rumours which might not pass the stricter British censors. These kinds of articles are certainly useful, though I could, in principle, find them in Trove through a manual search.

What I actually find especially valuable about @TroveAirRaidBot is when I see its tweets when I don't expect them – when I am scrolling through my Twitter timeline, often when I am meant to be writing or marking or emailing, and then @TroveAirRaidBot pops up with a tweet about anti-German riots after an air raid, or stoic behaviour by Girl Guides during bombing, or an attempt by bombing victims to claim a share of German reparations. By impinging on my consciousness when I am preoccupied by other things, @TroveAirRaidBot's tweets draw my mind back to this research topic that is always sitting at the back of my mind somewhere, and it makes me make connections – randomly, haphazardly, but often very fruitfully leading me to think of something I hadn't thought of before, or reminding me of something I'd forgotten, or juxtaposing some seemingly unrelated things. It's a kind of directed serendipity. Every hour, @TroveAirRaidBot says to me: here's something you might be interested in. And it's often right. Perhaps even more than my research assistant, @TroveAirRaidBot is my muse, 24/7/365.

BUFFALOS' BALL.":', TroveAirRaidBot, 12 August 2021, https://twitter.com/TroveAirRaidBot/status/1425472203341012996

[9] Obviously I would prefer a Twitter bot using British newspapers, but the nearest British equivalent to Trove, the British Newspaper Archive, doesn't have a publicly available API, making it difficult to make bots with it.

Trove Air Raid Bot
@TroveAirRaidBot

Another Australian newspaper article about air raids! 2 Oct 1942, 'Sydney Stands Alert for Jap Air Raiders Large Fleets of Volunteer Transport Read to Rush Aid and Food Where Needed.':

Sydney Stands Alert for Jap Air Raiders - Large Fleets of ...
Browned-out streets winding in canyons of stone and concrete; dim miles of wharves, ...
🔗 trove.nla.gov.au

9:00 AM · Aug 10, 2021 · Trove Air Raid Bot

Figure 1 @TroveAirRaidBot tweet, 10 August 2021.

Trove Air Raid Bot
@TroveAirRaidBot

Another Australian newspaper article about air raids! 18 Nov 1933, 'MOCK AIR RAID SAWDUST BOMBS EXCITEMENT IN BELGRADE':

MOCK AIR RAID - SAWDUST BOMBS EXCITEMENT IN BE...
Belgrade was subjected to an "air raid" which lasted for fifteen minutes about ten days ago. Traffic was suspende...
🔗 trove.nla.gov.au

5:00 AM · Aug 10, 2021 · Trove Air Raid Bot

Figure 2 @TroveAirRaidBot tweet, 10 August 2021.

Trove Air Raid Bot
@TroveAirRaidBot

Another Australian newspaper article about air raids! 18 Jul 1930, 'Koorda Komments BUFFALOS' BALL.':

Koorda Komments - BUFFALOS' BALL. - North-Eastern W...
The "Koorda Koyt Klub" flourishes "Chestnut," who has declared his intention of selecting a team from his "Klub" ...
🔗 trove.nla.gov.au

1:00 AM · Aug 12, 2021 · Trove Air Raid Bot

Figure 3 @TroveAirRaidBot tweet, 12 August 2021.