**Issue Summary**

1. **Duplicate AGS in SH 1994**

* This seems to have happened in the digitization. For instance, Marnerdeich (which was digitalized as Harnerdeich) should have Gemeindekennziffer == 51 073 based on raw PDFs but was digitized as 51 07**5**, which is the (correct) GKZ of Neuenkirchen. I went through and fixed the duplicated AGS by hand in the excel sheets, but here we should do some more robustness checks to make sure we spot at least a majority of the digitalization mistakes.
* Heldorf should be Meldorf and GKZ == 51 074, not 51 07**6**
* Odderade == 51 083, not 51 085
* Klappholz == 59 049, not 59 019
* Rabel == 59 154, not 59 159
* Hennstedt == 61 036, not 61 056
* I’ve gone through and checked the AGS in the digitized data where possible and found a few more mistakes than showed up in the duplicates file, but the fact that the digitization seems to have picked up a lot of incorrect digits makes me worried for the actual election data. We should talk about this.

1. **Bremen**

* We do indeed have Bremerhaven and Bremen Stadt, so I left those two in and removed Bremen Land from the data.

1. **RLP 2004**

* AGS fixed, as far as I can tell.

1. **Berlin**

* Removed Erststimmen

1. **Sachsen**

* Removed duplicates

**Other AGS issues**

* Bayern: fixed AGS for Städte; removed LK and Regions/State
* Sachsen-Anhalt:
  + AGS have changed in 2014, but pre-2014 election results included an identifier for AGS2014 and Gemeinde2014. So I summed election results to AGS2014, but we should note that elections weren’t actually held on that level in all cases.
* Mecklenburg-Vorpommern: AGS changed in 2011. Just flagging this.
* Sachsen: AGS changed a couple of times, as far as I can tell. Once between 94 and 99 and then again between 04 and 09.

**Other issues**

* NRW: election results are only for kreisangehörige Gemeinden; kreisfreie Städte are not in the data. I found the file for kreisfreie Städte and processed it in the main R file.

**Notes on failed merges**

**Schleswig-Holstein (10…)**

* 1051141, 1059186, 1059187: AGS correct, not sure why it’s not merging. I suspect because this is pre-AGS change whereas for 2013 and 2018, it’s post?

**Niedersachsen (03…)**

* 3355049: AGS correct and uniform across all elections, not sure what the issue is.
* 3361013: same AGS as Thedinghausen post-2001, but a different ags\_name.

**NRW (05…)**

* 5313000: not sure why it’s not working for 2009. AGS changed between 2009 and 2014 but all Aachen AGS pre-2014 are the same.
* 5334000: Städteregion Aachen (einschl. Aachen Stadt). According to Wikipedia, AGS for Aachen is 05 3 34 002, not …000. But the raw data doesn’t include a separate line for Aachen for those years.
* 5958000: Landkreis, now removed.

**RLP (07…)**

* 7140502: correct AGS for Lahr, RLP. Since 2014, part of Verbandsgemeinde Kastellaun (maybe that’s why there is no AGS key for it)
  + 7140503: same as for Lahr — part of Kastellaun since 2014
  + 7140504: ditto
* 7235207: Trittenheim, AGS correct, but 2009
* 7141000, 7143000, 7232000: Kreise, excluded now
* 7232502: Similar to Lahr. Now part of VG Bitburger Land
* 7235207: now part of VG Schweich an R.W.

**Bayern (09…)**

* All were Landkreise. Now removed.

**Brandenburg (12…)**

* 12070024: Breese, should be 12070052. Fixed.
* 12073308: should be 12073309. Fixed.

**Mecklenburg-Vorpommern (13…)**

* 13053024: no idea, can’t find the gemeinde by name on the internet
* 13053079: Sabel. Same in 1994. Not sure why the merge for 1999 doesn’t work.
* 13053084: Same as with Sabel. Striesdorf.
* 13053108: Prebberede. Not sure what the issue is.
* 13053711: Briefwahlbezirk. See below.
* 13055068: Refers to Teschendorf up to and including 2009. Not sure why only the 2009 merge doesn’t work.
* 13057045: Kenz; is the same in 1994. Not sure why merge doesn’t work.
* 13057052: Küstrow. Same as with Kenz.
* 13062015: Glashütte. Same as with Kenz.
* 13071000: Mecklenburgische? Not sure what it is, suspecting a larger unit. I excluded it.
* 2011 (13071751 onwards): Briefwahlbezirke. It seems that ONLY in 2011, the Briefwahlbezirke were singled out in some cases but not all. Difficult to deal with. Decided to leave them in for now. Might be able to add the Briefwahlergebnisse to AGS by name but unlikely. Search “Briefwahl” in the sub-df for Mecklenburg-Vorpommern to find the ones where this is an issue. Either remove or add to other Gemeinden.
* 13076000: Landkreis. I removed it.

**Sachsen (14…)**

* 1994: The AGS for Sachsen 1994 are completely different from the AGS after that, including 1999. No patterns of how they changed. Chemnitz, for instance, is 14161000 in 1999 and 2004, 14511000 in 2009 onwards, but 14001000 in 1994. Are we missing a key here?
* Not sure what the issue is with year =! 1994. The AGS seem correct.

**Sachsen-Anhalt (15…)**

* 2009:
  + 15081010 (Algenstedt): Ortsteil.
  + 15081015 (Altensalzwedel): Ortsteil.
  + ….
  + 15081580 (Winterfeld): Ortsteil.
  + I removed those.
* 2007:
  + 15086270: Zeppernick, Ortsteil.
  + 15089040 to 15089370: All Ortsteile of Bördeland.
* 2004:
  + 15154013 to 15362065: Now Ortsteile of various Gemeinden. Not sure what to do.

**Thueringen (16…)**

* 16061005: refers to the same Gemeinde in 1994, 1999, 2004, 2009. Not sure why only 2009 is an issue. Might just still be the old AGS.
* 16063013: similarly, refers to the same Gemeinde (Creuzberg) in *all* years. Again not sure why 2019 is an issue.
* 16063019: Same here. Again only 2019 an issue.
* 16063047: Now Ortsteil of Bad Salzungen.
* 16063055: Same issue as above. Refers to the same Gemeinde in all years (Mihla). Only an issue in 2019.
* 16063056:
  + 
  + Not a lot to go in here… Same issue in the raw data.
* 16063057: **Moorgrund** war eine [Gemeinde](https://de.wikipedia.org/wiki/Gemeinde_(Deutschland)) im [Wartburgkreis](https://de.wikipedia.org/wiki/Wartburgkreis) in [Thüringen](https://de.wikipedia.org/wiki/Th%C3%BCringen). Die [Einheitsgemeinde](https://de.wikipedia.org/wiki/Einheitsgemeinde) erstreckte sich vom [Rennsteig](https://de.wikipedia.org/wiki/Rennsteig) bei [Ruhla](https://de.wikipedia.org/wiki/Ruhla) bis in die [Werraniederung](https://de.wikipedia.org/wiki/Werra) unmittelbar vor den Toren der Kreisstadt [Bad Salzungen](https://de.wikipedia.org/wiki/Bad_Salzungen). Sie wurde am 1. Dezember 2020 nach Bad Salzungen eingemeindet.
* 16064008: same thing as above (same gemeinde throughout only issue in 2019)
* To make this easier: the ‘same thing’ is true for all election\_year == 2019 | == 2009 for Thueringen
* 16068054:
  + A screenshot of a computer

    Description automatically generated
  + Again not a lot to go on.
* 16069022: name also corrupted.
* 16074023: Gernewitz, now Ortssteil of Stadtroda
* 16075059: Liebschütz, now part of Remptendorf. Not sure why the merge works in 1994 but not 1999.