

## How to Use the CALM “Derive Genres” Functionality

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## Summary of CALM Derive Genres

- Uses whatever pre-existing Tags, if any, that exist for each book in your CALM Target Library.
- If a book has no Tags, then its Author may be used in lieu of Tags.
- Tag Rules are used to determine Genres by comparing the Rules to the Tags.
- Tag Rules are defined by you based upon your language, Genre naming scheme, types of books in your CALM Target Library, and personal preferences.
- A working set of both Tag Rules and Author Rules are provided as examples in the special '**metadata\_tools.db**' file in the CALM Target Library directory. You must customize all of the DG tables to fit your personal needs and desires in the '**metadata\_tools.db**' file.
- A Calibre Custom Column for Genre is required for this to function. The special CALM Target Library metadata.db file comes standard with a Custom Column Search/Lookup Name of “#genre”.

– You should standardize your 'Genre' Custom Columns in all of your Source Libraries. CALM will figure out what the correct 'Genre' Custom Column is for each Source Library using the rules listed below. Please ensure your standardized 'Genre' Custom Columns fit within this framework.

- (1) The 'label' (the Search/Lookup Name with a '#') has the substring 'genre' in it;
- (2) The 'name' (the GUI Column Heading) has 'genre' or 'Genre' or 'GENRE' in it;
- (3) The custom column's datatype = 'text' (NOT 'comments'); and,
- (4) The custom column is normalized (normalized = 1) per standard Calibre metadata.db table 'custom\_columns', which of course should always be true for 'text', but is verified by CALM anyway.

If there are multiple choices for a particular Source Library, the first one found will be updated when you execute the “Replace Source Library Genres with the Target Library Genres” function within CALM.

## Tag Rules for Deriving Genres

- Tag Rules are defined in 2 different CALM DG user-maintained tables: `_dg_genre_tag_rules_factual` and `_dg_genre_tag_rules_fiction`.

- 10 columns are predefined in each table, as shown on the right. Only 2 columns are “required” for a Tag Rule to function: `new_genre`, and `tag_keyword_1`. The remaining columns are optional, but necessary for further narrowing of to derive a very detailed `new_genre`.

id	new_genre	tag_keyword_1	tag_operator_1	tag_keyword_2	tag_operator_2	tag_keyword_3	tag_operator_3	tag_keyword_4	tag_operator_4	tag_keyword_5	tag_operator_5
1	223	Ficción:Ciencia	ciencia	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
2	224	Ficción:Ciencia	fiction:ciencia	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
3	225	Ficción:Ciencia	ciencia	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
4	226	Ficción:Ciencia	fiction:ciencia	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
5	227	Ficción:Ciencia-Novela	fiction:ciencia	AND	novela	AND	NONE	AND	NONE	AND	NONE
6	228	Ficción:Ciencia-Novela	fiction:ciencia-novela	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
7	229	Ficción:Historico	fiction:historico	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
8	230	Ficción:Historico	historico	AND	español	AND	NONE	AND	NONE	AND	NONE
9	231	Ficción:Intriga-Policaco	fiction:intriga-policaco	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
10	232	Ficción:Intriga-Policaco	intriga	AND	policaco	AND	NONE	AND	NONE	AND	NONE
11	233	Fiction:Action&Adventure	action	OR	adventure	OR	thriller	OR	suspense	OR	NONE
12	234	Fiction:Action&Adventure	fiction:action&adventure	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
13	235	Fiction:Action&Adventure	action	OR	adventue	NOT	*	NONE	NONE	NONE	NONE
14	236	Fiction:Anthology	anthology	OR	anthologies	OR	collection	OR	NONE	OR	NONE
15	237	Fiction:Anthology	fiction:anthology	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
16	238	Fiction:Autobiographical&Biographical	autobiographical	OR	biographical	OR	NONE	OR	NONE	OR	NONE
17	239	Fiction:Autobiographical&Biographical	fiction:autobiographical&biographical	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
18	240	Fiction:Children	children	NOT	juvenile	NOT	youth	NOT	ya	NOT	teenager
19	241	Fiction:Children	fiction:children	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
20	242	Fiction:Classics	classics	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
21	243	Fiction:Classics	fiction:classics	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE

- There should be no Blanks. Use “NONE” instead. The default of the table values is “NONE”, so that should be easy.
- Rules for Factual books are defined in table `_dg_genre_tag_rules_factual`, and rules for Non-Factual are defined in table `_dg_genre_tag_rules_fiction`.
- Each Rule is a Row in the Tag Rule tables, and will derive a Genre from a book’s Tags if the conditions (if any) in the remaining 9 columns are satisfied.
- Tag Rule Keywords are matched to Tags via the logic of “is the Keyword equal to the Tag?” Direct equality matters. Werewolf is not equal to Werewolves.
- Fiction (i.e., Not Factual) books do not need any `tag_keyword` identifying them as “Fiction”. If a book is Not Factual, then by default it is either Fiction or Poetry. Poetry (non-Prose) is handled just like Fiction.
- Factual (i.e. Non-Fiction and Non-Poetry) rules must have a “Non-Fiction Keyword” in `tag_keyword_1`. Those “Non-Fiction Keywords” also exist in CALM DG table `_dg_nf_language_keywords` and can be tailored to your personal language and tastes. A fully

## CALM: Derive Genres From Tags & Authors

functional set comes with CALM DG. Refer to the image. You may safely delete the rows that you will never personally use as a Real Tag within your CALM library. These nf\_keywords are used by CALM DG to categorize each book as Factual or Not Factual. That distinction is critical when selecting between the Author Rule fiction\_genre and factual\_genre. Delete the nf\_keywords that you will never use, as doing so will speed processing.

- To specify a Factual Tag Rule, update CALM DG table \_dg\_genre\_tag\_rules\_factual. An nf\_keyword MUST be in that table in tag\_keyword\_1. **That same keyword must also be a Tag** in every book that is Factual and for which you want to derive a genre.

	id	nf_keyword
Filter	Filter	
1	65	dejanska
2	106	factual
3	66	factuel
4	67	fakta
5	68	faktaj
6	69	faktik
7	70	faktiki
8	71	faktiline
9	72	faktinis
10	73	faktisks
11	74	faktual
12	75	faktuelle
13	76	faktyczny
14	77	faptic
15	78	fatti
16	79	fattwali
17	80	fatual
18	81	feitelijk
19	82	feitelike
20	83	ffeithiol
21	63	fíorasach
22	64	gerçek
23	84	kuyiqiniso
24	57	noficción
25	58	noficción

## Author Rules for Deriving Genre

- You do not have to use Author Rules unless you wish.
- Author Rules are only searched if no Tag Rule were found for a particular book. Tag Rules take priority over Author Rules. Of course, Tag Rules require Tags, so any book with zero (or meaningless) Tags will by default have to try to use Author Rules.
- It is totally optional as far as CALM DG is concerned, but if you wish to mass-edit your Tags for any reason, by far the most efficient manner in Calibre is the Category Editor for Tags. The menu path is: “Alter Tag Browser (lower left corner) > Manage Authors, Tags, etc. > Manage Tags”. This is a powerful and easy-to-use Tag editor.
- Optionally too, Authors may be managed by the Category Editor for Authors.
- About 10,279 genre author rules have already been loaded into the **metadata\_tools.db** file. You must edit their default Fiction and Factual genres as you see fit, as well as adding new author rules to that table.

## CALM: Derive Genres From Tags & Authors

- If you do not plan to use author rules, you might consider deleting most or all of them to make your CALM DG jobs run faster. This is entirely optional. You will want to export the table's contents into a .sql file first, and save it somewhere safe so you can import them later if you change your mind.

Database Structure   Browse Data   Edit Pragmas   Execute SQL				
Table: _dg_genre_author_rules				
	id	author	fiction_genre	factual_genre
	Filter	Filter	Filter	Filter
1	1	a. grove day	NONE	FACTUAL:BIOGRAPHY&AUTOBIOGRAPHY
2	2	a. lee martinez	Fiction:Fantasy	NONE
3	3	a. manette ansay	Fiction:Romance-Historical	NONE
4	4	a. meredith walters	Fiction:Romance	NONE
5	5	a. michael matin	Fiction:Classics	NONE
6	6	a. scott berg	NONE	FACTUAL:BIOGRAPHY&AUTOBIOGRAPHY
7	7	a. warneke	Fiction:Romance	NONE
8	8	a.a. bell	Fiction:Fantasy	NONE
9	9	a.c. crispin	Fiction:Science&Fantasy	NONE
10	10	a.c. dillon	Fiction:Suspense&Thriller	NONE
11	11	a.c. mason	Fiction:Horror	NONE
12	12	a.c. warneke	Fiction:Romance	NONE
13	13	a.d. miller	Fiction:Mysteries&Detectives	NONE
14	14	a.d. smith iii	Fiction:Fantasy	NONE
15	15	a.e. murphy	Fiction:Humor	NONE
16	16	a.f. norman	NONE	FACTUAL:HISTORY-BARBARIANS
17	17	a.f.n. clarke	Fiction:Action&Adventure	NONE
18	18	a.g. henley	Fiction:Science&Fantasy	NONE
19	19	a.g. riddle	Fiction:Science	NONE
20	20	a.h. merrills	NONE	FACTUAL:HISTORY-BARBARIANS



## All Available Boolean Logic Equations for Tag Rules

- The following Table of Boolean Equations has been implemented. Your Tag Rules are limited to these choices.

- Important:** The Operator NOT may never appear to the LEFT of either AND or OR in the Tag Rules. Once you use a NOT, only more NOTs (or NONES) may be used to its right side.

	A	B	C	D	E	F	G	H	I	J	K
1	Boolean Operator Pattern	Logic Executed With Tags. Outcome Must Be True For Rule To Be Used.	KEYWORD1	OP1	KEYWORD2	OP2	KEYWORD3	OP3	KEYWORD4	OP4	KEYWORDS
2	(no operators at all)	x	x								
3	AND	x and y	x	and	y						
4	AND,AND	x and y and z	x	and	y	and	z				
5	AND,AND,AND	x and y and z and a	x	and	y	and	z	and	a		
6	AND,AND,AND,AND	x and y and z and a and b	x	and	y	and	z	and	a	and	b
7	AND,AND,AND,NOT	x and y and z and a and (not b)	x	and	y	and	z	and	a	not	b
8	AND,AND,AND,OR	x and y and z and (a or b)	x	and	y	and	z	and	a	or	b
9	AND,AND,NOT	(x and y) and z and (not a)	x	and	y	and	z	not	a		
10	AND,AND,NOT,NOT	x and y and z and (not a) and (not b)	x	and	y	and	z	not	a	not	b
11	AND,AND,OR	x and y and (z or a)	x	and	y	and	z	or	a		
12	AND,AND,OR,AND	x and y and (z or a) and b	x	and	y	and	z	or	a	and	b
13	AND,AND,OR,NOT	x and y and (z or a) and (not b)	x	and	y	and	z	or	a	not	b
14	AND,AND,OR,OR	x and y a z or a or b	x	and	y	and	z	or	a	or	b
15	AND,NOT	x and y and (not z)	x	and	y	not	z				
16	AND,NOT,NOT	x and y and (not z) and (not a)	x	and	y	not	z	not	a		
17	AND,NOT,NOT,NOT	x and y and (not z) and (not a) and (not b)	x	and	y	not	z	not	a	not	b
18	AND,OR	x and (y or z)	x	and	y	or	z				
19	AND,OR,AND	x and (y or z) and a	x	and	y	or	z	and	a		
20	AND,OR,AND,AND	x and (y or z) and a and b	x	and	y	or	z	and	a	and	b
21	AND,OR,AND,NOT	x and (y or z) and a and (not b)	x	and	y	or	z	and	a	not	b
22	AND,OR,AND,OR	x and (y or z) and (a or b)	x	and	y	or	z	and	a	or	b
23	AND,OR,NOT	x and (y or z) and (not a)	x	and	y	or	z	not	a		
24	AND,OR,NOT,NOT	x and (y or z) and (not a) and (not b)	x	and	y	or	z	not	a	not	b
25	AND,OR,OR	x and ((y or z) or a)	x	and	y	or	z	or	a		
26	AND,OR,OR,AND	x and ((y or z) or a) and b	x	and	y	or	z	or	a	and	b
27	AND,OR,OR,NOT	x and ((y or z) or a) and (not b)	x	and	y	or	z	or	a	not	b
28	AND,OR,OR,OR	x and (((y or z) or a) or b)	x	and	y	or	z	or	a	or	b
29	NOT	x and (not y)	x	not	y						
30	NOT,NOT	x and (not y) and (not z)	x	not	y	not	z				
31	NOT,NOT,NOT	x and (not y) and (not z) and (not a)	x	not	y	not	z	not	a		
32	NOT,NOT,NOT,NOT	x and (not y) and (not z) and (not a) and (not b)	x	not	y	not	z	not	a	not	b
33	OR	x or y	x	or	y						
34	OR,AND	(x or y) and z	x	or	y	and	z				
35	OR,AND,AND	(x or y) and z and a	x	or	y	and	z	and	a		
36	OR,AND,AND,AND	(x or y) and z and a and b	x	or	y	and	z	and	a	and	b
37	OR,AND,AND,NOT	(x or y) and z and a and (not b)	x	or	y	and	z	and	a	not	b
38	OR,AND,AND,OR	(x or y) and z and (a or b)	x	or	y	and	z	and	a	or	b

(continued on the next page)

## CALM: Derive Genres From Tags & Authors

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- These equations reflect the Operator Precedence of: AND; OR; and last NOT.
- For a Tag Rule to “pass” a test for applicability for a particular book, its Tags must comply with the logic within each Tag Rule.
- Multiple Tag Rules may “pass” this test, and become candidates for bestowing their Genres on the respective book. In

the case of multiple Candidates, the Tag Rule with the longest Genre wins. If they were all the same length, then the first one found would “win”, and the book would be given that Rule’s Genre. The concept is that the longer a Genre, the more detailed and specific it would be. Fiction:Romance-Paranormal is longer than Fiction:Romance, and is also more specific.

	A	B	C	D	E	F	G	H	I	J	K
33	OR	x or y	x	or	y						
34	OR,AND	(x or y) and z	x	or	y	and	z				
35	OR,AND,AND	(x or y) and z and a	x	or	y	and	z	and	a		
36	OR,AND,AND,AND	(x or y) and z and a and b	x	or	y	and	z	and	a	and	b
37	OR,AND,AND,NOT	(x or y) and z and a and (not b)	x	or	y	and	z	and	a		not b
38	OR,AND,AND,OR	(x or y) and z and (a or b)	x	or	y	and	z	and	a	or	b
39	OR,AND,NOT	(x or y) and z and (not a)	x	or	y	and	z	and	not a		
40	OR,AND,NOT,NOT	(x or y) and z and (not a) and (not b)	x	or	y	and	z	and	not a	and	not b
41	OR,AND,OR	(x or y) and (z or a)	x	or	y	and	z	or	a		
42	OR,AND,OR,AND	(x or y) and (z or a) and b	x	or	y	and	z	or	a	and	b
43	OR,AND,OR,NOT	(x or y) and (z or a) and (not b)	x	or	y	and	z	or	a	and	not b
44	OR,AND,OR,OR	(x or y) and ((z or a) or b)	x	or	y	and	z	or	a	or	b
45	OR,NOT	(x or y) and (not z)	x	or	y	and	not z				
46	OR,NOT,NOT	(x or y) and (not z) and (not a)	x	or	y	and	not z	and	not a		
47	OR,NOT,NOT,NOT	(x or y) and (not z) and (not a) and (not b)	x	or	y	and	not z	and	not a	and	not b
48	OR,OR	(x or y) or z	x	or	y	or	z				
49	OR,OR,AND	((x or y) or z) and a	x	or	y	or	z	and	a		
50	OR,OR,AND,AND	((x or y) or z) and a and b	x	or	y	or	z	and	a	and	b
51	OR,OR,AND,NOT	((x or y) or z) and a and (not b)	x	or	y	or	z	and	a	and	not b
52	OR,OR,AND,OR	((x or y) or z) and (a or b)	x	or	y	or	z	and	a	or	b
53	OR,OR,NOT	((x or y) or z) and (not a)	x	or	y	or	z	and	not a		
54	OR,OR,NOT,NOT	((x or y) or z) and (not a) and (not b)	x	or	y	or	z	and	not a	and	not b
55	OR,OR,OR	((x or y) or z) or a	x	or	y	or	z	or	a		
56	OR,OR,OR,AND	((((x or y) or z) or a) and b)	x	or	y	or	z	or	a	and	b
57	OR,OR,OR,NOT	((((x or y) or z) or a) and (not b)	x	or	y	or	z	or	a	and	not b
58	OR,OR,OR,OR	((((x or y) or z) or a) or b)	x	or	y	or	z	or	a	or	b
59											

## Special Wildcard Symbol in Tag Rules

- Tag Rules have a “wildcard”, which is the Asterisk: \*
- The Asterisk must always be preceded by the NOT Operator. The plugin will overwrite any Operator other than NOT to the immediate left of the Asterisk. Obviously, tag\_keyword\_1 can never be the wildcard because there is no Operator to its left.
- The Asterisk always means “and nothing else”. That means that the Tag Keywords to the LEFT of the “NOT \* ” wildcard operator/keyword combination become the ONLY Tags that a book may have for that specific Tag Rule to “pass” the logic. Once you use the Wildcard, no other Operators or Keywords (except NONEs) may be used in that particular Tag Rule for the remainder (to the RIGHT) of that Wildcard within that specific Tag Rule.

## Example Jobs Results

Calibre interface showing the 'CALM Derive Genres' job results. The job is completed with 100% progress in 0m 48s, starting on 15:10 on 27 Sep.

Job	Status	Progress	Running time	Start time
1 CALM Derive Genres	Finished	100%	0m 48s	15:10 -- 27 Sep

```

Starting job: CALM Derive Genres
Connecting to Target: X:/CALM/metadata.db
Sun Sep 27 15:10:19 2015
Python: Windows CPython 2.7.9
SQLite Version: 3.8.4 [APSW]
CALM: Deriving Target Genres for 130 Book(s)

Attaching to Tools DB: X:/CALM/metadata_tools.db

CALM Derive Genres is controlled by 4 DG tables within the special CALM 'Tools DB' (metadata_tools.db) that are User-Maintained:
..... _dg_nf_language_keywords
..... _dg_genre_tag_rules_factual
..... _dg_genre_tag_rules_fiction
..... _dg_genre_author_rules

CALM DG uses Target Tags, so finalize all Target Library Tags prior to execution.

CALM DG adds missing Tag Rule Combinations to Tools DB table _dg_missing_tag_rules.

You should use Tools DB table _dg_missing_tag_rules to help you create new Tag Rules.

You should delete rows in Tools DB table _dg_missing_tag_rules that no longer are useful to you.

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CALM Target Custom Column #Name to be used is: #genre

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Number of Selected Books to Process:          130
Number of Rules for Fiction/Poetry Processed: 129
Number of Rules for Factual Processed:        111
Number of Rules for Authors Processed:         12
Number of Multi-Language Factual Keywords:     50
Number of Books for Which Tags Were Gathered: 130
Number of Factual Books Identified:            0
Number of Non-Factual Books Identified:        130
Number of New Genres Derived from Rules:        3
Number of Books With No Applicable Rules:      127
Number of Missing Tag Rules in _dg_missing_tag_rules: 22

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Target Genre Derivation ended normally
    
```

## Example Annotated Results of Plugin Job

Execution shown

Tags	Genre
abc1, abc2, abc3, abc4, abc5, abc6, abc7, abc8, abc9, abc10, abc11	Example:YouCanDoAlmostAnythingWithTagRules
abc1, abc2, abc3, abc4, abc5, abc6, abc7, abc8, abc9, abc10, abc11	Example:YouCanDoAlmostAnythingWithTagRules
Antiques, Factual	Factual:Antiques&Collectibles
Cooking, Factual	Factual:Cooking-General
Cooking, Factual	Factual:Cooking-General
Factual	Factual:testing
Factual	Factual:testing
Action, Adventure	Fiction:Action&Adventure
Classics	Fiction:Classics
Classics	Fiction:Classics
Comics	Fiction:Comics&GraphicNovels
Dystopia	Fiction:Dystopian&Apocalyptic
Fantasy, Paranormal	Fiction:Fantasy-Paranormal
Fantasy, Steampunk	Fiction:Fantasy-Steampunk
Steampunk	Fiction:Fantasy-Steampunk
Fantasy, Urban	Fiction:Fantasy-Urban
Default	Fiction:General
Default	Fiction:General
Default	Fiction:General
Default	Fiction:General
Default	Fiction:General
Default	Fiction:General
Default	Fiction:General
Default	Fiction:General
Default	Fiction:General
Default	Fiction:General
Default	Fiction:General
Horror	Fiction:Horror
Horror	Fiction:Horror
Horror	Fiction:Horror
Humor	Fiction:Humor
Jewish	Fiction:Jewish
Politics	Fiction:Political
Romance	Fiction:Romance

  

author	fiction_genre	factual_genre
Zedart Hodges	Fiction:Testing	FACTUAL:BIOGR
Zena Bernstein	Fiction:Testing	Factual:testing

  

new_genre	tag_keyword_1	tag_operator_1
Example:YouCanDoAlmostAnythingWithTagRules	abc1	AND
Fiction:General	Default	

Tag Rules

Author Rules (factual\_genre)

Tag Rules

Tag Rules

Default Tag Rule For Fiction

## Tag Combinations Missing Tag Rules

The table in **metadata\_tools.db** shown below is automatically updated whenever a book fails to find a match for any Tag Rules. Its purpose is to allow you to easily determine what new Tag Rules you need to add to the appropriate Factual or Fiction Tag Rules tables. After you add the new Tag Rules, you should delete the entries within this table.

Remember that CALM DG uses the Tags currently in the CALM Target Library. They may or may not have been changed since they were originally consolidated into the Target Library.

Database Structure Browse Data Edit Pragmas Execute SQL			
Table: _dg_missing_tag_rules			
	id	combination	date_added
	Filter	Filter	Filter
1	17	Español,Gene,Individual,Male	2015-09-17 15:03:57
2	18	Earth,Español,Human,Robot	2015-09-17 15:03:57
3	38	Column,Comment,Español,Search	2015-09-17 15:04:02
4	46	Español,Evolution,Human,Mind	2015-09-17 15:04:03
5	47	Español,Evolution,Human,Selection	2015-09-17 15:04:03
6	95	Español,Sound,Tuttle,Uncle	2015-09-17 15:04:11
7	97	Español,Fire,Thought,espana	2015-09-17 15:04:11
8	100	Comfort,Español,Object	2015-09-17 15:04:12
9	111	Aunt,Boy,Español,Wizard	2015-09-17 15:04:13
10	134	Data,Español,Investigación,Test	2015-09-17 15:04:16
11	135	Dog,Duchess,Español	2015-09-17 15:04:16
12	136	Español,Test,espana, ficcion	2015-09-17 15:04:17
13	137	Cat,English,Español,Set	2015-09-17 15:04:17
14	138	Abacus,Español,Lottery,Methylphenidate	2015-09-17 15:04:17
15	140	Custom,Español,French,God	2015-09-17 15:04:17
16	143	Counterrevolutionary,Data,Electroencephalographic,Español	2015-09-17 15:04:18