Tales from the Trip

An atlas

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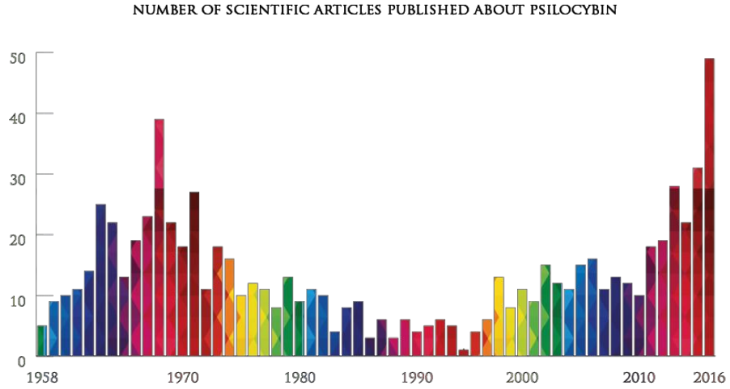
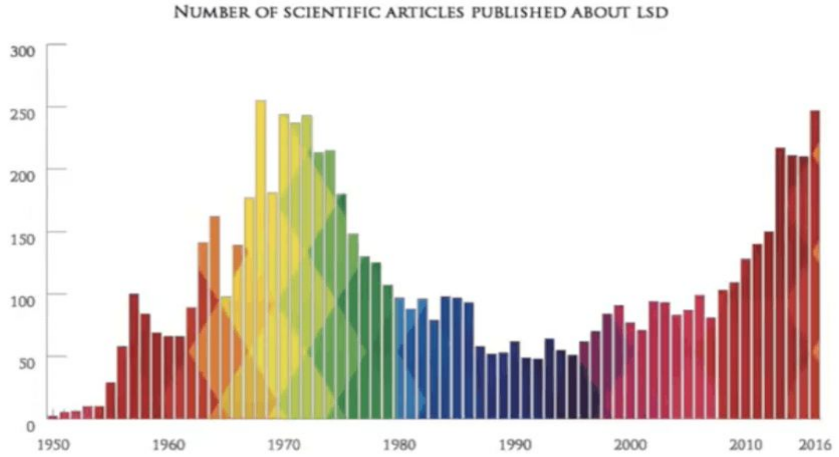
The psychedelic renaissance.

The timeline on the right shows how many scientific articles about psilocybin have been published each year in the period 1958-2016. The same goes for LSD beneath it. However, the LSD-graph's period begins in 1950.
These graphs were not produced by us, but illustrate how the scientific publications about psilocybin and LSD dropped after the illegalization of the psychedelic compounds in most parts of the world in 1970s. The graphs also show the resurgence in published scientific articles about both substances, especially around 2010 and onwards.
The graphs tell that there is a significant knowledge gap in scientific material on the two topics. There are however other traces and stories producing knowledge, which we decided to explore.



https://www.psychedelia.io/about



https://mapsofthemind.com/2018/08/14/beyond-psychedelics-2018-listening-talking-filming-review-of-a-psychedelic-forum-in-prague/

Lay knowledge vs. scientific knowledge

"The definition of boundaries of scientific expertise has power implications. As Jasanoff puts it, "to label something 'not science' is to delude it of cognitive authority" (Janasoff, 1990, p. 14). It is therefore not surprising that some of those who are excluded from the status of experts are often willing to put up a fight to see their knowledge recognized." (Munk & Venturini, 2022).

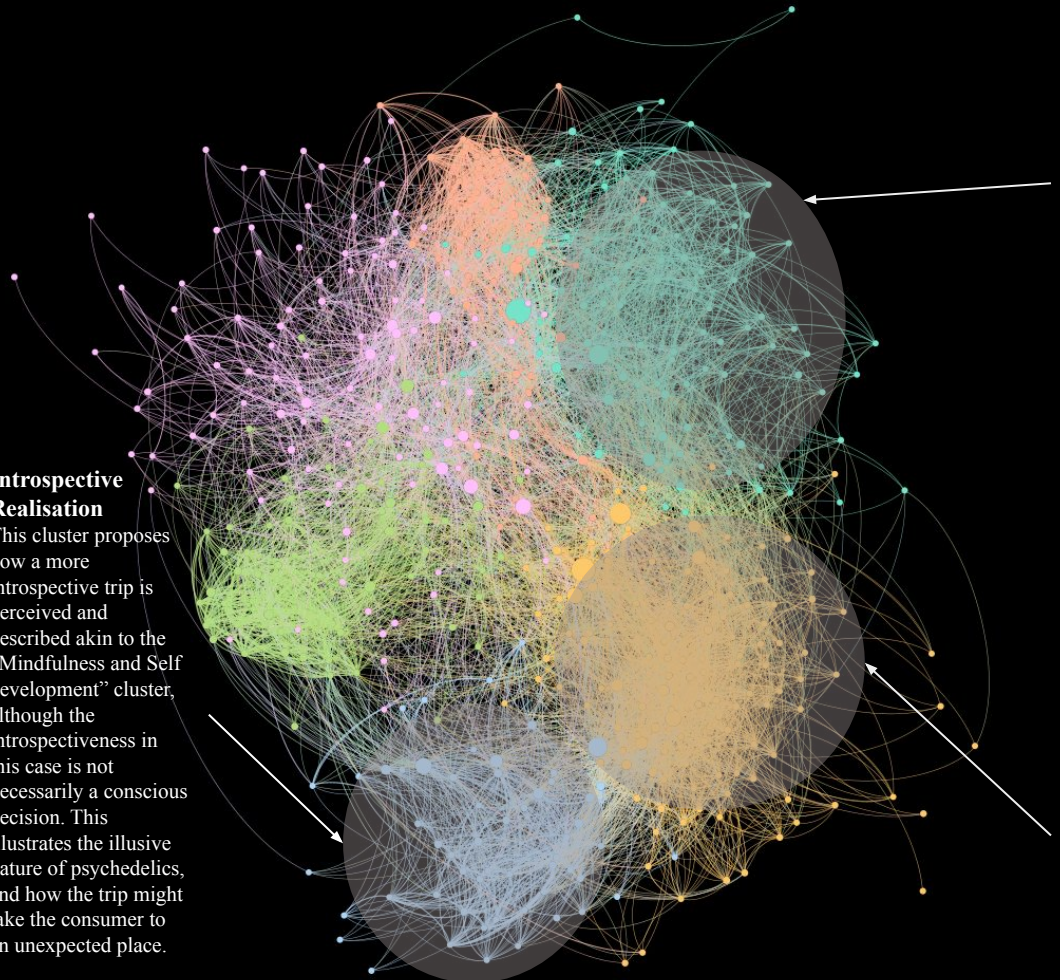
Thus we decided to explore the lay knowledge presented in Erowid's curated trip reports and the stories about the two most classic psychedelic substances that they hold.

1.SEMANTIC NETWORKS

Semantic network of 500 trip reports written on the psilocybin mushroom experience.

The nature of the following networks is heterogenous which enables specificity in term-use. This allows the observer to identify archetypical psychedelic experiences within the clusters.

The network's overall density represents each node's frequency of cooccurrence, which in this case, is plentiful. This tells us the terminology used to explain the different types of trips is semantically closely related, despite how the trips inherently are different.



Nature's Setting

This cluster appears to be a collection of terms describing sensory sensations in nature which influences the psychedelic experience. This is a classic way of exploring the compound, especially in first timer's introduction.

Introspective Realisation

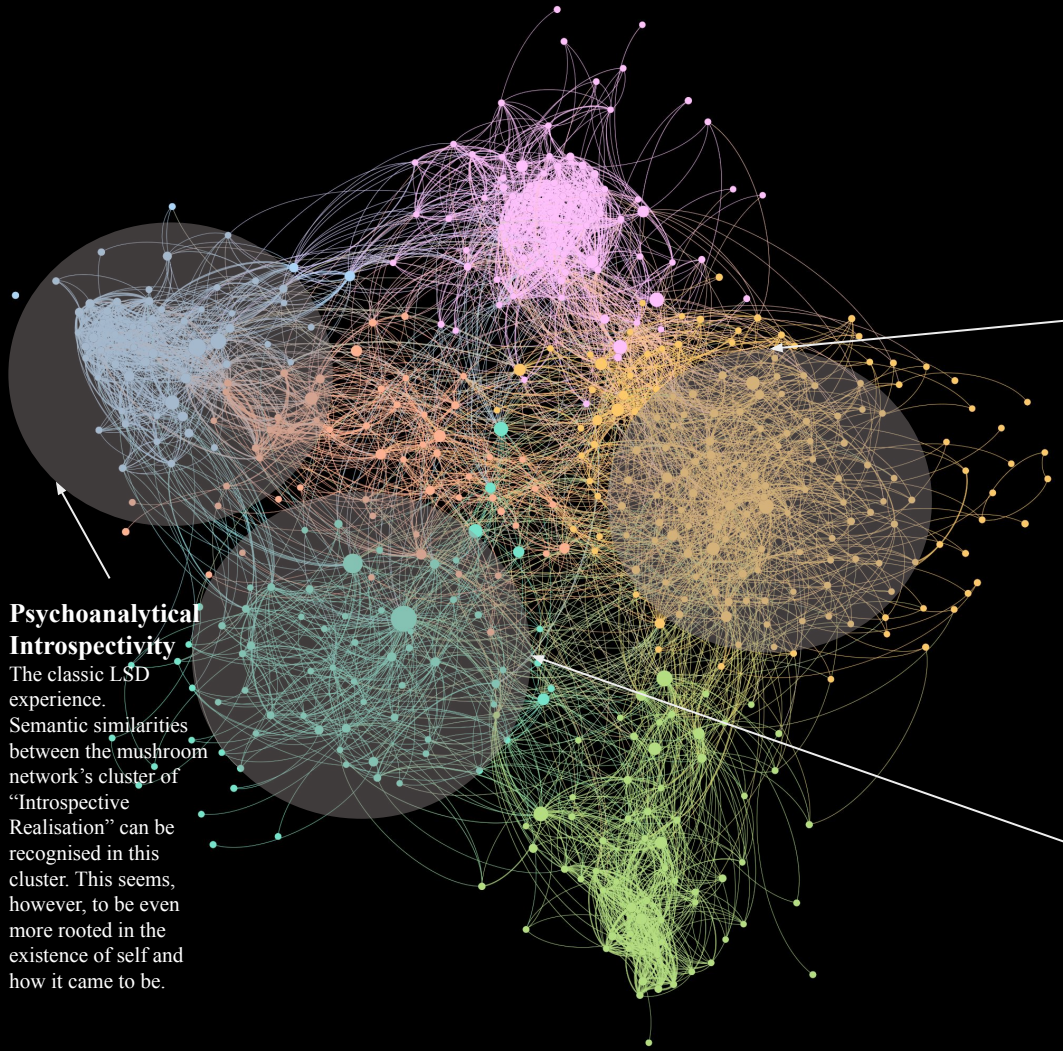
This cluster proposes how a more introspective trip is perceived and described akin to the "Mindfulness and Self development" cluster, although the introspectiveness in this case is not necessarily a conscious decision. This illustrates the illusive nature of psychedelics, and how the trip might take the consumer to an unexpected place.

Mindfulness and Self development

This cluster of nodes suggests how individuals utilise psilocybin mushrooms for self development, introducing meditation and self reflection to the experience and thus influence the outcome to improve on oneself. This is a classic strategy used in both underground treatments and (recently) in clinical trials.

Semantic network of 500 trip reports written on the LSD experience.

The approach to the creation of this network is the same as the previous to explore the two compounds' similarities and differences. At first glance the network is less dense than the psilocybin mushroom's, which indicates the terminology used to describe the experience is farther apart in comparison.
Some clusters are semantically closely related to the clusters established in the psilocybin mushroom network with common themes such as introspectivity and setting(s) in nature. This indicates similarities in the experience between the two substances, and may confirm the notion of how the psychedelic experience inherently is similar between substances despite their differences in observable character.



Psychoanalytical Introspectivity

The classic LSD experience.
Semantic similarities between the mushroom network's cluster of "Introspective Realisation" can be recognised in this cluster. This seems, however, to be even more rooted in the existence of self and how it came to be.

A Trip to a Friend's House

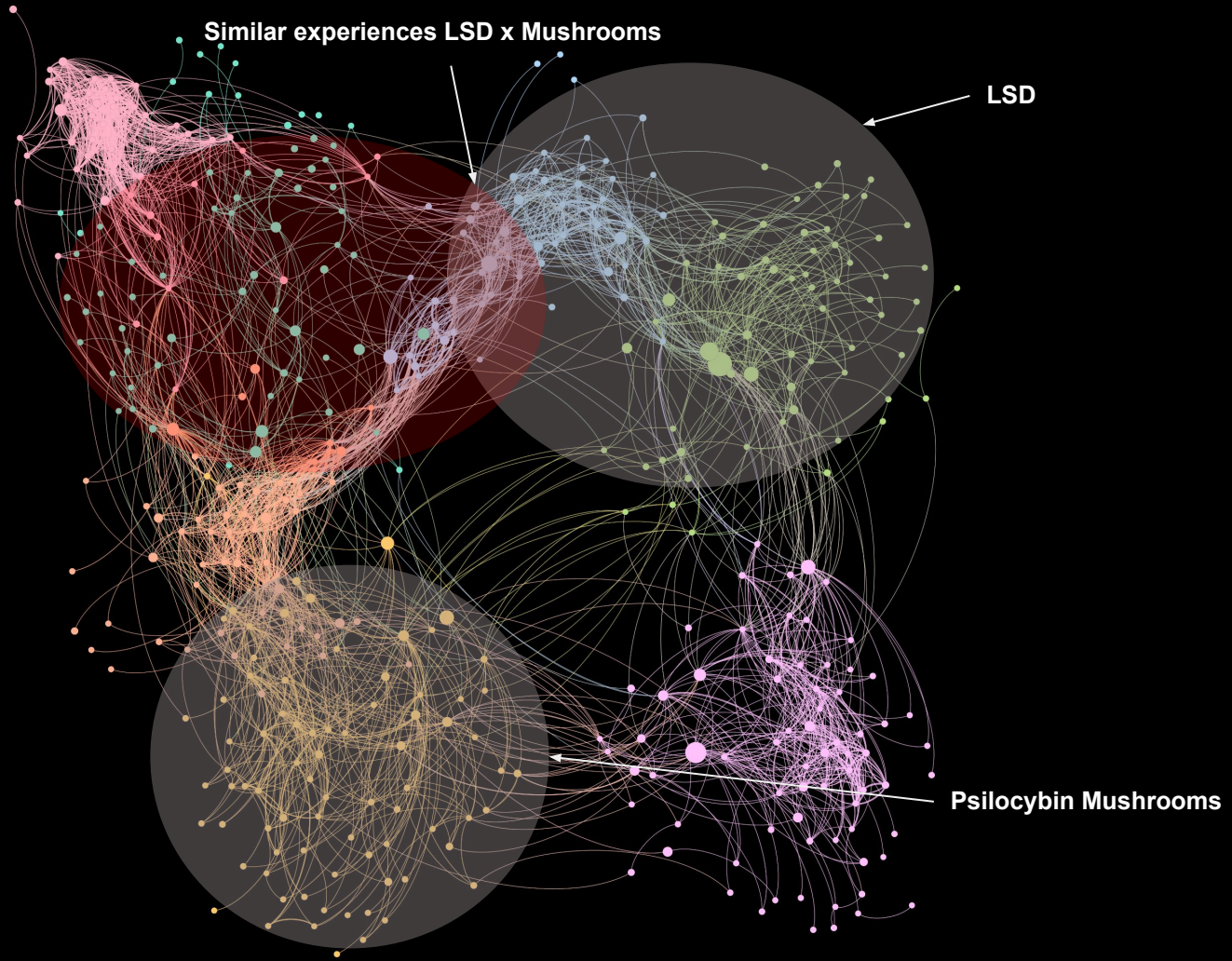
This cluster represents a classic introduction to these substances: try them with a friend. The terminology applied by the author(s) is overflowing to setting-aspects such as nature and (in)tangible stimulus-objects: mirrors and music. These objects are usually tools the consumer of the compound prepares beforehand to enhance or explore the experience in different ways.

Other Dimensional Encounter(s)

Atypical to the usual LSD experience, this cluster indicates encounters with other-worldy entities. This appears to be rare to LSD, yet still an archetypical experience and can be achieved if the dose is large enough. This suggests the author(s) attempted a heroic dose.

Semantic network of the previous data sets merged together: 1000 trip reports.

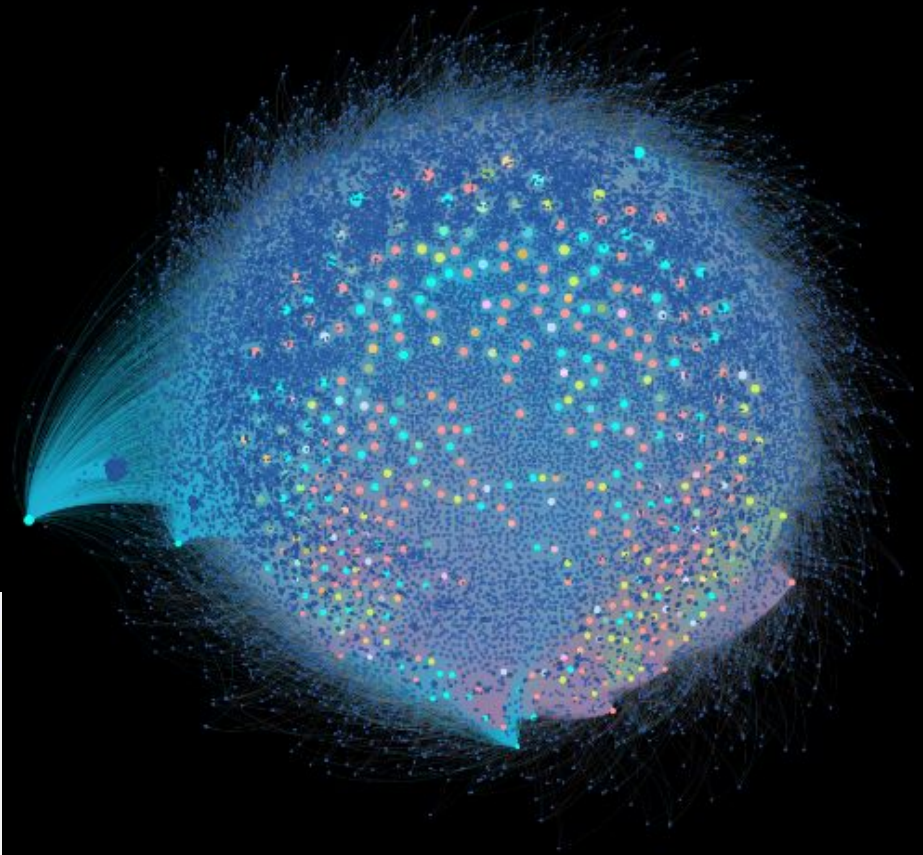
How is the data represented when merged together? With a thesis of the network presenting semantic differences across the two substances, we expected to observe how the similarities of the previous networks' clusters pulled towards each other and those opposed each other pushed away, due to less cooccurrences. This appears to be the fact, seeing two of the mentioned cluster in the LSD network organised together in the top right corner farthest away from the mushroom's cluster in the bottom left. The clusters that are semantically similar between the LSD and mushroom networks are closer together and overlap marked by the red circle.



2. Prototype Network of terms to substance

Prototyping to make sense of data can be a long journey.

This map was a prototype built to show how different terms are used in context to a specific substance (psilocybin mushrooms), and illustrate the most common terms used to describe the psilocybin experience semantically. But with a data set of over 800.000 edges, there is still need for a lot of cleaning in terms of relevance and direct connections. The noise is created by similar words that have not been categorized properly (no n-grams or variations of word conjugations). The color is also contributing to the confusion in this map, as the pastel palette make it hard to differentiate the substances from each other.



Mushrooms	(39,03 %)
Mushrooms - P. cubensis	(23,47 %)
Mushrooms & Cannabis	(10,97 %)
Mushrooms - P. cubensis & Cannabis	(4,59 %)
Mushrooms (P. cubensis)	(2,04 %)
Mushrooms - P. semilanceata	(2,04 %)
Mushrooms - P. mexicana	(1,53 %)
Mushrooms - P. cyanescens	(1,53 %)
Mushrooms - P. tampanensis	(1,02 %)
Mushrooms - Panaeolus cyanescens	(0,77 %)
Mushrooms - P. Cubensis & Cannabis	(0,77 %)

3.Contrast Analysis

Frequently used words in LSD and Mushrooms trips

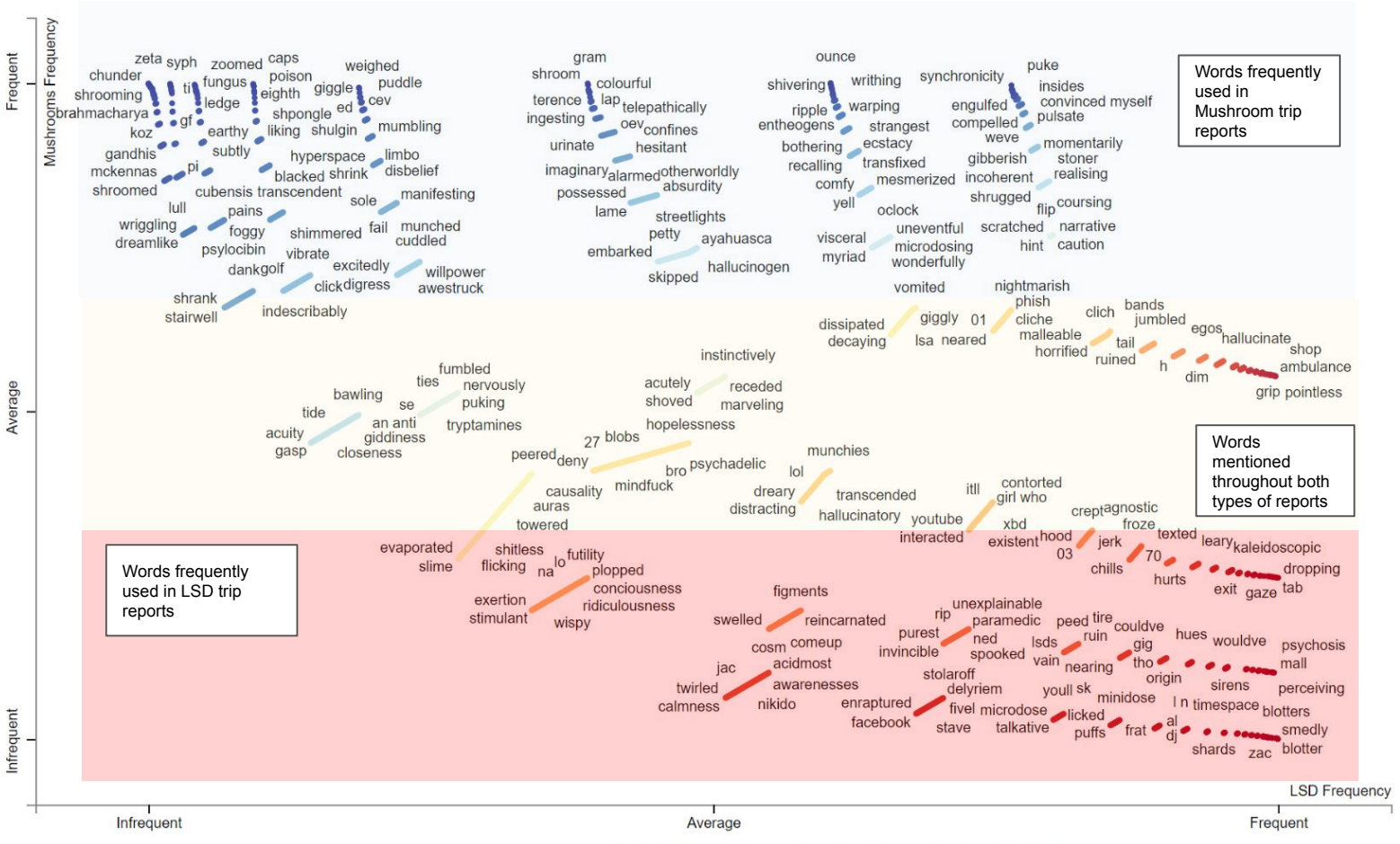
Contrast analysis of LSD and Mushroom Trip reports

This map shows the most frequently used words in LSD trip reports through the X-axis in contrast to the most frequently used words in Mushroom trip reports through the Y-axis. In the middle there are words which were used in both LSD and Mushroom reports in relatively similar frequency. It gives us a glimpse into what words can characterize the 2 different substances and their effects, creating a spectrum showing the contrast between them. It also takes into consideration words such as names, which are not as telling and should be sorted away.

The most interesting trend that can be observed is negative words such as: "panicking", "horrified" or "psychosis" being used significantly more frequently in relation to LSD in contrast to mushrooms.

The map is interactive and the various words can be seen in context through the link below: https://documents.cortext.net/0d3b/0d3b146c9d85cccb68b6b1c42b1d51ea/298299/Contrast_Visualization.html

This allows to explore the words directly in the trip reports, permitting us to understand the terms exact use and meaning. A tool that can be valuable in a qualitative exploration of trip reports.



Mushrooms document count: 154; word count: 342,479
LSD document count: 256; word count: 584,026

4. Word clouds

The humidity of words used in LSD and Mushrooms

Word clouds illustrating word-frequency

The nature of these word clouds is all semantically close related in their terminology, as we see the same 4 categories of words dominating all 3 clouds. The word clouds illustrate the most frequently used words to describe the author's subjective experience with the compound. The most occuring words are typical in the descriptions of psychedelic experiences. The words can all be categorised into:

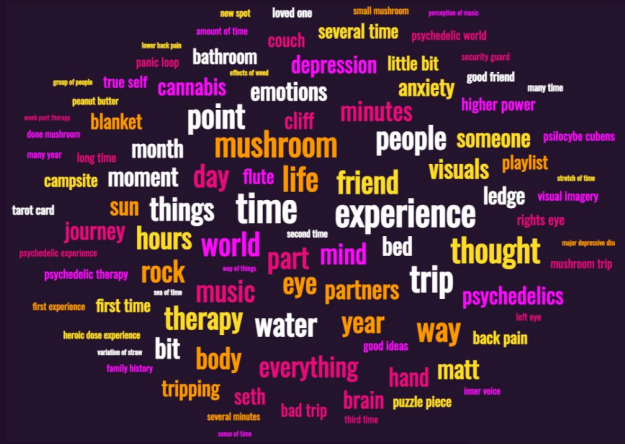
1. Settings and activities: Living room, bathroom, part of town, high school, music, meditation practice, study room

2. Feelings and thoughts: Amazing feel, anxiety, nonstop panic attacks, positive effects, sensation of heat, lot of fun, sense of self

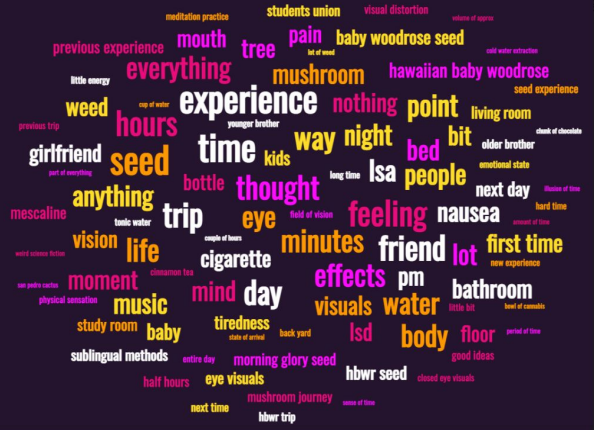
3. Specification of drugs and dosage: Doses of LSD, multiple substances, MDMA, study dosage timeline, Hawaiian baby woodrose

4. Objects and persons: Wool socks, old friend, sober friend, evelyn, silver bullet, tree, girlfriend, baby, flute

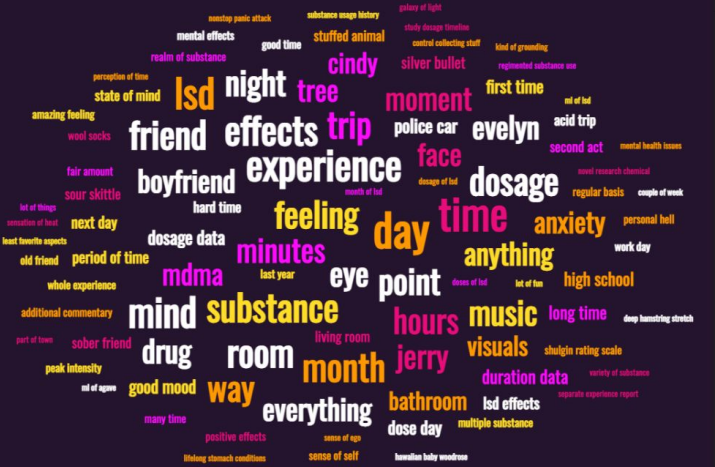
Mushrooms



LSD



Mushrooms and LSD merged



PROTOCOLS

Semantic Networks

Experience vaults on Erowid.org
Trip reports under the category of Mushrooms

Experience vaults on Erowid.org
Trip reports under the category of LSD

Scraped from experience vault and retrieve 500 reports

Python

List of 500 reports with following sub-categories: id, title, author, published substance, story

Python

CSV

HARVEST

Merge CSV files

Build and phrase a corpus Run term extraction (Lexical Extraction) script through 500 reports

Cortext

2000 rows of maximum 4 word engrams, with a frequency on 4

.tsv

NETWORK DATA

MAP

Clusters from force layout
Identify shared knowledge bases

Central nodes by weighted degree
Identify key terms

ANNOTATE

Network viz

PNG

VISUALIZE

Applied node and edge modification for visuals

Gephi

Run Heterogeneous Network Mapping script, with term-term ForceAtlas2 included

Cortext

GEXF

Contrast analysis of LSD and Mushroom Trip reports

Experience vaults on Erowid.org
Trip reports under the category of Mushrooms and LSD

Scrape stories from experience vault and retrieve 500 LSD and 500 Mushroom reports

Python

Lists of 500 reports per substance with following sub-categories: id, title, author, published
substance, story

CSV

Merge CSV files

HARVEST

Cortext

Build a corpus through Contrast Analysis.

DB

Cortext

Run Contrast Analysis again on the .db file, with text variable being "story", categorical variable - "substance", with 2 contrasting categories: "LSD" and "Mushrooms"

HTML

NETWORK DATA

MAP of frequently used terms on the spectrum of the 2 substances

- Cluster of most frequently used words in Mushroom trip reports
- Cluster of words commonly used in trip reports under both substances
- Cluster of words frequently used in LSD trips

ANNOTATE

Interactive Contrast Analysis visualisation based on
https://documents.cortext.net/0d3b/0d3b146c9d85cccb68b6b1c42b1d51ea/298299/Contrast_Visualization.html

HTML

VISUALIZE

Prototype of Terms to substance Network

Experience vaults on Erowid.org
Trip reports under the category of Mushrooms

Scraped from experience vault and retrieve 500 reports

Python

List of 500 reports with following sub-categories: id, title, author, published substance, story

Python

CSV

HARVEST

Build list of words based on 500 reports and Words and documents with text to document list with words.

Python

Words and documents with text to network

CSV

NETWORK DATA

GEXF

ForceAtlas2 applied node and edge modification for visuals

Gephi

VISUALIZE

Network viz

PNG

MAP

Clusters from force layout
Identify shared knowledge bases

Central nodes by weighted degree
Identify key terms to substance

ANNOTATE

Word Clouds

Experience vaults on Erowid.org
Trip reports under the category of Mushrooms and LSD

Scrape stories from experience vault and retrieve 500 LSD and 500 Mushroom reports

Python

Lists of 500 reports per substance with following sub-categories: id, title, author, published
substance, story

2 CSV files

Merge CSV files, sort away trips that blend various substances together

HARVEST

Word Cloud Map of frequently used words describing trips on LSD and Mushrooms

- Words describing settings and activities
- Words describing feelings and thoughts
- Words describing objects and persons

ANNOTATE

3 PNG files

RStudio

~~*Build a corpus through R script and visualize. Word cloud appears in viewer*~~

RStudio and R language prove to be too difficult. Visualisations in Tableau are not so telling considering our dataset either. We decide to use an online solution with a limited dataset.
https://monkeylearn.com/word-cloud/

HTML

MonkeyLearn

Build word clouds with 3 samples from the trip reports: LSD, Mushrooms, LSD and Mushrooms merged

VISUALIZE