Mutt & Friends

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What is mutt?

`man mutt` says

> *mutt - The Mutt Mail User Agent*

`eix -e mutt` in Gentoo says

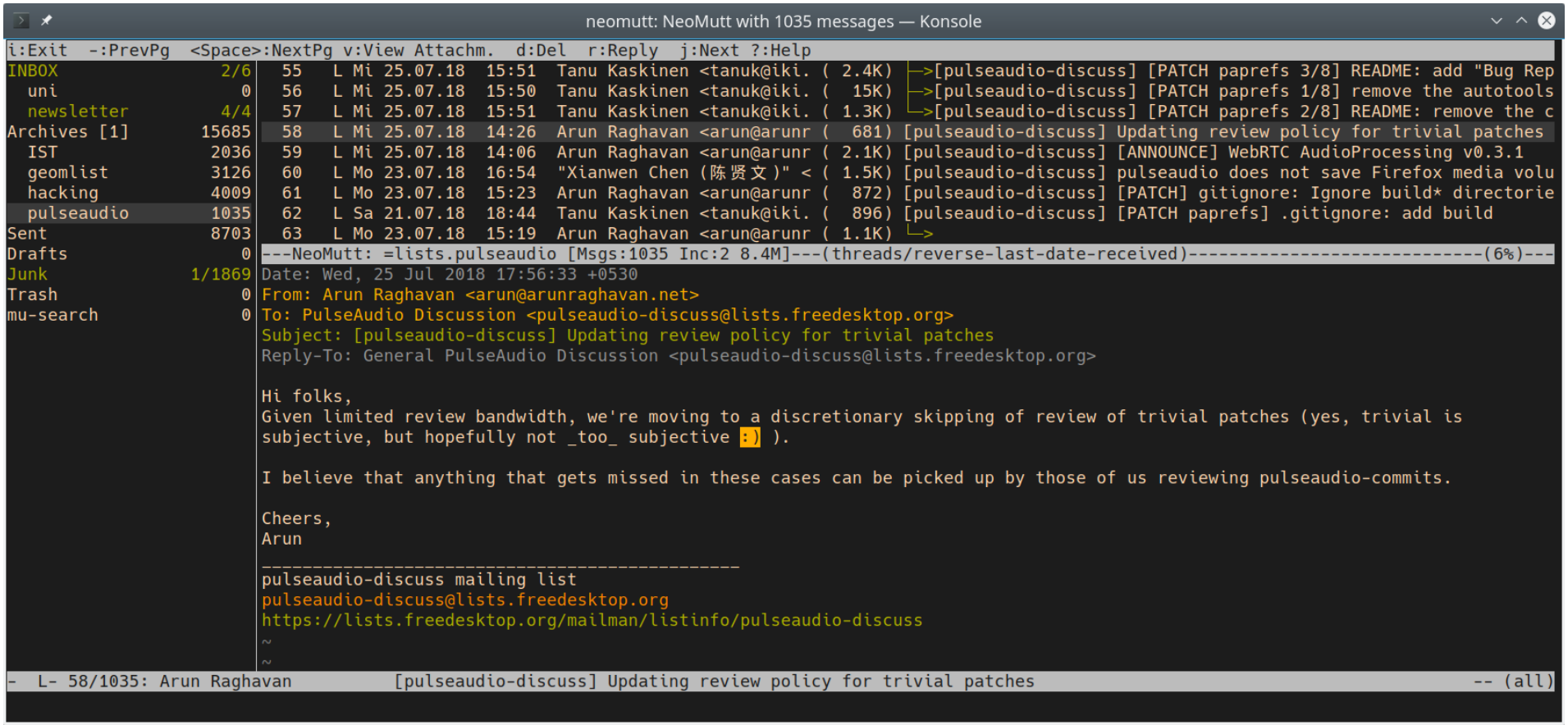
> *A small but very powerful text-based mail client*

What is mutt?

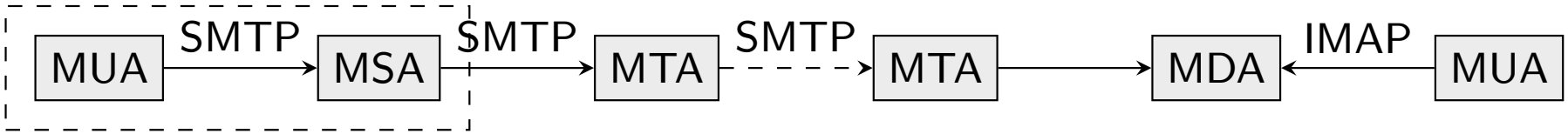
`aptitude show mutt` in Debian says

> *text-based mailreader supporting MIME, GPG, PGP and threading*
> *Mutt is a sophisticated text-based Mail User Agent. Some highlights:*
>
> - *MIME support (including RFC1522 encoding/decoding of 8-bit message headers and UTF-8 support).*
> - *PGP/MIME support (RFC 2015).*
> - *Advanced IMAP client supporting SSL encryption and SASL authentication.*
> - *POP3 support.*
> - *ESMTP support.*
> - *Message threading (both strict and non-strict).*
> - *Keybindings are configurable, default keybindings are much like ELM; Mush and PINE-like ones are provided as examples.*
> - *Handles MMDF, MH and Maildir in addition to regular mbox format.*
> - *Messages may be (indefinitely) postponed.*
> - *Colour support.*
> - *Highly configurable through easy but powerful rc file.*
> - *Support for compressed mailboxes.*
> - *An optional Sidebar.*

How mutt looks like



Background: How E-Mail works



- The MSA (mail submission agent) listens to the submission port tcp/587 and submissions (submission-over-TLS) port tcp/465, where the MUA (mail user agent) connects to.
- But often mail clients directly connects to the first MTA (mail transfer agent), which they call the "SMTP server".
  In some sense, these clients are MUA+MSA in one. In particular, the MSA-part maintain a send queue of mails.
- The MTA listens to the smtp port tcp/25 and smtps port tcp/465.
- There might be many hops between MTAs.
- The receiving MUA typically connects to the MDA (mail delivery agent) through IMAP.[1]

Mutt is really *just* a MUA.

[1] Let POP3 rest in peace. Really.

Mutt versus neomutt

Neomutt : mutt $\approx$ neovim : vim

- The website says: "Teaching an old dog new tricks"
- Neomutt is a drop-in replacement for mutt.[2]
- More features:
  - Improved code quality
  - Getting patches upstream, like the famous sidebar patch, but more: `https://neomutt.org/feature.html`

[2] I believe this is still true.

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$\{\text{vim}, \text{emacs}\}$: editor $\approx$ $\{\text{mutt}, \text{(al)pine}\}$: mail client

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Operating mutt

A MUA like mutt is made for:

- Managing mail boxes and reading mails.
  - Mutt may access mails via IMAP.
  - Mutt may access mails in a maildir directory on your filesystem.
    You need for instance offlineimap to fetch your mails.
- Composing mails:
  - It fires an external editor, like vim, for the actual composition.
  - It uses sendmail or similar to send mails.
    If you run mutt via ssh on your mail server then you can pass it via a localhost connection.
- Managing an address book:
  - You can maintain a so-called alias file or interact with external tools.
  - However, mutt is no carddav client. You need for instance vdirsyncer and khard.

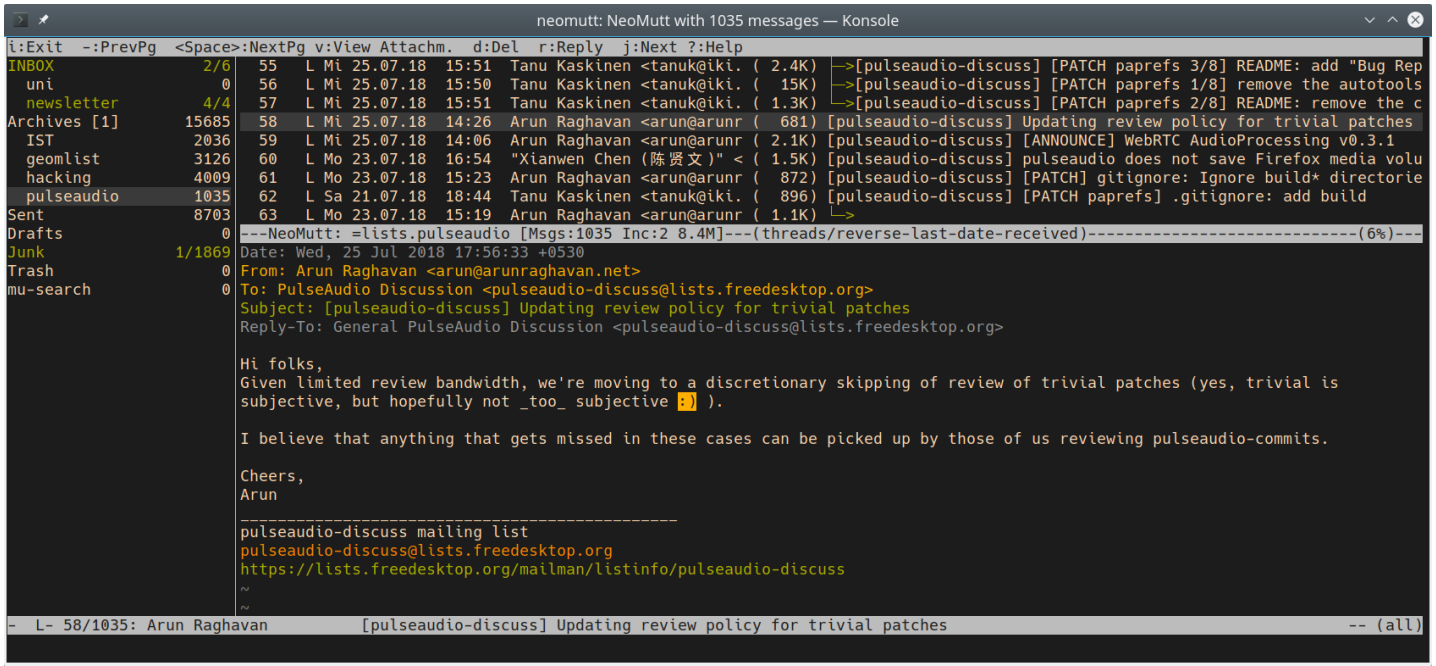
Mutt is strong in interacting with other tools.

Getting Started

`https://neomutt.org/guide/`

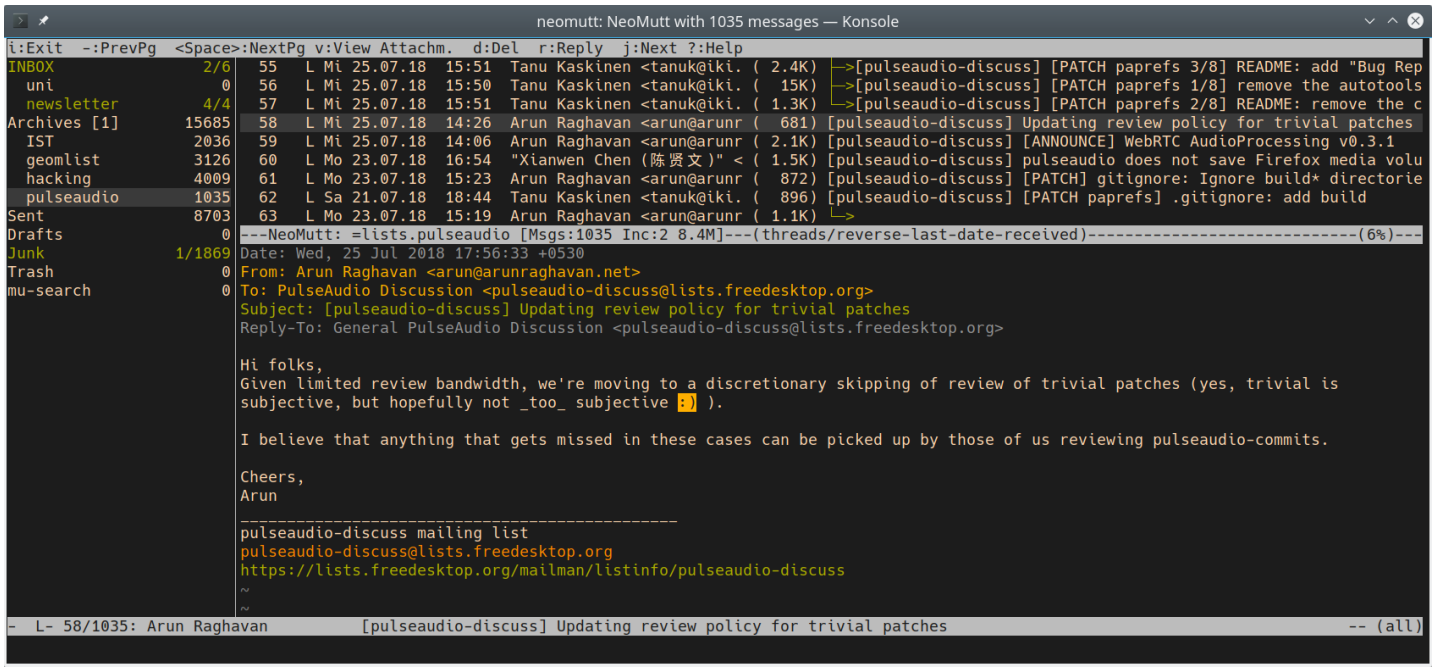
Screens and menus:

- Sidebar
- Index
- Pager
- File Browser, compose menu, alias menu, attachment menu



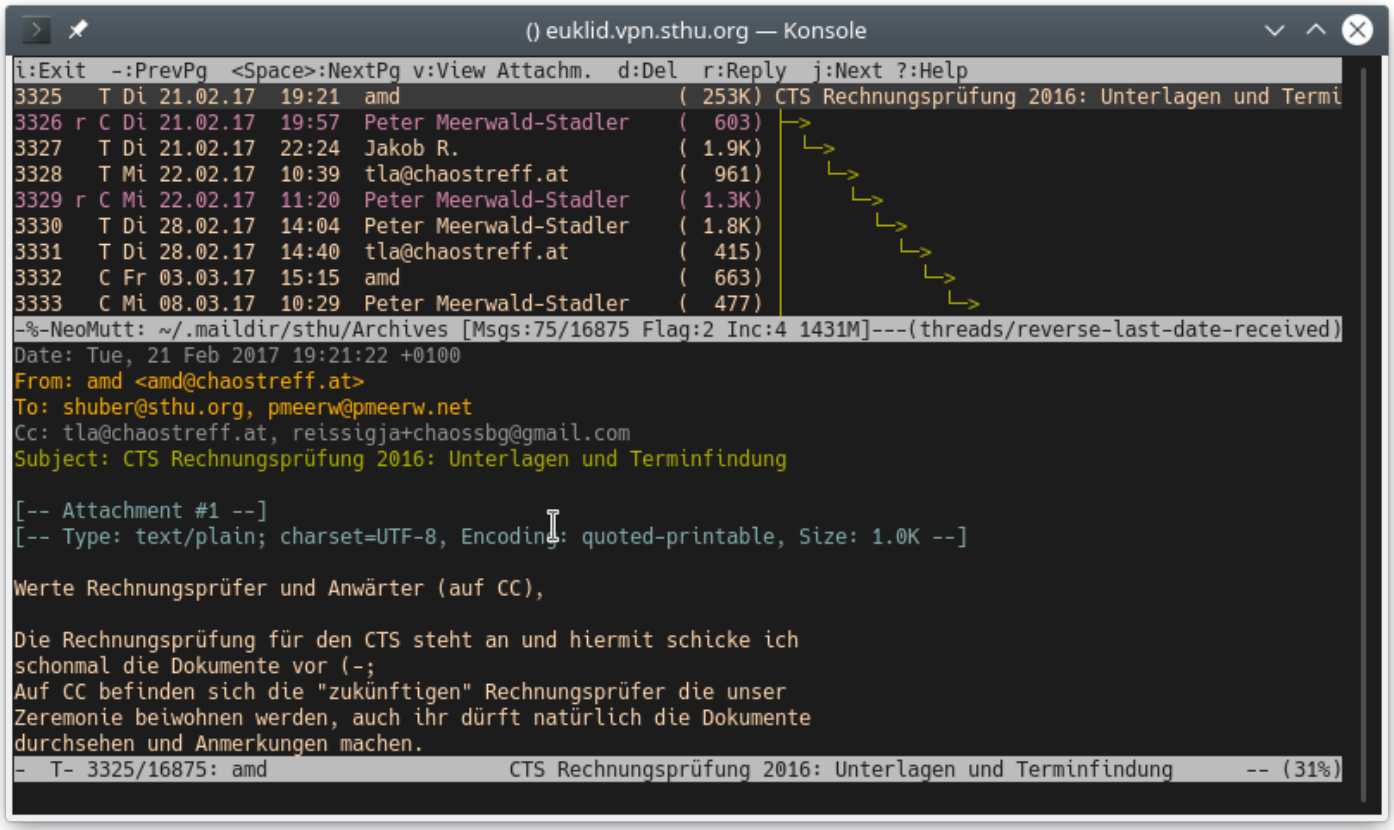
The Index

- Filtering mails
- Forwarding and bouncing mails
- Deleting or moving mails
  I have special shortcuts for move-into-archive and move-into-junk
- Applying operation to multiple mails by *tagging*.
  - `t` key toggles the tagged state
  - Tagging by pattern matching



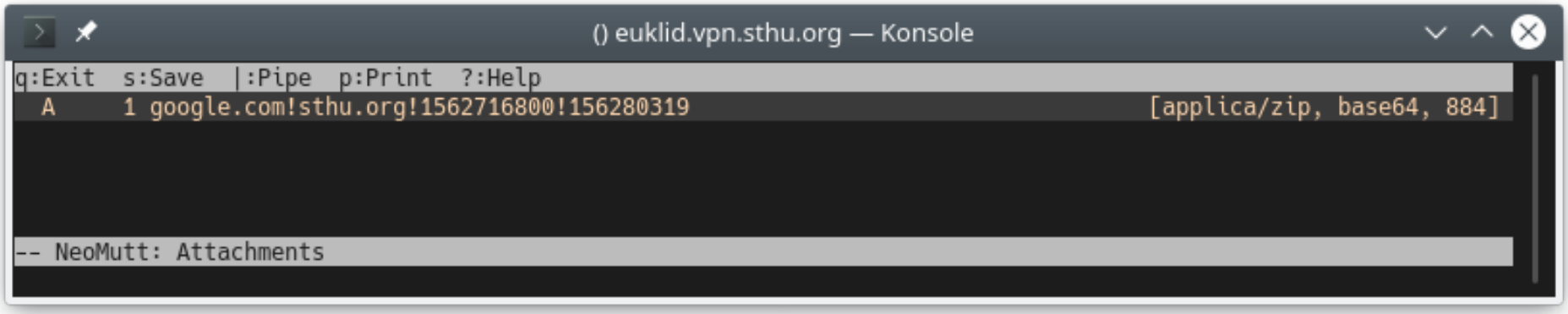
The Pager

- Displays the mail.
- If it is a multipart message then preferably the text/plain part.
- But it can also display text/html, e.g., using `w3m` for conversion.



The Attachments

- Can open attachment with dedicated viewer, like text/html parts with a browser.
- Can pipe a part into an external tool:
  Importing attached PGP keys: `gpg --import-key`
  Viewing zipped content `zcat | vim -`



MIME

MIME means Multipurpose Internet Mail Extensions

- Non-ASCII text, e.g. utf-8
- Non-text attachments, e.g., images, archives, pdfs, ...
- Multi-part messages, like plain text and HTML

MIME Content-Type:

- text/plain
- text/html
- application/zip

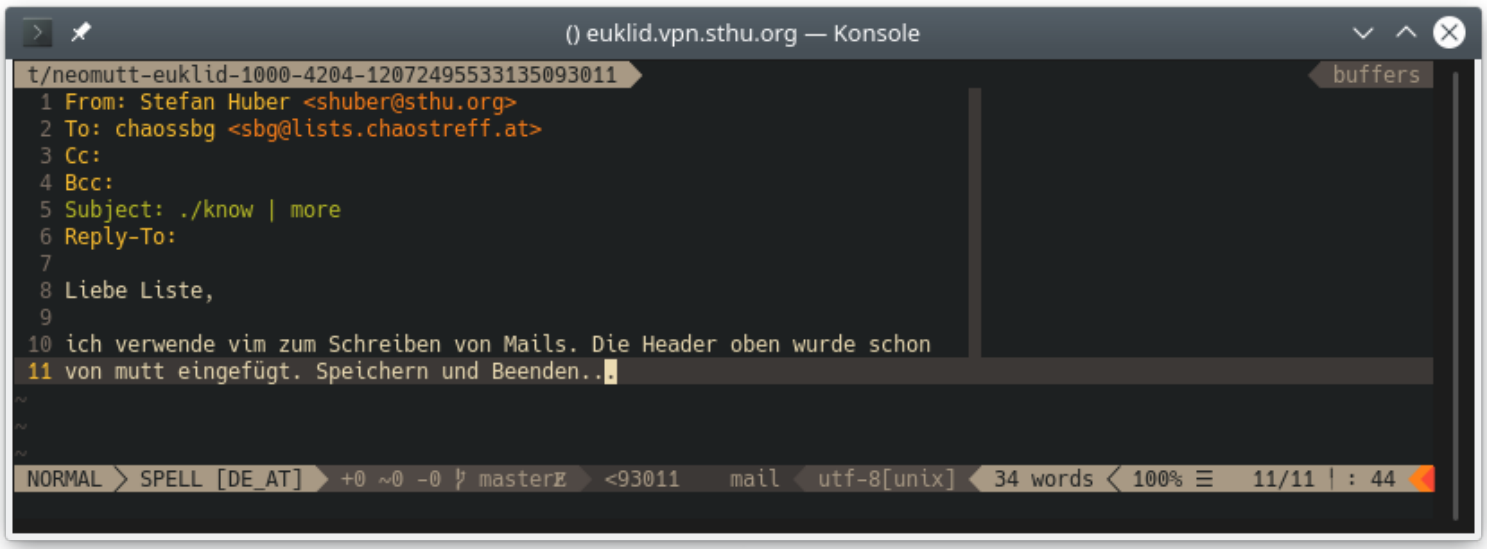
`$HOME/.mutt/mailcap`:

```
image/*; xdg-open %s; needsterminal;
text/html; /usr/bin/w3m -I %{charset} -T text/html '%s'; copiousoutput;
    ↪ description=HTML Text; nametemplate=%s.html
text/html; xdg-open '%s'; nametemplate=%s.html; test=test -n "$DISPLAY";
    ↪ needsterminal;
```

Composition

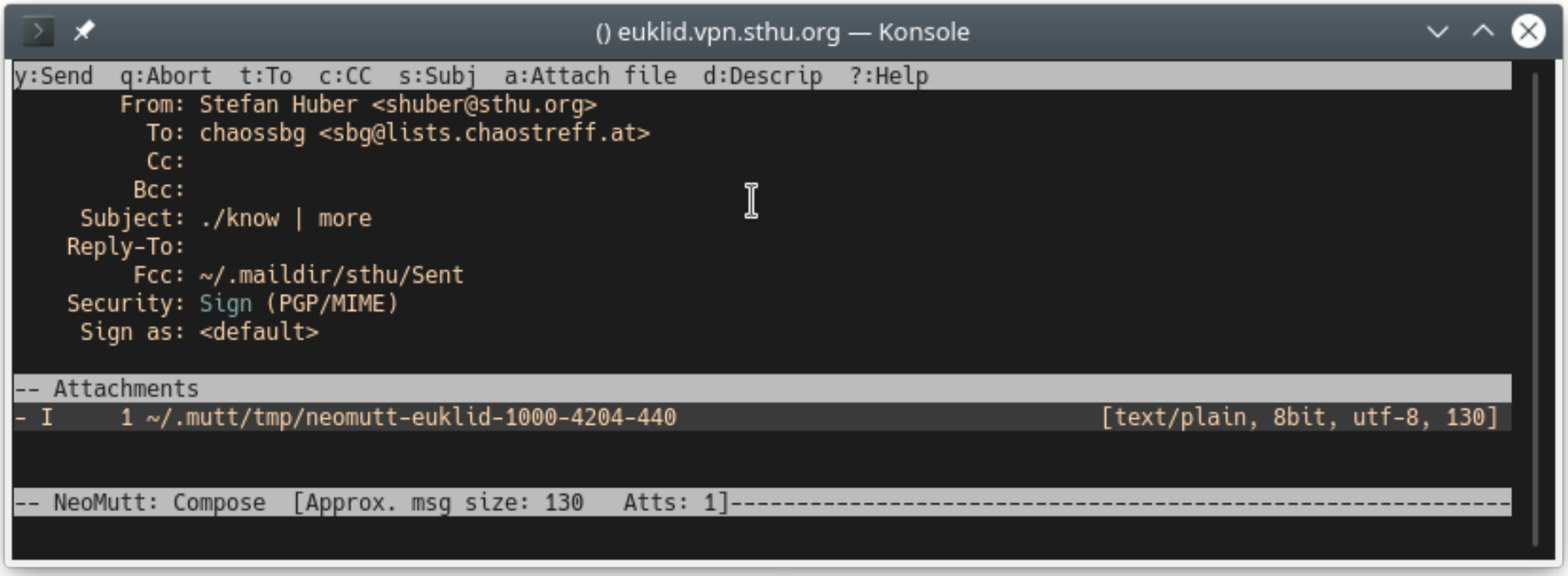
Mutt asks for To: and Subject: and then immediately starts an editor.

- When entering To: the shortcut C-T performs a name query.
  It uses an external command for this, like `khard`.
- Instead of entering full names and addresses, also aliases can be used.
  The alias file contains the translation to the full name.



Composition

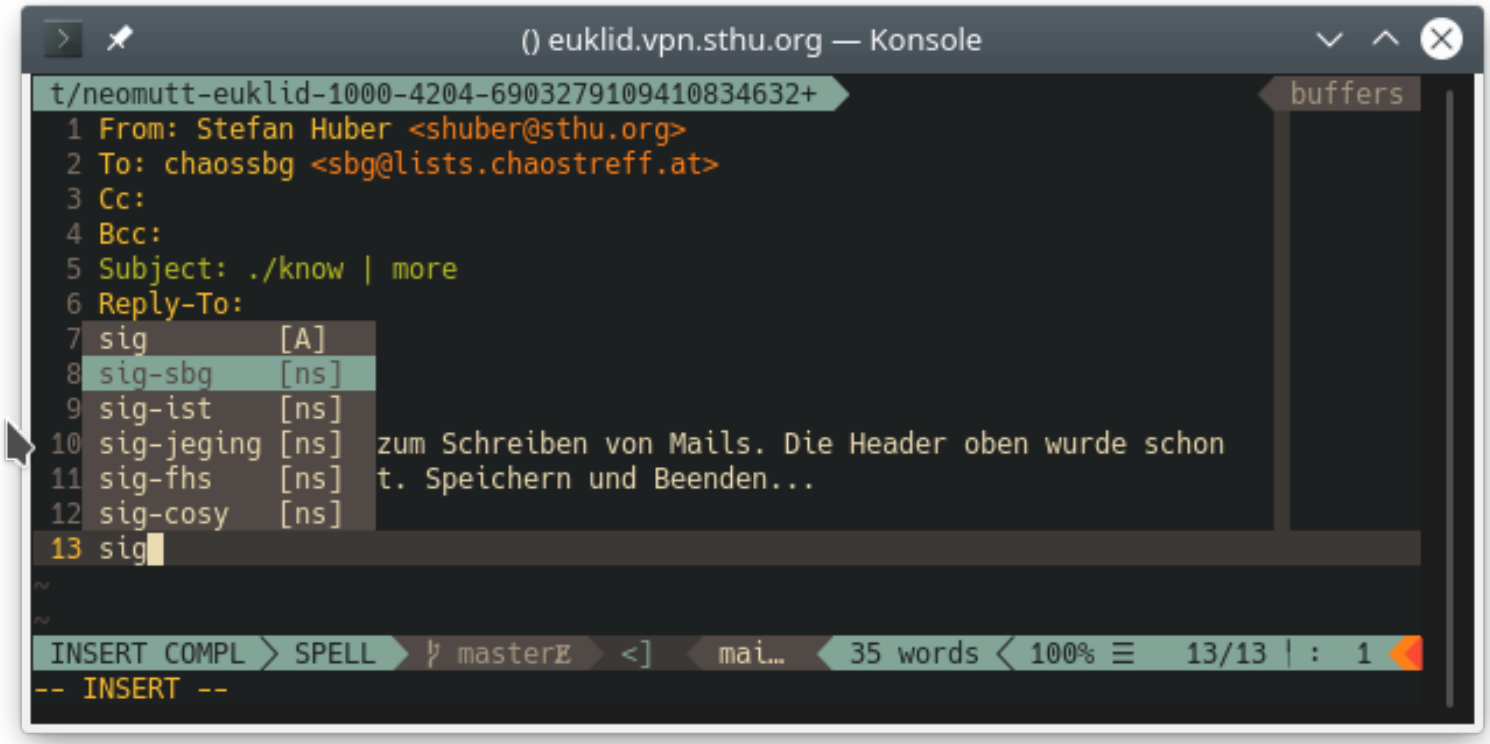
After composition (exit of editor) this composition menu appears:



Composition with vim

Vim is powerful:

- Spell checking
- Complex text layouts, like tables or paragraph re-wrapping.
- Syntax highlighting, for instance for source code patches
- Snippets, e.g., for signatures, well-known mail addresses, or closing formulas. `lg<C-K>` unfolds to `Liebe Grüße, Stefan Huber`



Getting mails

I use mutt in two ways:

- Via ssh to my mailserver with IMAP connection to localhost.
- On my laptop with `offlineimap` to sync with a local maildir `$HOME/.maildir/`.
  - Allows me to access mail when I am offline.
  - Actually, offlineimap accesses two mail accounts (`sthu.org`, `fh-salzburg.ac.at`), but for mutt it is one maildir.

OfflineIMAP:

- A very fast, bidirectional IMAP $\leftrightarrow$ maildir synchronization software.
- Quick start: `http://www.offlineimap.org/doc/quick_start.html`
- Is also handy for migration of a mail account to a different provider or for backup creation.
- I keep it running in a screen session in the background. A shortcut in mutt triggers a shell script to restart the service.
- It can use Python code to decide when to synchronize a folder.
  I only check Junk once per hour.[3]

[3] See also `https://github.com/OfflineIMAP/offlineimap/commit/561a3d4329d1e1f42849bd9c291ff43c25f431dc`

Managing addresses

Addresses are to be managed “in the cloud”:

- When I add a contact on the mobile phone or in kaddressbook then I want to have it available for mutt, too.
- I use `davical` on `cal.sthu.org` for carddav. Others may use nextlcoud.
- Mutt does not connect to a carddav server.

vdirsyncer:

- Synchronizes addressbooks[4] between a server and a local repository.[5].
- A shortcut in mutt triggers vdirsyncer on demand.

khard:

- Can access a local carddav repository
- Can query, create, remove, modify, list contacts
- Mutt uses khard to query contacts.

[4] And calendars, too.

[5] Or between two servers

Sending mails

Through SMTP:

- Mutt can directly connect an SMTP server for sending a mail.
- If it cannot be reached after a timeout then the mail can be postponed in mutt.
- However, if you want to send a bunch of mails while offline this gets annoying.

Through sendmail:

- If you run mutt via ssh on the mail server then sendmail is provided by it, e.g., `postfix`.
- There are lightweight SMTP clients (MSA), like `msmtp`. However, they do not provide a mail queue.
  This is why I wrote `smailq`: `https://www.sthu.org/code/smailq.html`
- Mutt does not have to wait for a possible timeout if the sendmail implementation takes care for the queuing in the background.

Configuration

Mutt has a powerful configuration:

- Shortcuts
- Appearance of index lines, pager header lines, sidebar lines
- Colors

I use the *gruvbox* colorscheme in vim:

- `https://www.sthu.org/code/codesnippets/vimconf.html`
- There was no working gruvbox colorscheme for mutt, so I made one: `https://www.sthu.org/code/codesnippets/mutt-gruvbox.html`

Hooks are commands that are executed at certain events:

- folder-hook, mailbox-hook
- send-hook, save-hook, pgp-hook

Hooks

Folder hook:

- I use different config files (e.g., index line format, from address, etc.) for different folders, e.g., for mailing lists or university folder.
- When I switch to a FHS folder then I change my from address, my folders for archive, trash, drafts, sent and junk, which is synced from a different IMAP account.
- When I switch to an archive or sent folder then I toggle the readonly flag.
- I disable PGP signing for folders where the from address is not in my key.

Send hook:

- When I send to `*@lists.*` then I disable PGP encryption.
- For certain recipients I explicitly enable or disable PGP encyption.

PGP hook:

- Fixing peoples inability to handle their PGP keys.

Mail indexing, searching and tagging

`notmuch`:

- Builds an index and allows me to search in 70k mails very quickly.
- `https://notmuchmail.org/howto/`
- Built-in support in neomutt.
- Can tag mails.
  - Automatically translates maildir tags to notmuch tags.
  - Automatically tags signed or encrypted mails by default.
  - Can be used to create a virtual "unified inbox" over multiple accounts that just lists all mails tagged with `new`.
- A postsynchook of `offlineimap` can be used to trigger a `notmuch` operations.