Wine writing meets MIP & the process of vetting Generative AI-based research tools: Expert vs. non-expert figurative language in standard English & English as a lingua franca

A dissertation submitted in partial fulfilment of the requirements

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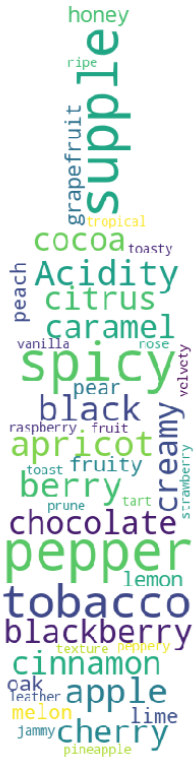

MA thesis

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Contents

0. Abstract

Tropes in wine discourse have increasingly attracted scholarly attention, yet systematic analyses of figurative strategies across expert and non-expert wine reviewer groups remain limited. This thesis examines how wine reviewers use literal and figurative resources, focusing on lexical metaphors, their conceptual source domains, and metonymic structures. The study compares reviews produced by L1 experts and L2 non-experts on two major online platforms to investigate cross-linguistic and cross-platform variation. Two large corpora were compiled (372,053 and 183,316 reviews), from which balanced samples of 1,100 reviews each from 2023 were extracted. A subset of 112 reviews underwent detailed manual annotation, yielding 2,373 lexical units across four dominant content-related POS categories. Expert reviews averaged 25 lexical units per review, compared to 17 in non-expert texts. Overlaps were observed in the semantic source domains of *texture* and *physical body*. Nevertheless, distinct conceptual orientations emerged between groups: metaphors produced by L1 experts frequently drew on domains such as *music* and *social interaction*, whereas L2 non-experts more commonly employed mappings related to *time* and *quantity*. Across both corpora, figurative language seemed to consistently rely on anthropomorphic projections, with wine conceptualised as a human entity possessing a physical body and, in elaborated forms, as WINE is AN INTRIGUING PERSON WITH SOLID SOCIAL SKILLS, whereas 40 percent concerned non-human conceptual metaphors. Comparison with the Text-Based Wine Wheel (Croijmans et al., 2020) demonstrated approximately 20% lexical convergence, reinforcing the conclusion that wine discourse is fundamentally structured by metaphorical and metonymic patterns. In addition to isolated lexical units, the analysis also revealed the systematic use of figurative clusters, including idioms and formulaic expressions, that seemed to facilitate the anthropomorphic conceptual metaphor in wine reviews. Self-authorial statements also varied significantly by platform, with four main strategies: (i) foregrounding personal tasting experiences, (ii) providing evaluative recommendations, (iii) directing consumer behaviour, and (iv) articulating subjective quality assessments. The findings hold implications for Applied Linguistics, particularly English for Specific Purposes (ESP), and suggest that pedagogical approaches to wine writing should integrate figurative and evaluative strategies to align with authentic discourse practices of both expert and lay reviewers. Finally, the study assessed the potential of Large Language Models (LLMs) for large-scale metaphor research. Five LLMs, including ChatGPT-05, were tested through prompt engineering. Only moderate reliability was achieved for ChatGPT-05, indicating that while LLMs may offer scalability in the near future, especially locally hosted LLMs currently fall short of capturing the culturally embedded and cognitively grounded nature of metaphor.

1. Introduction

1.1 Language & Cognition, Metaphoricity, and Discourse analysis

In applied linguistics, the relationship between language, meaning, and habitual thought has extensively been examined in which earlier research posited that particular words only existed in some languages. Such words would describe untranslatable phenomena, but this myth has been debunked over time. A frequently cited example is extensive lexical variation used to describe snow, and the Arctic languages, for example, possess 50 words to describe it. In contrast, English relies on one lexical unit and it can be modified by others, such as adjectives. Consequently, the range in English is typically expanded by using modifiers that function as minimizers (e.g. light) or boosters (e.g. heavy). However, more recent work has shown that descriptive elements may be integrated into words through morphemic processes. A morpheme is "a distinctive collocation of phonemes having no smaller meaningful parts (Merriam Webster dictionary, 2025)". Morpheme modification and integration may contribute to a higher morpheme-to-word ratio and thereby shape meaning. To exemplify, in such morpheme-dense languages, lexis may be used where multiple concepts are combined in one lexical unit, such as degree markers like boosters. Historically, how languages modify words or parts of them has been described in research as languages being positioned along a continuum from synthetic to analytical (Schlegel, 1818; Haspelmath & Michaelis, 1997). As research has proven that linguistic structure affects how sensory information is considered, valued and perceived in discourse, this observation is consistent with findings related to the *Linguistic relativity hypothesis* (Whorf, 1956), which posits that language shapes habitual thought and human behaviour.

These general patterns of linguistic variation and relativity are particularly relevant in specialised registers, where the verbalisation of sensory phenomena is central. To this end, writers often develop creative strategies for describing perceptible phenomena within specialised domains such as wine writing. This is particularly relevant when non-native (L2) users of English attempt to articulate sensory impressions from wine tasting in reviews. Negative transfer [i.e. language conventions transferred to the L2 from their L1] can result in deviations from Standard English. These deviations may include literal translations, false friends, and typographical errors. They may also manifest as spelling mistakes, simplified grammar, or the omission of lexical units within syntactic structures. L2 users may also transfer cultural preferences into their English writing, for instance reflecting a tendency toward

linguistic economy. In contrast, expert wine writers are formally trained to review wines in a specific manner and are more likely to favour lexical density to convey meaning in wine reviews.

Empirical research has shown that meaning may be lost when abstract concepts are transferred into an L2 from the writer's L1. Abstract translation equivalents tend to align less closely in meaning across languages than concrete ones (Tokowicz et al.,2002). One possible explanation is offered by Ameel et al. (2009) who argue that abstract vocabulary resists simplification and cross-linguistic alignment, since eliminating language-specific components of meaning would leave an overly reduced representation in both languages. By contrast, Ameel et al. (2009) propose one possible explanation: concrete words appear more susceptible to such standardisation across languages, and verbs display greater cross-linguistic variability in meaning than nouns, particularly concrete nouns. Such nouns exhibit more stable semantic mappings across languages (Gentner, 1981), and such cross-linguistic variation provides an essential backdrop for examining how figurative and evaluative language is used in wine reviews between L1 and L2 users of languages. Croijmans and Majid (2016) observed that wine experts typically generated lengthier accounts marked by substantial inter-rater consistency than coffee experts, whose descriptions were comparatively brief and exhibited lower levels of agreement. Such divergent linguistic patterns suggest that prevailing approaches to assessing expert discourse may require reconsideration. Against this backdrop, the first research question in the present work is, therefore, if and to what extent language use differs between L1 and L2 wine writers.

RQ1: If and to what extent does language use differs between L1 and L2 wine writers?

Building on evidence of cross-linguistic variation, recent research has shown that the limitations of sensory vocabulary are often mitigated through figurative and evaluative strategies. In the case of wine writing, such strategies are especially salient, as wine speak has been described as a distinctive, domain-specific register developed to convey sensory impressions with precision (Croijmans et al., 2024). Differences in linguistic practice have been documented between experts and non-experts, reflecting the inherent difficulty of verbalising perceptual experience. Because meaning may be lost in translation and perceptual phenomena are often hard to render precisely, writers within specialised domains resort to creative means of expression. One notable dimension of variation is the degree of concreteness in sensory descriptions (Croijmans & Majid, 2016).

Research on sensory perception has shown that acts such as seeing, tasting, and hearing are often encoded in language through abstract representations and lexical units (Caballero, 2012; Malt & Majid, 2013; Malt & Wolff, 2010; Wipf, 2010; Creed, 2016; Kövecses, 2017; Majid et al., 2018; Croijmans, 2018; López-Arroyo & Sanz-Valdivieso, 2022; Dyrmo, 2024). Descriptive precision remains limited even though meaning is shaped across discourse levels, and semantic, syntactic, lexical, and morphological levels. That constraints have been observed in terms of how objects and experiences are described has led to more research in which the extent to which language conveys sensory information is effectively conveyed in wine writing. Growing evidence that language and cognition jointly shape conceptual representations in lived experience has been observed by many (e.g. Malt & Majid, 2013; Wolff & Holmes, 2011; Roberson & Davidoff, 2000; López-Arroyo & Sanz-Valdivieso, 2022; Dyrmo, 2024).

A key empirical challenge lies in demonstrating how these processes produce shared construals of reality in wine writing. Systematic gaps have been observed: Indo-European languages lack sufficient vocabulary for odour description, and taste-related lexis cannot capture the complexity of olfactory experience (Majid & Burenhult, 2014; Majid, 2015). This is particularly evident in wine, which contains approximately 800 volatile aroma molecules. Comparable limitations have also been noted in colour terminology (Malt & Majid, 2013) and in olfactory discourse more generally (Croijmans, 2018). Given these lexical constraints, wine writing frequently compensates through figurative strategies, most notably conceptual and lexical metaphors (López-Arroyo & Sanz-Valdivieso, 2022).

Collectively, these findings highlight a research gap concerning how sensory information is represented in discourse, particularly within the specialised register of wine writing. Creed (2019), for instance, demonstrated that Australian tasting notes draw on metaphor to evoke diverse conceptual domains. In contrast to prior research, Croijmans and Majid (2016) observed that wine experts produced comparatively few metaphorical expressions. This divergence is likely linked to the design of the experimental task in their study. Unlike tasting notes in magazines or online platforms—which often fulfill both informative and literary purposes, thereby encouraging more frequent metaphor use—their experimental design required participants to provide descriptions with maximal precision. However, these instructions did not explicitly encourage or discourage to use figurative language. Consequently, the communicative context more closely resembled that of professional tastings or direct consumer interactions, where experts tend to privilege concrete and literal terminology over metaphorical formulations (Croijmans & Majid, 2016). In the present work, the second research question is to figurative language use differs between L1 and L2 wine writers, and the third one concerns to what

extent the presentation of sensory-related information differs between these two writer groups. From this background, two research questions emerge:

RQ2: To what extent does figurative language use differ between L1 and L2 wine writers?

RQ3: To what extent does the presentation of sensory-related information differ between L1 and L2 wine writers?

The third question is particularly pertinent in light of recent corpus-based evidence showing that wine-related terminology is not always used consistently by experts in practice (Croijmans et al., 2020). Prior research has produced several standardized inventories of wine descriptors. Lehrer (2009), for example, discusses three influential "wheels": the Aroma Wheel (Noble et al., 1984, 1987), the Sparkling Wine Wheel (Noble & Howe, 1990), and the Mouthfeel Terminology Wheel (Gawel et al., 2000). These frameworks arrange descriptors hierarchically, from broad categories at the centre to increasingly specific terms at the periphery, collectively comprising 244 items. Additional resources include Parker's glossary of 117 wine terms (Parker, 2017) and the Le Nez du Vin Master Kit (Lenoir, 2011), which contains around 60 unique references.

To evaluate the applicability of these inventories to authentic discourse, Croijmans et al. (2020) compared them with terminology extracted from a corpus of wine reviews. Using TExSIS, they identified 146 distinct descriptors, subsequently organized into a corpus-driven Text-Based Wine Wheel. After minimal preprocessing lexis from the same lemmas, the terms were classified into three overarching domains: aromas, taste/texture, and technical vocabulary (e.g. grape varieties, vinification, modifiers, occasions, other). Comparative analysis revealed limited correspondence between standardized inventories and corpus-derived terminology. Their study showed that only 34 terms (14%) from the classic wine wheels were attested in the corpus, while Parker's glossary overlapped by 11% and Le Nez du Vin by nearly 30%, and across all sources, only 45 descriptors were shared (Croijmans et al, 2020). These findings suggest that many standardized terms are infrequently used in practice, possibly because they refer to highly specific aromas encountered less often, according to Croijmans et al, 2020). By contrast, the Text-Based Wine Wheel reflects descriptors actively used in wine reviews, providing a more empirically grounded resource for both research and pedagogical application (Croijmans et al.,2020).

Within applied linguistics, this perspective can be situated in terms of register—recurrent patterns of grammar, lexis, and discourse structures that typify specialised domains (Biber & Conrad, 2019)—and genre, understood as a specific manifestation of such discourse patterns. In English for Specific Purposes (ESP), current pedagogical approaches emphasise raising learners' awareness of linguistic choice (Basturkmen, 2025). Occupationally-oriented instruction prioritises written genres, and it is now widely assumed that a form-focused orientation is necessary, drawing attention to lexico-grammatical choices, text organisation, and recurrent genre conventions. As a result, corpus-driven and genre-based methodologies are firmly established within ESP research. Yet, the role of figurative language in specialised registers has received less attention, despite its importance in professional domains such as wine writing.

Logical Positivist Paradigm and the emergence of Conceptual Metaphor Theory

Whereas ESP's emphasis on register and genre persists, it is also necessary to consider how figurative language functions within specialised registers, particularly metaphors. In applied linguistics, this perspective reflects broader developments, where theoretical claims are increasingly subject to empirical validation. Metaphor studies exemplify this shift, moving from rhetorical accounts to systematic cognitive inquiry. Traditionally, metaphors were considered as devices that solely functioned as poetic or rhetorical devices (Cameron & Low, 1999), their *Logical Positivist Paradigm*. This perspective was dominant but this shifted in metaphor studies. Research in the past two decades of the twentieth century pivoted and conceptualised metaphor as a phenomenon with broader, cognitive, and communicative significance. In cognitive linguistics, Lakoff and Johnson's *Conceptual Metaphor Theory* (CMT) (1980; 2003) was introduced in *Metaphors We Live By*, a framework used to explain how metaphoric language shapes human cognition; abstract concepts can be understood through the use of more concrete, vivid ones. An example is the LIFE IS A JOURNEY, where the domain of journey structures how life is conceptualised in the human experience. Although Lakoff and Johnson originally posited that such mappings operate at a broad and overarching level, later research has shown that they are anchored in identifiable lexical metaphors, which function as linguistic instantiations of conceptual source domains. Ongoing debate within CMT research concerns the extent to which meaning transfer from conceptual metaphors can be traced in written discourse through their lexical realisations. These debates are directly relevant to specialised registers such as wine writing, where figurative language plays a central role in communicating sensory experience.

Metaphor Identification Procedures: Theoretical debate and practical constraints

While CMT has provided a robust theoretical framework, the question of how metaphors can be reliably identified in discourse remains contested. Different fields conceptualise metaphors in divergent ways, generating ambiguity in the scientific discourse on metaphoricity. A central position was taken by Steen (2007, 2010,2011, 2017) who questioned to what extent metaphors are cognitively processed as cross-domain mappings. Steen specifically forwarded the challenge of distinguishing deliberate from conventionalized metaphors. This challenge was also discussed by Majid et al. (2018). Against this backdrop, the present study aligns with the newest identification procedure, adopting a narrower focus on lexical metaphors, separating them from other yet related tropes, to answer Steen's call for methodological precision to also be able to empirically compare results.

Since this study aims to examine the presence of both lexical and conceptual metaphors, and the underlying conceptual structures that shape meaning at the lexical level in Western (i.e., North American and European) wine reviews, it is essential to review the methodological tools available for such analysis. Lakoff and Johnson's Conceptual Metaphor Theory (CMT) was primarily theoretical, leaving a significant empirical research gap. In response, several research groups (Rayson et al., 2008, 2024; Pragglejaz Group, 2007; Steen et al., 2010, 2018) developed methods and tools to identify lexical units that function as carriers of conceptual metaphors, which are lexical metaphors; these lexical metaphors influence how we process and understand spoken and written discourse. As a result, these scientific contributions have produced salient analytical resources and semi-automated tools.

From traditional views to conceptual reorientation

While CMT enabled comparative analysis of underlying metaphorical structures, Lakoff and Johnson (1980) did not provide a precise model of how such mappings occur. This limitation prompted the development of alternative methods for classifying linguistic data (Goatly, 1997; Grady, 1997; Steen, 2008a; Turner & Fauconnier, 2002). Computational approaches now allow corpus-based identification of linguistic patterns indicative of conceptual metaphors. Semi-automated algorithms have been applied across domains: Demmen et al. (2015) used a two-stage method for cancer and end-of-life narratives; Koller et al. (2008) employed semantic annotation in business discourse; Goded Rambaud (2006) combined linguistic and conceptual perspectives to analyse wine-tasting lexicon; and Assaf et al. (2013) developed rule-based algorithms that surpassed human judgments, achieving 71% precision and a 27% gain over baseline metaphor detection. Many of these approaches rely on the USAS semantic tagger (Rayson et al., 2004), which applies a hierarchical semantic framework to automate corpus analysis. The

automated content analysis applied in the present work used t he grammatical and semantic tagging software tool USAS (Rayson et al., 2004).

As earlier research treated metaphors as rhetorical devices or stylistic features, later work, by contrast, reoriented and reconceptualized metaphor as a fundamental and cognitive process in CMT. However, the scientific discourse on metaphoricity is characterized by considerable ambiguity because different fields conceptualise and refer to metaphors in varying ways. A notable critique of CMT is offered by Steen (2007, 2010, 2017), who challenged Lakoff and Johnson's view (1980) that metaphors are invariably processed cognitively through cross-domain mappings, in which abstract concepts are understood via more basic lexical meanings. Steen (2010) argues that the degree to which a metaphor is deliberately used by a writer or speaker depends on whether it can be clearly identified and classified as such. The key question, as Steen (2010) frames it, is whether the receiver actively constructs a comparison in their mind or simply categorises the term within their mental lexicon. This idea, also articulated in different terms by Majid et al. (2018), underpins what Steen refers to as the "paradox of metaphor," which spans the domains of language, cognition, and communication. In this respect, the approach aligns more closely with Steen's critique, following the original Metaphor Identification Procedure (MIP) guidelines developed by the Pragglejaz Group, of which Steen was a member (2007). While such theoretical issues are significant, they extend beyond the scope of the present study, which focuses on the identification of lexical metaphors alongside related figures of speech, such as similes and metonymies.

Comparative Frameworks: MIP and MIPVU

In response to these concerns, two major identification frameworks have been developed over time, which are the Metaphor Identification Procedure (MIP; Pragglejaz Group, 2007) and its extended version, MIPVU (Steen et al., 2010). Both procedures apply inclusion and exclusion criteria to systematically determine which words operate as vehicles for conceptual metaphors, which both promote the use of lexicographical tools, such as dictionaries. However, they differ in scope. Wipf (2010) showed that MIPVU is more rigid and does not recommend mapping conceptual domains. That limitation is overcome by selecting MIP, adapting it to meet empirical standards of research, and using USAS UCREL's tagger (Rayson et al., 2008), as it offers greater adaptability to metaphor research.

Adaptation is required in the following ways. Interpreting a word in context requires establishing both its general dictionary meaning and its referential meaning in use (Nieuwland, et al.,2007). To achieve this, aspects of MIPVU are adopted in this study, and follows some aspects of the extended version of

MIP to more systematically identify linguistic metaphors through manual annotation, relying on history-based and corpus-based dictionaries to compare a lexical unit's basic meaning (i.e. concrete of physical), with its contextual meaning. This approach reduces bias similar to MIPVU, yet allows for more flexibility than MIPVU. In line with MIPVU, this adapted approach of MIP prioritises conventional over novel metaphors and focuses on words rather than larger phrasal units, treating words as the fundamental building blocks of language. The flexibility is found in using both types of dictionaries, rather than British-oriented corpus-based dictionaries alone, as MIPVU prescribes. Similar to MIPVU, lexical units are treated as single ones, with the same prerequisite that dictionary-based definitions are used to assess metaphoric potential—defined as the possibility that an expression conveys indirect meaning through similarity or cross-domain mapping. As MIPVU does not identify conceptual metaphors directly either, this adapted approach to MIP establishes surface-level linguistic realizations as a foundation for subsequent conceptual analysis. The procedure enhances validity and reliability by reducing reliance on intuition and mitigating researcher bias, particularly through strict instructions not to cross word-class boundaries when comparing meanings. Part-of-speech (POS) tagging has been adopted in this study, which is a prerequisite for MIPVU, as POS categories are closely linked to conceptual and referential classes such as entities, processes, and attributes (Steen et al., 2010). Accurate POS annotation is therefore critical, since errors can compromise the identification of metaphoric potential.

Collectively, these methods allow for the reliable extraction and retrieval of meaningful empirical data, enabling researchers to capture the complexity of how language shapes meaning in discourse. Such procedures, when applied to wine writing discourse can also expose underlying habitual thought patterns embedded in lexical choices of wine writers (Creed, 2018; Ariaans, 2019), or point in such directions (Wipf, 2010). While Creed (2019) argues that prepositions are allowed to be included in MIPVU in her dissertation on wine Australian wine reviews, Wipf (2010), who conducted a methodological study in which MIPVU was tested on wine writing, argues that treating lexical units as single ones is the best practice. MIPVU also does not allow for the annotation of chunks of language, such as phrasal verbs, idioms, and phrases because lexical units are analyzed separately as single ones. USAS UCREL (2018) can be added as a second step to systematically analyze and empirically study source domains after lexical metaphors are identified in discourse. The USAS-UCREL tool is known for its ability to map phrasal verbs in terms of conceptual metaphors. In this study, only the four major content word POS are included: verbs, adverbs, nouns, and adjectives using an adapted form of MIP to meet state-of-the-art empirical requirements (Pragglejaz Group, 2007). The second step of this analysis thus includes the mapping of conceptual source domains systematically, using USAS UCREL (Rayson, 2018).

These methodological innovations not only provide robust frameworks for identifying metaphors in general discourse but also offer the necessary analytical precision for examining the figurative strategies that characterise wine writing as a specialised register.

Semi-automated tools and empirical advancement

The development of semi-automated tools has further expanded the methodological repertoire for metaphor research. For instance, Rayson (2008) developed a semi-automated part-of-speech (POS) tagger to facilitate the systematic distinction between the grammatical building blocks of language. Such research developments speed up manual annotation procedures to facilitate larger-scale empirical analysis, especially in wine writing, a domain where metaphor-related lexis plays a central communicative role. Adopting MIP, POS classifications would be carried out first, before determining basic meaning. It would only then be contrasted to the contextual meaning to identify lexical metaphors, followed by the process of determining what conceptual source domain, so which source domain related to the conceptual metaphor is underlying. To classify conceptual source domains, the USAS-UCREL semantic tagset and its associated tagger were created by Rayson et al.(2008, 2024), enabling researchers to label conceptual metaphors across different parts of speech in English and other languages (see also Drost et al., 2013). This second step is not taken in MIPVU (Steen et al, 2010).

Methodological considerations: meeting empirical standards

Methodological debates persist despite innovation. MIP (Pragglejaz Group, 2007) is most suitable when the presentation of figurative language in discourse is studied more holistically to create relatively objective conditions to obtain reliable empirical data on metaphorical display. It allows for more flexibility because lexical units can be analyzed when they are presented as more than one lexical unit in a chunk, such as a multi-word POS like adverb 'front and center'. Inter-rater reliability is simply not guaranteed for the alternative method, the Metaphor Identification Procedure of the Dutch Vrije Universiteit Amsterdam (MIPVU; Steen et al., 2010, 2018), which was used and tested on wine reviews (Wipf, 2010). Wipf (2010) stated limitations concerning how MIPVU does not recommend conceptual domain identification. However, prior research has demonstrated that MIP can effectively be applied for such metaphor analysis, using MIPVU, particularly when combined with other tools, such as the USAS-UCREL semi-automated tagger for conceptual source domains (e.g. Creed, 2019). Such empirical requirements can be controlled to reduce subjectivity by consistently checking the basic meaning in quality dictionaries and comparing them to the contextual meaning, and by only analyzing single lexical units for metaphor-related words. (Creed, 2019; Ariaans, 2019). In this study, to align with empirical

requirements of research, metonymies, phrasal verbs, multi-word POS, idioms, and phrases are treated as a separate category from lexical and conceptual metaphors.

A valuable avenue for exploration is whether lexical metaphors would be classified in ways consistent with earlier findings (Creed, 2016; Ariaans, 2019), and whether their frequency of occurrence varies between North American advertisements (Ariaans, 2019) and wine reviews from North America and Europe. Such comparisons could examine differences in word count, the number of lexical metaphors detected, and it would allow conceptual domains range mapping. It also explores the use of other types of figurative language, such as similes, metonymies, idioms, phrasal verbs, and phrases. **Appendices 1–4** provide further information on the research tools developed over time, their respective advantages and limitations, the domains included in Rayson's conceptual domain classifications, and an extension on how lexical and visual metaphors have been analyzed in American print wine advertisements including updated and more in-depth analysis. Additional insights beyond those presented in my earlier MA thesis (Ariaans, 2019) are also included in **Appendix 4 (*lexical, conceptual, and visual metaphors in advertising)***.

Expert vs. non-expert wine writing

Having established a methodological framework to systematically analyze one figure of speech, including separate analysis procedures of other figures of speech and formulaic language using dictionaries, wine writing has yet explore how reviews are written in practice. Prior research has demonstrated that metaphoricity appears sparingly in certain contexts, such as in empirical designs that included wine expert judgement and in other wine writing genres (Croijmans et al., 2020; Ariaans, 2019). The documented presence of metaphorical expressions in wine reviews (Creed, 2019; López-Arroyo & Roberts, 2020) prompts further inquiry into how figurative and evaluative language is deployed in professional as opposed to non-expert discourse, and how such usage may vary across platforms and cultural settings. Given that the transmission of sensory information is constrained by the limits of specialized vocabulary (e.g., Majid et al., 2018; Croijmans, 2018), wine reviewers frequently rely on tropes such as metaphor and related figures of speech to more effectively articulate sensory impressions. This is underscored by the assertion: "The limits of my language mean the limits of my world" (Wittgenstein, 1922). Such limitations and insight into how wine writers overcome them is likely to be of interest to commercial stakeholders and wine or ESP training providers.

Over time, wine-related courses have increased globally, including WSET certification programmes. Such courses can be taken in Standard English, English as an L2, or in other languages, often within European

contexts. Trained connoisseurs, often WSET 4 certified professionals, are taught to describe wines using specialised language and may use communication strategies that differ from those of untrained enthusiasts, who may write in a second or foreign language and are not bound by professional stylistic norms. One of the platforms examined in this study requires its wine reviewers to hold WSET certification, whereas the other one allows non-expert enthusiasts to contribute reviews without formal training. While Caballero (2007), who examined 6,000 wine tasting notes traditionally published in North American Wine Magazines, such as Wine Enthusiast Magazine, showed that wine tasting reviews follow a particular content-related pattern, it is expected that experts wine writers will follow such patterns, yet non-experts on review platforms accessible to non-experts, such as vivino.com, are expected to write more freely. Vivino, for example, does not impose formal education requirements, unlike wineenthusiast.com. Cross-cultural, communicative, and linguistic differences across online review platforms are thus the topic of the present study.

The availability of wine information has become highly democratized, as online searches and mobile applications provide consumers at all levels with immediate access to expert reviews and ratings (Daniels, 2019). According to Windson et al. (2023), this accessibility reduces the need for memorized knowledge of wine qualities, enabling novices as well as connoisseurs to rely on external quality cues in purchase decisions. While this shift facilitates informed choice, it also redistributes authority from professional expertise toward digitally mediated resources, potentially reshaping how consumers evaluate and value wine (Windson et al., 2023). According to Windson et al. (2023) consumers may crave to understand wine to be able to select the right wine with confidence. They specifically studied lexical choices of wine reviewers between higher and lower wine offering, and they found differences between expensive and inexpensive wine reviews in a corpus of 130,000 reviews, and hypothesized, observed, and confirmed that more expensive wines were discussed with more verbosity (Windson et al., 2023). Windson et al. (2023) state: “It is possible that the experience of reading the wine review is part and parcel with enjoying the wine selection process, and that the consumers of high-priced wine desire the linguistic foreplay that more elaborate wine reviews provide” (p. 97).

While more is known about verbosity in wine reviews related to expert wine writing, how expert and non-expert reviewers approach wine writing online across review platforms remains unclear. It has been proposed that expert reviewers employ lexical and stylistic choices designed to elicit more deliberate, analytical reasoning when describing higher-priced wines (Windson et al., 2023). By contrast, reviews of less expensive wines are hypothesized to draw on linguistic patterns that promote rapid, intuitive

interpretation (Windson et al., 2023). From this perspective, consumers are able to infer wine price by attending to the cognitive effort demanded by the review's linguistic construction (Windson et al., 2023). Consequently, expert reviews turn out to not only to convey product information but also to shape evaluative judgments by implicitly signaling price levels (Windson et al., 2023). Consequently, to examine potential cross-cultural differences in linguistic expression and communicative style, this study analyses and contrasts lexical units across these groups and platforms, focusing on metaphorical display and related figures of speech to metaphors commonly used in wine writing. An illustrative example may be Virginia Woolf's (n.d.) phrase, "Language is wine upon the lips.

Sensory information in wine writing

Wine reviews are read globally by consumers as they are perceived to be relevant to consumers who seek to make informed purchase decisions concerning perceived wine quality (Charters, 2007), based on the sensory information described in them related to wine tasting. Prior research focused on the extent to which individuals in Western cultures were able to describe sensory information, and specifically odor and taste with precision, which turned out to be rather limited (e.g. Croijmans and Majid, 2016). Croijmans and Majid (2016) raised the question whether expertise confers an advantage in linguistic codability, yet demonstrated that experts show only a modest, domain-specific benefit: wine experts provided more consistent descriptions of wines, whereas coffee experts did not display comparable consistency for coffee. Neither group outperformed novices in identifying everyday odors or tastes (Croijmans and Majid, 2016). Notably, experts tended to employ source-based descriptors (e.g., *vanilla*), while novices relied more on evaluative terms (e.g., *nice*) (Croijmans and Majid, 2016). These findings suggest that expertise enhances linguistic precision within a specialised domain but does not translate into a general advantage, highlighting the importance of linguistic as well as perceptual training in sensory communication (Croijmans and Majid, 2016).

Even though such empirical work has demonstrated that experts did not outperform novice writers in identifying olfactory information and expert wine writing uses concrete vocabulary, other research has also shown that wine writing relies on figurative strategies such using lexical metaphors with underlying conceptual source domain structures (e.g. López-Arroyo & Sanz-Valdivieso, 2022). It is, therefore, hypothesised that wine writing uses a wider range of lexical strategies than the use of general, literal or technical wine lexis alone, such as *bottle* or *vineyard, or nose and palate*, with concrete comparisons such as metonymies used to make the wine-drinking experience vivid and to encourage sales. This applies to both expert and layperson reviews, although the strategies and frequency of use are expected

to differ by platform as to how the wine and wine's aroma are presented to its discursive audience. The study seeks to identify how wine enthusiasts describe wines and whether they use metonymies and other figures of speech more frequently than lexical metaphors, possibly to compensate for limited olfactory vocabulary, for example, or range of lexical metaphoric language in their mental lexicon to provide structure to wine discourse.

In this study, a comparative analysis was conducted between expert and non-expert wine writing published on two different review platforms, one North American and one Global (i.e. North America meets Europe). In expert discourse, it is expected for consistent language patterns of metaphorical display in terms of sensory descriptions and how wines are presented. The MA thesis on wine advertisements in Wine Enthusiast Magazine showed that wine was often presented anthropomorphically, and as a woman specifically, its discursive audience simply had to meet (Ariaans, 219). Expert discourse is, therefore, expected to not only adhere to stylistic conventions imposed by WSET-training standards and platform guidelines, but also to be used as a means to market the object of review. In contrast, non-expert discourse is expected to include a higher proportion of other figurative language expressions, so fewer lexical metaphors, a reduction in information-density, and less semantic precision. It is also expected that word count will be lower, and greater form-focused deviations from standard English to be found, consistent with L2 English, used as a lingua franca. Building on this hypothesis or rationale, the present study addresses the three central questions, yet these questions are further specified. The present work explores not only how L1 and L2 language differs, but also how its differs between expert wine writers and non-expert wine writers:

RQ1: If and to what extent does language use differs between expert L1 and non-expert L2 wine writers?

RQ2: To what extent does figurative language use differ between wine reviews written by professional wine writers (L1) and those written by non-expert, (L2) wine enthusiasts?

RQ3: To what extent does the presentation of sensory-related information differ between L1 and L2 wine writers across platforms (e.g. diversity in figurative language use)?

1.2 Prior research on wine writing, wine wheels, figurative language use, and LLMs

Wine speak and figurative language use go hand in hand. Standardized vocabularies for wine evaluation, such as how tasting notes are organized using the wine tasting forms (Caballero, 2007), and aroma wheels developed by the WSET or Noble (1984), impose categorical frameworks that constrain the multidimensional nature of wine. Such tools reduce the complexity of sensory experience to predefined classifications. Although the *Aroma Wheel* is presented as an objective instrument for describing wine aromas, it implicitly promotes a specific approach namely, the decomposition of the wine's holistic, olfactory profile into discrete components. Croijmans et al. (2020) developed a text-based wine wheel to find patterns in three frequently used Wine Wheels, a research-based approach to vocabulary list creation. If and to what extent such patterns can directly be recognized as wine speak has yet to be tested to my knowledge. By contrast, metaphorical language offers a means of transcending these constraints, allowing tasters to articulate impressions that exceed the limitations of standardized terminology. López-Arroyo & Roberts (2020) argue that divergent styles in terms of word choice to wine writing finds its origin in the process of compiling language that is wine speak. According to López-Arroyo & Roberts (2020), this process that has not been standardised through expert–lexicographer collaboration, unlike other specialized genres.

Other researches argue that the choice of describing wines affects the wine writer's approach to wine writing (Herdenstam, 2004), which can be divided into modes. More specifically, Herdenstam (2004) contrasts two specific modes of wine description: analytic and synthetic. Analytic description isolates the sensory dimensions of wine sight, smell, taste, and touch and represents them through established terminologies intended to facilitate communication. These include reference to olfactory notes in the aroma and bouquet, as well as gustatory and tactile dimensions, such as sweetness, acidity, alcohol, astringency, body, and length. The goal of analytic description is to identify and describe these elements independently. Yet, as Herdenstam (2004:70) argues, this separation is only partially feasible due to the limits of human perception and the interplay of the senses. More recent sensory-related research has confirmed this. In contrast, synthetic description seeks to capture the overall sensory impression in holistic terms, often through comparisons or associative language. Herdenstam (2004, p.78) shows that professional tasters may use the same synthetic expression to denote different experiences, reflecting their individual training or interpretive frameworks, none of which can be deemed unequivocally correct or incorrect. In this work, it is expected that lexical metaphors and metonymies are used to this end. Importantly, Herdenstam (2004, p.79) concludes that a strong focus on analytic detail tends to obscure

or diminish the synthetic aspects of wine perception. Consequently, while it may be assumed that lexical metaphors could serve the second, synthetic mode, it is also assumed that metonymies are most frequently chosen by wine writers as a figure of speech to describe aroma in wine reviews. If and to what extent modes would able to observed is partly beyond the scope of the present work. However, answering the question if the most recently available research-based wine vocabulary list related to a wine Wheel (Croijmans et al., 2020) can be recognized in the two corpus samples, including the types of language frequently associated with wine writing, is within the scope to determine how language is used across platforms.

Metaphoricity in wine reviews

The present study analyses both lexical metaphors and the conceptual metaphors that shape meaning in order to convey sensory information, such as wine taste, and to describe the wine-drinking experience to the target audience in 112 wine reviews across two online review platforms. It also seeks to determine whether alternative ways of presenting wines to consumers through commonly used metaphorical language or related figures of speech can be identified. By comparing platforms where wine reviews are authored by both professional reviewers and wine enthusiasts through the analysis of metaphorical verbiage, the study offers insight into differences in language use based on expertise level and in the full range in which it is used from literal wine lexis (e.g. bottle or glass) to figurative languages. To align empirical findings of studies that occupy this niche, other figurative language is separated from metaphoricity, which is studied systematically and empirically. The present study's aim is, therefore, to identify lexical metaphors empirically first, before compiling a comprehensive inventory of conceptual metaphors used in wine writing, extending previous work such as Creed (2016).

Creed (2016), who analyzed 126 Australian expert L1 wine reviews in her Ph. D dissertation, identified six dominant conceptual domains in Australian wine reviews: **WINE IS AN OBJECT**, **WINE IS A THREE-DIMENSIONAL ARTEFACT**, **WINE IS AN INSTITUTIONAL ARTEFACT**, **WINE IS A TEXTILE**, **WINE IS A LIVING ORGANISM**, and **WINE IS A PERSON**. These findings align with those of Caballero and Suárez-Toste (2008), who also identified **WINE IS A THREE-DIMENSIONAL ARTEFACT**, **WINES ARE TEXTILES**, and **WINES ARE LIVING BEINGS**, but additionally described wines as **BUILDINGS** and as **SHAPEABLE PIECES OF WOOD OR METAL BUILDING MATERIALS**. Other research, such as Tenescu (2015), found that Romanian wines are frequently described as **LIVING BEINGS** or **TEXTILES** in spoken advertisements on national television. Collectively, Such findings show that lexical metaphors carry the underlying conceptual meaning conceptual metaphors shape wine discourse. It is, therefore expected that that the

conceptual metaphor **WINE IS A LIVING BEING** or **WINE IS A PERSON** will also be present in contemporary digital wine reviews, and similar findings were also found in Paradis and Eeg-Olofsson (2013) and Ariaans (2019).

Research on conceptual and lexical metaphor has expanded considerably in the past decade. Kövecses' (2017) multilevel model links metaphorical expressions to their conceptual architecture and communicative functions across four interrelated levels: schematic image schemas (e.g., **CONTAINER**, **VERTICALITY**), domains (e.g., **BUILDING**, **JOURNEY**), frames elaborating domain-specific aspects, and mental spaces representing metaphorical scenarios. These collectively form a "structured conceptual experience" without hierarchical prioritisation (Kövecses, 2017). Extending the model, Dyrmo (2024) incorporated gestural and visual modalities, suggesting potential applications for wine discourse analysis in cognitive semiotics, which may be used in future research in this area in wine writing. Other research has shown that expert wine discourse demonstrates high figurative density, with frequent metaphor–metonymy overlap, a pattern partly attributable to the restricted lexicon for taste or olfactory description (Caballero & Ibarretxe-Antuñano, 2013; López Arroyo & Roberts, 2017; Croijmans, 2018). It is thus expected that metaphors are more frequently used in expert discourse compared to non-expert discourse in the present work.

Metonymies in wine reviews

In this study, metonymies were treated as a separate category of metaphor-related words in line with MIPVU's findings (Wipf, 2010). Wipf (2010) specifically discussed that metonymies were counted as a separate category in her MIPVU study, a more rigid approach to metaphor analysis. In this study metonymies, functioning as semantic transfer devices, are also treated separately. Metonymy use has been identified and related to *wine speak* in previous studies, albeit while using different terminology (e.g. Majid et al, 2018). Metonymies are a figure of speech that allows for a direct comparison between the wine's sensory characteristics and objects, such as 'fruit' or 'chocolate'. This is in line with the study of López-Arroyo and Sanz-Valdivieso (2024) who confirms the presence of metonymies in wine reviews, as well as phrases, idioms, and metaphors. More specifically, in wine reviews, it is, therefore, expected that wine writers compare such concrete objects to describe the wine reviewed and its aromas.

Similes in wine reviews

In this study, similes were also treated as a separate category of metaphor-related words in line with MIPVU's findings (Wipf, 2010). Prior research focused on the identification of similes in wine reviews (Paradis and Eeg-Olofsson, 2013) in which a corpus was composed of wine reviews published in *Wine Advocate Magazine*. This study focused on identifying metonymization proper, metaphors, and similes. Paradis and Eeg-Olofsson (2013) identified instances of similes in every sensory domain, although vision was represented by only a small number of examples. They did not find confirmation for the *Conceptual Preference Principle* that Shen (1997) and Shen and Gadir (2009) coined based on Ullman's hierarchy (1945). Consequently, no hierarchy was found in their study in terms of the synesthetic metaphorization, which would flow in a directional pattern from lower sensory modalities of touch and taste to higher ones of vision and sound in modes immediate physical contact and independent of physical contact. In this mapping, metaphorical meanings would not coincide with their original senses. According to Paradis and Eeg-Olofsson (2013), metaphors and similes share cross-domain mappings from sensory experiences shared of the wine in all of its complexity, but they also differ, where the majority of similes in their corpus were comparisons with other wines of different vintages or wine districts. For this reason, similes are expected to be found but to a lesser extent between platforms than other figures of speech in this study.

Formulaic language and phrases in wine reviews vs. literal wine terminology

Linguistic research has increasingly turned its attention to tasting notes (TNs). The connection between the rhetorical organisation of TNs and the sensory act of wine appreciation has been examined in earlier work (Gluck, 2003; Silverstein, 2004). Research has also highlighted the functions of particular verb categories within TNs (Caballero, 2007). Following Lehrer's semantics-driven investigations of wine discourse (2007, 2009), subsequent studies have addressed the use of specialised vocabulary and figurative language, with personification emerging as a prominent feature in wine descriptors (Suárez-Toste, 2007; Bratož, 2013; Paradis & Eeg-Olofsson, 2013; Paradis & Hommerberg, 2016). Comparative analyses across English and Spanish TNs have been conducted by López-Arroyo and Roberts (2014, 2015, 2017).

Other studies approached TNs as consumer review discourse, employing frameworks of appraisal and argumentation (Hommerberg, 2015; Hommerberg & Don, 2015). Croijmans and Majid (2016), however,

observed that wine experts produced comparatively few metaphorical expressions. Unlike tasting notes in magazines or online platforms—which often fulfill both informative and literary purposes, thereby encouraging more frequent metaphor use—their study required participants to provide descriptions with maximal precision. These instructions did not explicitly encourage or discourage figurative language. Nevertheless, the communicative context more closely resembled that of professional tastings or direct consumer interactions, where experts tend to privilege concrete and literal terminology over metaphorical formulations (Croijmans & Majid, 2016). Tasting notes and wine reviews might also simply be two distinct genres in wine writing, written with diverging purposes, for a example to sell the wine reviewed vs. to solely convey sensory information, which future research has yet to confirm.

Consequently, diverging styles have been observed in wine writing research concerning wine tasting note and wine reviews writing specifically. According to Bell and Moran (2020), linguistic style can be understood as the set of creative yet systematic language choices that distinguish one writer from another. These choices function as a means through which individuals align their internal sense of identity with its outward expression in speech or writing. Crucially, such stylistic features become visible only when contrasted with the language of comparable text producers across platforms. More specifically, Bell and Moran (2020, p. 144) analyzed wine tasting notes of two reviewers of German and Austrian wines in 2012, Robinson and Theise, and they concluded:

> "Robinson's minimalist approach is manifested in her utilitarian, elliptical note-form style, characterized by adherence to canonical rhetorical structure, verbless clauses, extensive use of conventional metaphoric descriptors and limited use of object descriptors"(Bell & Moran, 2020, p. 144).
>
> "Theise's romanticism is manifested by an effusive, people-centered additive style marked by non-conventional rhetorical structure, multiple phrase and clause and coordination, and extensive and exotic use of diverse object descriptors, personification, and creative intensifier + evaluative adjective phrases" (Bell & Moran, 2020, p. 144).

Given that stylistic tendencies in wine discourse range from minimalist to romantic, cross-linguistic differences in figurative expression between L1 and L2 wine writers across platforms are also to be expected. Prior research has consistently demonstrated that figurative language constitutes a recurrent feature of wine writing and reviews in particular (e.g., Bell & Moran, 2020). Building on this foundation,

the present study examines a relatively small sample of wine reviews for the occurrence and absence of figurative language within a heterogeneous category comprising idioms, multiword phrases, and phrasal verbs. To ensure consistency with earlier empirical research and to minimize interpretive bias, these units are treated separately from lexical metaphors and analyzed as multiword chunks rather than as isolated lexical items.

Wine writers and their authorial statements in wine reviews

Prior analysis established that wine descriptors and their associated aromatic compounds are typically positioned as focal elements through figurative language, enabling comparative frameworks between sensory observations and communicative goals for articulating post-tasting experiences in wine tasting notes or reviews. Examples from Parker's tasting notes, an internationally well-known wine reviewer, illustrate his characteristic style extensively discussed in prior research. According to Hommerberg and Paradis (2014), wines reviewed by Parker are described through intensified sensory vocabulary and dense adjectival clusters, often emphasising colour ("deep ruby/purple-tinged"), structure ("full-bodied, powerful palate, silky tannin"), and layered olfactory impressions ("aromas of crushed rocks, cherries, dried herbs, graphite, and licorice"). Empirical examination, however, indicates that writers, such as Parker, also systematically position themselves as central agents within the discourse through identifiable linguistic patterns of wine reviewer's explicit judgement of particular aspects of wine, which are not taste descriptions or ways in which the wine is centered. Underlined is an example of such explicit judgement in an example of Parker of an Château Trottevieille, Saint-Emilion, Bordeaux discussed by Hommersberg and Paradis (2014, p.3):

> *"Kudos to proprietor Philippe Casteja, who has produced the finest Trottevieille I have tasted. A blockbuster effort, the 2005 boasts an inky/blue/purple color along with aromas of creme de cassis, blackberries, truffles, fruitcake, and toasty oak. Pure and full-bodied with significant extract, tannin, acidity, and alcohol, this stunning wine should be very long lived. Anticipated maturity: 2012- 2030+."*

The wine review as discussed by Hommerberg (2011) and Hommerberg and Paradis (2014) reveals such a self-authorial statement. They argue that writers position themselves as knowledgeable experts to influence their own perceived reputations. It is, therefore, expected that writers use authorial statements to draw focus onto their judgement and to engage the audience more directly through language use for communicative purposes, so as to instruct readers to act upon the content in wine

reviews. An example of such a statement could also be: drink now. If such statements occur in the sample analyzed, what types can then be observed is what is examined in this study. Consequently, if and to what extent wine writers make self-authorial statements is investigated through the following research question in this study:

RQ4: To what extent do writers position themselves in wine reviews in comparison to the wine and its aromas?

ESP course design implications for expert wine writing and non-expert wine writing

When examining how language is used in the target domain to be able to train professionals working or aspiring to work in the designated context, ESP practitioners start with corpus analysis to determine the register in applied linguistics. According to Basturkmen (2025), current pedagogical approaches in English for Specific Purposes (ESP) place emphasis on raising learners awareness of linguistic choice, which in professional contexts prioritizes written genres. Despite this focus on register and genre, less attention has been given to the role of figurative language in specialised registers, an omission that is particularly relevant in professional domains such as wine writing. Consequently, the fifth question concerns to what extent does corpus analysis implications for ESP practices and research, involving curriculum and course design concerning language and written communication courses for professional L1 writers, L2 writers, and non-experts, which are wine enthusiasts:

RQ5: To what extent does this corpus analysis have its implications for the field of ESP, involving ESP curriculum and course design concerning language and communication courses for professional L1 and L2 wine writers and wine enthusiasts?

Metaphor detection using Large Language Models to test LLM reliability

As the present study involves a relatively small number of reviews analyzed, a final area explored in this work concerns state-of-the art Large Language Model (LLM), and such research is now focused on if and to what extent LLMs can already be used to reliably, accurately and systematically analyze entire corpora to find patterns and to even generate language. Because traditional methods, involving manual annotation are time-consuming, the scalability of such research is somewhat limited. Such probability studies are also somewhat prone to bias, even when statistical control measures are applied, because only a sample or subset is typically analyzed and statistically controlled. Therefore, LLM research is promising. In corpus analysis studies, figurative language is studied because they are considered to be advanced linguistic mechanisms that function as a means to articulate abstract concepts and complex

experiences. These forms are culturally embedded framing devices of typical and relatable life experiences (Lakoff & Johnson, 1980), and such forms are, therefore, used in creative writing to heighten audience engagement and create a sense of personal connection (Noveck et al., 2001; Citron & Goldberg, 2014; Prabhakaran et al., 2021). They are framing devices of embedded culture, and due to their inherent complexity, LLMs may not yet be able to accurately interpret figurative language use in discourse due to their cultural embeddedness related to human cognition.

LLM research highlights both the current limitations and potential in figurative language studies, especially in metaphor identification and metaphor creation. Hicke and Kristensen-McLachlan (2024) demonstrated that prompting frameworks based on annotation guidelines enable LLMs to identify and interpret conceptual metaphors (CMT) in natural language use at scale; they used ChatGPT-4. Paradoxically, subsequent studies demonstrated that challenges continue to persist, including a lack of transparency and need for phrase-level contextual analysis (Dmitrijev et al., 2024; Tian et al., 2024). Beyond metaphor identification, Kim et al. (2023) showed that LLM system, *Metaphorian*, supports metaphor creation through search, extension, and iterative refinement. The LLM enhanced user satisfaction, without undermining perceived writer agency. Next, cross-cultural work by Pedersen et al. (2025), using two leading LLMs: ChatGPT-4o and Llama, v.3.1, compared culture-specific vs. cross-lingual metaphors in a dataset of 150 Danish metaphors and idioms. They showed that while LLMs handle English-based metaphors more effectively, they frequently misinterpret Danish culture-specific expressions (Wachowiak & Gromann, 2023). Similar results were found in an earlier study in a Spanish and English comparison. Whereas source domains could be predicted for English lexical metaphors, using ChatGPT-3, it did not for Spanish (Wachowiak & Gromann, 2023). Finally, and saliently, at a cognitive level, Moa et al. (2024) identified, using LLM *MetaPro*, that LLMs diverge from human metaphorical cognition, so their study showed that human cognitive patterns cannot yet be replicated by LLMs, caused by LLMs exhibiting algorithmically induced biases that reflect distinctive, non-human conceptual patterns. What these findings collectively suggest is that while LLMs hold considerable promise for metaphor analysis and generation, unresolved issues persist concerning contextual sensitivity, transparency, and cross-cultural reliability. A research gap has thus been identified concerning the application of Metaphor Identification Procedure (MIP) to benchmark the most well-known LLMs for reliability to show their potential for future wine writing research, using the newest versions available at the time this study is conducted, such as ChatGPT-5, so the final research question of the present work is:

RQ 6. Can locally or otherwise hosted large language models (LLMs) be effectively used to systematically analyse such patterns in wine reviews through prompt engineering, achieving results comparable to manual annotation in terms of inter-rater reliability?

2. Method

The aim of the present work is to identify how expert wine writers (L1 users) and non-expert wine writers (L2 users) use language, and specifically figurative language to describe wine, if and to what extent differences in wine writing across platforms in terms of sensory and figurative display can be observed, how wine writers across platforms present themselves in their reviews to their discursive audience, and if and to what extent LLMs would be able to take on such studies reliably to improve scalability of study using the newest LLM version available on the market.

The following topics are being discussed in this section: The process of scraping data from both platforms, which are wineenthusiast.com, known for its magazine, and vivino.com. This is followed by tool creation and research tool integration processes, corpus sample and subset compilation processes, providing corpus sample descriptions, and the process of manually annotating and reliability testing of the human manual annotation procedures. Finally, it is followed by the comparison of human vs. artificial (LLM) reliability testing.

2.1 Compiling corpora, data collection and more

Data Scraping: Wine Enthusiast and Vivino Websites

Two scraping scripts were used to be able to compile the units of analysis, i.e. reviews. The *Wine Enthusiast* scraping script retrieves wine reviews from the magazine's website by accessing its Algolia search database. The script iterates through a specified date range, querying reviews for each day and saving them as individual JSON files. Implemented in Python, it uses Algolia's Search Client to query the review database, with access keys obtainable via a standard web browser such as Firefox. Reviews are fetched on a day-by-day basis within the defined date range (December 2000 to March 2024 by default) to avoid exceeding Algolia's 1,000-hit limit for regular users. The Vivino scraping script collects wine data and reviews from Vivino.com through its web API, mimicking browser requests to API endpoints for individual reviews. The process involves two main operations: (1) retrieving wine metadata by querying the "explore" API endpoint, and (2) obtaining reviews for each wine by querying the "reviews" API endpoint. The data are stored in both raw JSON format (for backup and reference) and processed CSV

format for analysis. Access keys are likewise obtained via a standard browser. Find full details of these processes of initial data collection in ***Appendix 8 (Detailed data scraping procedure)***. Two platforms are examined: wineenthusiast.com and vivino.com, and together, these platforms provide insight into both expert and layperson online wine review writing.

Development of a thesis analysis tool Incorporating USAS UCREL's Web-Based System

After tokenization, POS tagging, and lemmatization using Python-related software packages, which is a MIPVU-requirement adopted in MIP, a research tool was created using Streamlit, software that enables the creation of user-friendly interfaces suitable for novice researchers. This was done to ensure a reliable method for annotating and analysing large quantities of linguistic data. The tool was designed specifically for annotating metaphor-related words, metonymies, multi-word POS and chunks, metonymy chunks, similes, literal wine terms, and miscellaneous category of figurative language use such as collocation, like phrasal verbs, and formulaic expressions. With the reliability testing, involving a second annotator, in mind. USAS UCREL's semi-automated conceptual domain tagger was also implemented, allowing researchers to select the appropriate conceptual source domain. This whole processes allowed us to independently annotate data so as to enrich data in each subset of the corpora to reduce subjectivity and bias. The tool offered the ability to select and exclude POS and to click on dictionary entries in Merriam-Webster's dictionary to speed up the manual annotation process, which were all design choices planned up front to speech up manual, contextual annotation processes in which annotators could not automatically see each other's annotations to ensure a reduction of subjectivity. ***Appendix 9*** provides a detailed account of the ***tool development process***, including data logging and storage capabilities.

Data Collection: Corpora and Corpus subsets, and units of analysis [i.e. reviews]

The comparative analysis of these two subsets aims to identify linguistic patterns in how the wine-tasting experience is described and how wines are presented. Table 1 provides an overview of estimated website traffic for each platform, based on visitor data from a randomly selected month in 2024. The bounce rate, expressed as pages per visit, may indicate that site users often have specific wine-related search queries; a higher value would likely suggest browsing behaviour involving multiple pages and extended engagement time. [Full details of circulation numbers of the original Wine Enthusiast Magazine can be found in appendix 14.] Both corpus compilation processes are described in next sections.

Table 1. Estimated website traffic of the two wine platforms (similarweb.com, May 2024)

Platform	Traffic	Pages per visit	Bounce rate
WineEnthusiast.com	1.4M	2.43	66%
Vivino.com	5.2M	2.79	59%

In the present work, two corpora were compiled, of which corpus subsets were based, i.e. on scraped units of analysis that are wine reviews. The first corpus sample contains 1,100 wine reviews written by certified wine experts and published on wineenthusiast.com. *Wine Enthusiast* employs only reviewers who hold the Level 4 Diploma granted by the internationally recognised Wine and Spirit Education Trust (WSET), the highest industry qualification in viticulture, wine business, and wine product knowledge (Wine Enthusiast Magazine, 2024; WSET, 2024). This corpus subset was collected through simple random sampling. The second corpus subset also contains 1,100 wine reviews drawn from Vivino (2024), selected using stratified sampling. Vivino hosts reviews by both expert and non-expert contributors. See table 2 for an overview of the two subsets. A total of 56 reviews per subset were scrutinized in detail in this study and 112 in total. See figure 1 for an overview of the sampling process from website selection to sample size characteristics. Ultimately, a total of 1,413 lexical units were analyzed in context from wineenthusiast.com and 960 from vivino.com.

Figure 1. Sampling process from website selection to sample size characteristics

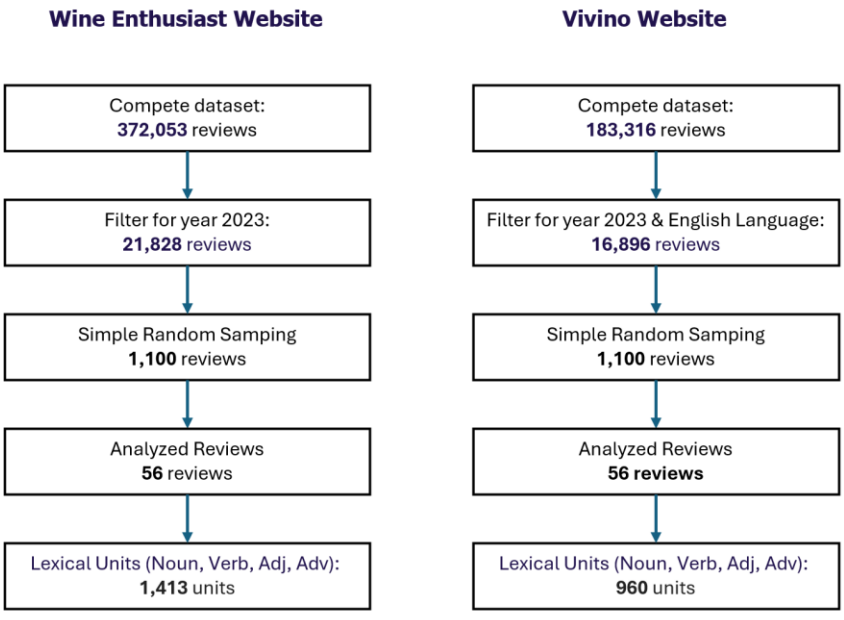


Table 2. Total number of reviews included in the corpus

Wine magazine	Total samples
Wine Enthusiast	1100
Vivino	1100
Total	2200

Corpus compiled of Wine Enthusiast platform wine reviews.

While traditional corpus analysis was based on texts collected from American subscription-regulated wine magazines, such as Wine Enthusiast Magazine (e.g. Ariaans, 2019), reviews are now published on websites, i.e. platforms. Therefore, The *Wine Enthusiast* (WE) corpus was compiled by scraping winemagazine.com, resulting in 372,053 reviews. Country-of-Origin (COO), the United States is the most frequent COO (154,454 reviews) of the wines reviewed, followed by France (69,821). Most reviews describe red wines (223,871), and the majority of reviews were published in 2019, with the number decreasing steadily in subsequent years. The corpus also includes both recent and older vintages of which the mean review length is 42 words, with the 25th percentile at 33 words and the 75th percentile at 49 words. Consequently, the dataset contains the following columns: *id*, *name*, *drink_type*, *wine_type*, *date_received*, *brand*, *review*, *Country-of-Origin (coo)*, *Region-of-Origin (roo)*, *varietal_label*, *company*, and *vintage*. It should be noted that the most recent year available at the time was selected, which was 2023 at the time.

Corpus compiled of Vivino platform wine reviews

The Vivino corpus was compiled by scraping the platform's website (www.vivino.com), yielding 183,316 reviews, of which 133,000 are in English. By contrast, France is the most frequently occurring COO (70,696 reviews), followed by COO the US (63,806). This corpus also contains both recent and older vintages. The mean review length is 27 words, with the 25th percentile at 9 words and the 75th percentile at 37 words. Most reviews were written in 2021, with a decline in numbers in subsequent years; the cause of which is unknown. Nevertheless, this dataset also contains the following columns: *review_id*, *rating*, *note* (review text), *language*, *created_at*, *reviewer_id*, *reviewer_name*, *vintage_id*, *year*, *vintage_name*, *wine_id*, *wine_name*, *coo*, *roo*, and *winery*. And, in this corpus, the most recent year available was also the year 2023 at the time, which was selected.

Corpus details

Both Wine Enthusiast and Vivino, the platforms examined in this study, feature wines from a wide range of COOs, including the US, France, Italy, Spain, Portugal, Argentina, Australia, Chile, and South Africa. These COOs could be divided into old world and new world countries. Even though old-word and new world classification could not be observed in wine reviews (Croijmans et al., 2020), differentiating between COOs is still relevant in the context of wine writing. In the context of wine reviewing, Foroni et al. (2017) showed that terroir, which indicates the relationship between a particular wine and the specific place where it is produced, can be recognized more effectively than grape variety or wine type (e.g. Barrolo) by both experts and non-experts in wine tasting. Figures 2 and 3 show the distribution of COOs for the wines included in the total corpus for each platform.

Figure 2. Total number of reviews extracted from Wine Enthusiast and Country-of-Origin

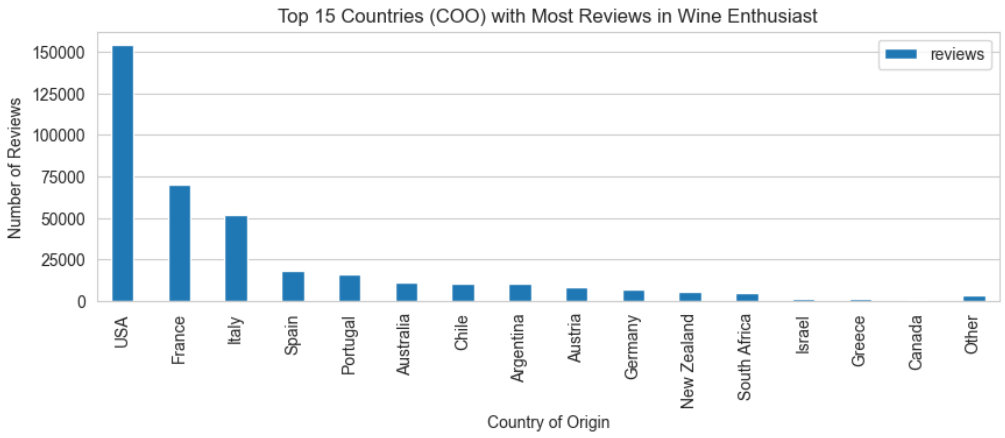


Figure 3. Total number of reviews extracted from Vivino and Country-of-Origin

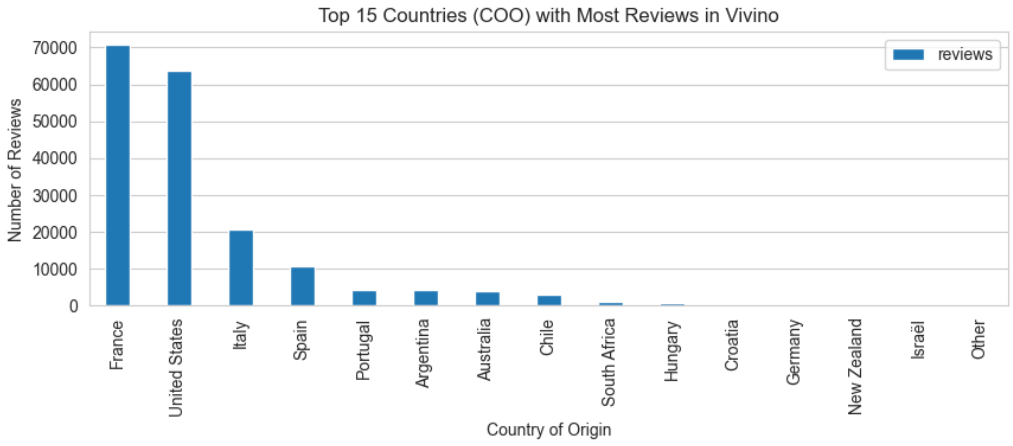


Figure 4. Reviews extracted from Wine Enthusiast displayed per year

Figure 5. Reviews extracted from Vivino displayed per year

Wine Enthusiast (Figure 2) contains a higher proportion of wines from the United States compared to Vivino, and the same pattern is observed for wines from France (Figure 3). The most recent year available at the time was selected, which was 2023. For both platforms, the total number of extracted reviews is shown in Figures 4 (WE) and 5 (Vivino), organised by year of publication on the online platforms. From 2021 onward a decline in wine reviews is observed. A possible explanation for 'dips and drops' in generational wine consumption, especially the youngest one. Rabobank (April, 2025) offers a different explanation for generational alcohol consumption decline. They reported that GenZ's consumption decline of alcoholic beverages is not is not due to a focus on Wellness, which wineenthusiast.com reported in April (Dingwall, 2025), but finds it origin in structural and economic drivers. However, Rabobank expects this population to start drinking more as they get older, in line with previous generations, according to Rabobank's RaboResearch report (April 2025) by their Senior Beverage Analyst at RaboResearch, Food and Agribusiness (Nesin, 2025).

Figure 6 shows the number of lexical units, which are content words, were analyzed from each platform. In the analysis of lexical units, or words, content words are distinguished from function words. Only adverbs, adjectives, verbs, and nouns are included, as these categories are expected to contain the majority of metaphorical mappings.

Figure 6. The number of content words in each review of Wine Enthusiast + Vivino

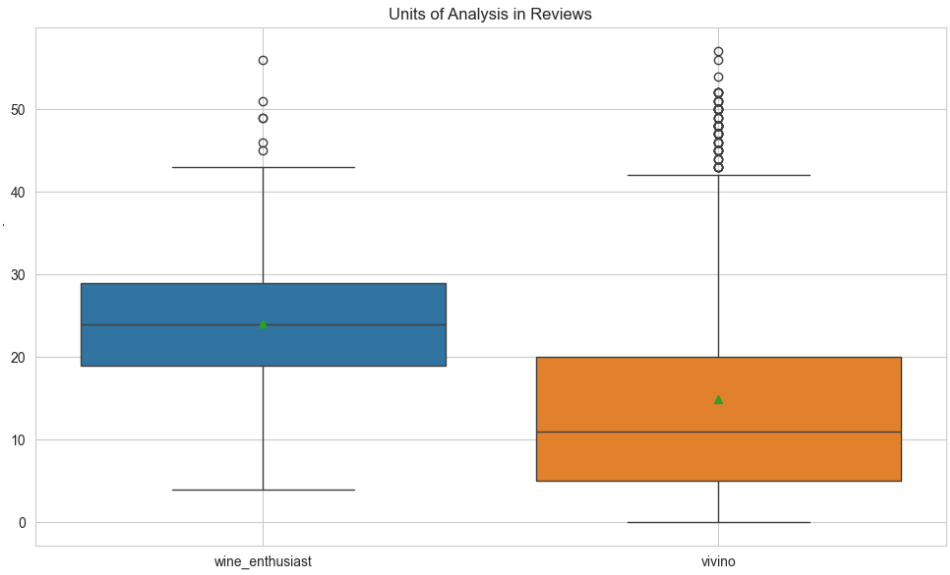


Figure 7. The number of content words in each review of Wine Enthusiast + Vivino

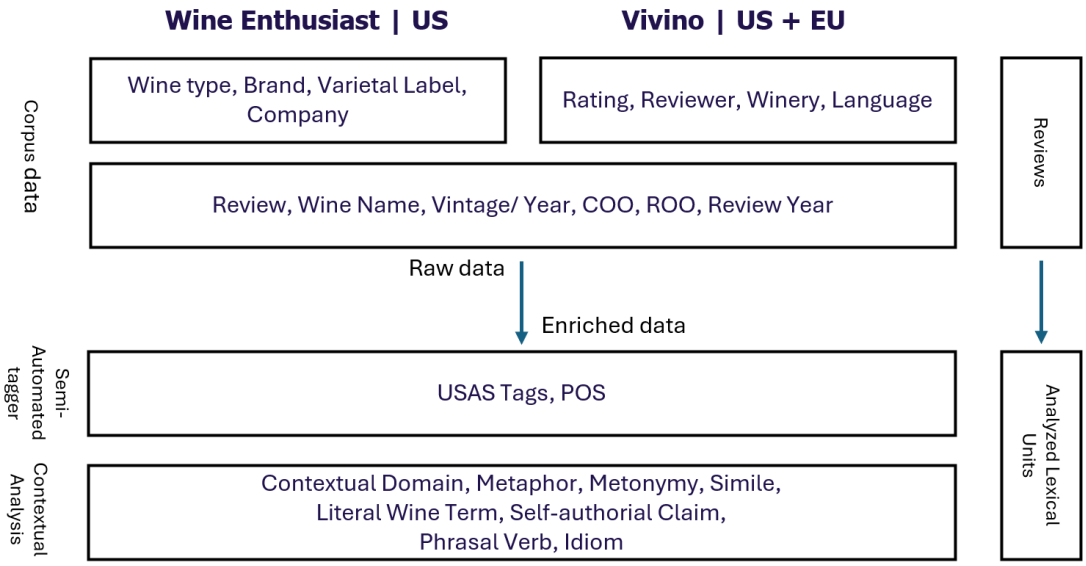


Figure 7 shows a complete overview of how corpora were compiled and what information was retrieved from raw data as opposed to enriched data. Raw data includes information retrieved from the platform, and is wine platform specific. It includes wine type, brand, varietal label and company on wineenthusiast.com and for vivino.com it concerns rating, reviewer name, winery and language, indicating its global orientation. The year 2023 was selected for each platform, which was the most recent year available at the time from which the following data was retrieved: review, wine name, vintage or year, country and region of origin and review year. Semi-automated annotation, however, yielded enriched data including POS tags and USAS source domain tags. Finally, manual annotation yielded lexical metaphor identification, conceptual source domain, metonymy, simile, multi-POS chunks, formulaic language, including idioms and phrases, phrasal verbs, literal wine terminology, and self-authorial claims.

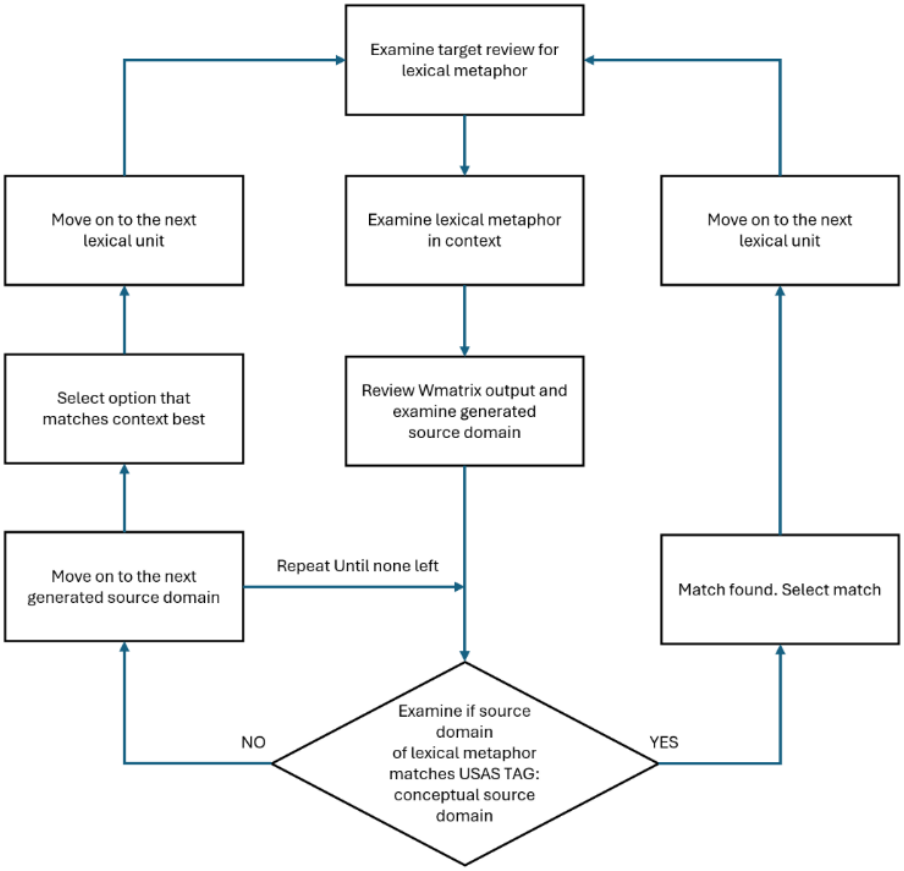
2.2 MIP: identifying lexical metaphors

The MIP procedure, as applied in a previous MA thesis (Ariaans, 2019), consists of two main stages: first, the identification of lexical metaphors, and second, the identification of the conceptual domains underlying these metaphors. Both stages are described in detail in the following section. To determine the criteria for analysis, the MIP guidelines (2007) were consulted. These guidelines note that identifying the meanings of lexical words is generally easier for the most dominant parts of speech than for those serving primarily grammatical functions. Examples of the former include nouns, verbs, adverbs, and adjectives, while examples of the latter include prepositions, conjunctions, and articles. Analysing every part of speech is not necessarily effective for identifying metaphorical words; therefore, only the dominant categories were examined.

Following the MIP framework as described in Ariaans (2019), the entire tasting note or review is first read to gain a general understanding (Step 1; MIP, 2007, p. 3). Next, the lexical units are identified, and their parts of speech are determined in English (Step 2; MIP, 2007, p. 3). Context is then established for each lexical unit, and it is assessed whether a more basic, general meaning could apply, distinct from the specific meaning in the tasting note or review. Basic meaning is defined as more concrete, often involving bodily action, or as less modern and more tangible than abstract found in dictionaries. As noted by the Pragglejaz Group (2007), basic meaning is unrelated to frequency of occurrence or usage. If a more basic meaning is identified, it is then checked for contrast with the contextual meaning while still being comprehensible in comparison (Step 3; MIP, 2007, p. 3), using dictionaries. If all these criteria are

met, the lexical unit is classified as metaphorical (Step 4; MIP, 2007, p. 3); otherwise, it is excluded. Figure 8 illustrates the sampling process from magazine selection to the final sample size characteristics.

Figure 8. MIP, including the WMatrix (USAS UCREL Tagset)



Step 1: Systematically identifying lexical metaphors

Step 1.1. POS-tagging

Three steps are involves in this inductive metaphor analysis procedure, which are to tag all POS (step 1.1), to identify lexical metaphors in wine reviews (step 1.2), and to reduce bias (1.3). Prior research has highlighted the need for parts-of-speech (POS) corpus annotation a priori to ensure that metaphor identification procedures are applied accurately and yield reliable results (Steen et al., 2010). As the present study aims to examine how lexical metaphors are used in online wine reviews, two sub-questions were formulated. The first relates to a quantitative, systematic content analysis in which four types of content words (i.e. nouns, adjectives, verbs, and adverbs) were analysed for the presence of lexical metaphors.

The first step in this stage of the study was to identify these four POS categories, which was achieved using the Constituent Likelihood Automatic Word-tagging System (CLAWS). CLAWS is a POS-tagging corpus tool developed by UCREL, the research centre at Lancaster University that specialises in automatic and computer-assisted analysis of large bodies of naturally occurring language (UCREL, 2019; Archer et al., 2002). Further details are provided in ***Appendix 2 ("The USAS category system," Archer et al., 2002, p. 2; 21 discourse fields)*** **and** ***Appendix 3 ("The USAS category system \| USAS Semantic Tagset," Archer et al., 2002, p. 2)***.

Step 1.2. POS, basic meaning, contextual meaning, and multi-word POS

After processing the corpus with CLAWS and filtering for POS (i.e. verbs, nouns, adjectives, and adverbs), the second and final step involved identifying lexical metaphors. The four retained parts of speech were analysed using the Metaphor Identification Procedure (MIP; Pragglejaz Group, 2007, p. 3). To align it with MIPVU, each lexical unit in these four POS categories were analyzed first through comparing and contrasting the basic meaning of the lexical unit to the contextual meaning in the wine review. While MIP offers more freedom to interpret, subjectivity was reduced by listing multi-word POS separately, such as multi-word adverbs, such as 'front and center' which means '*in or to be the forefront of activity or consideration*' (Merriam-Webster, 2025). Please refer to the figurative language use category in the next section. This method reduces bias by beginning with the lexical unit itself, rather than the conceptual source domain of the metaphor, which could invite interpretation of annotators and predetermine the outcome. MIP thus enables the identification of lexical metaphors and can serve as the foundation for subsequent conceptual metaphor analysis in later stages of research. An example of an adjective is lighthearted in the target sentence in a wine review:

> It's the perfect casual sipper, either on its own or with any ***lighthearted*** meal.

In the wine review determiner 'it' modified meal. The basic meaning in Merriam-Webster of lighthearted is *free from care, anxiety, or seriousness* (2025). This lexical unit and its basic meaning refer to an easygoing person, which is the synonym listed in Merriam-Webster (2025). Here, food is described and presented to the discursive audience of the wine review as a person. The food is easy and informal, not too serious. It may be referred to as a easy-to-prepare meal one would be able to have on a weekly basis that matches the wine reviewed. Conceptually, source domains related to human characteristics related and specifically to a social action and human beings are the underlying structures of lighthearted, a lexical metaphor.

As the primary objective of this part of the study was to identify lexical metaphors in general, MIP was deemed suitable. However, MIP does not specify how to address ambiguous cases. To mitigate potential bias MIPVU (Steen et al., 2010) was consulted, particularly for the treatment of proper names in the noun category and in ambiguous cases. A rule was established to exclude numbers, names, and foreign words from the analysis. Additionally, parts of speech incorrectly classified as content words by the POS-tagger, such as numbers written in full but tagged as nouns, were removed. Names of people, wine types, brands, and geographical places were also systematically excluded due to ambiguity detected during the pre-analytical stage of the study. To this end, an analysis tool was developed to facilitate this process and to be able to reduce bias while examining inter-rater reliability, which included links to dictionaries and allowed for researcher notes per entry in the dataset for each corpus.

Step 1.3. Inter-rater agreement analysis procedure

While steps 1.1 and 1.2 systematically identified lexical metaphors in the corpus one wine reviews, inter-rater reliability also needed to be established. To ensure reliability in the lexical metaphor identification process, two coders (the researcher and a novice peer) independently coded three sets of a total of 20 randomly selected reviews from two platforms in three iterations, which involved 10 reviews per corpus sample per iteration, including the contextualised content words, for the presence of lexical metaphors and metonymies. The results indicated "substantial" agreement for lexical metaphors and "almost perfect" agreement for metonymies (79% agreement for lexical metaphors, Cohen's κ = .79, 86% agreement for metonymies, Cohen's κ = .86). Table 3 shows the results in more detail. These findings confirm that the lexical metaphor identification procedure applied in this study is substantially reliable. A visual presentation can be found in ***appendix 16***.

Table 3. Cohen's Kappa inter-rater reliability test results

Iterations of the Cohen's Kappa analysis	Metaphor	Metonymy
1 [10 Vivino and 10 WE reviews]	Cohen's κ = .46	Cohen's κ = .70
2 [10 Vivino and 10 WE reviews]	Cohen's κ = .65	Cohen's κ = .80
3 [10 Vivino and 10 WE reviews]	Cohen's κ = .79	Cohen's κ = .86

Step 2: CMT: Exploring the conceptual source domains exposed through lexical metaphors

The criteria for analysis were determined in accordance with the MIP guidelines (2007), which state that identifying the meaning of lexical words is generally easier for the most dominant parts of speech (nouns, verbs, adjectives, and adverbs) than for those serving primarily grammatical functions (e.g.

conjunctions, and articles). As analysing every part of speech is not necessarily effective for identifying metaphorical words, only the dominant categories were examined.

Following the MIP procedure, as outlined in Ariaans (2019), the analysis began by reading the entire tasting note or review to establish a general understanding (Step 1; MIP, 2007, p. 3). Next, lexical units were identified, and their parts of speech were determined in English (Step 2; MIP, 2007, p. 3). For each lexical unit, the context was examined to determine whether a more basic, general meaning could apply, distinct from the specific meaning in the review. A basic meaning is defined as more concrete, involving physical action, or being less abstract and less modern. The Pragglejaz Group (2007) notes that basic meaning is independent of frequency of occurrence or usage. If a basic meaning was identified, it was then compared with the contextual meaning to determine whether a contrast existed that could still be understood when compared (Step 3; MIP, 2007, p. 3). Lexical units meeting all criteria were classified as metaphorical (Step 4; MIP, 2007, p. 3); those that did not were excluded. Figure 8 illustrates the sampling process from magazine selection to the final sample size characteristics.

The second part of this study comprises a qualitative analysis of the more abstract meanings underlying the concepts revealed through lexical metaphors, with the aim of identifying the conceptual source domains of the conceptual metaphors. Specifically, the analysis addresses how wines described in reviews are implicitly situated within particular conceptual domains and how these domains shape meaning. This, in turn, may help explain the selection of specific lexical metaphors by wine reviewers. Although Conceptual Metaphor Theory has gained prominence in metaphor research, it does not provide a clear procedure for identifying conceptual metaphors. Consequently, prior studies have focused on developing methods for annotating data (Steen, 2008a; Turner and Fauconnier, 2002). Following the approach outlined by Creed (2016), this study used the automated annotation software developed by Archer, Wilson, and Rayson (2002) to explore and identify the conceptual source domains that shape meaning in wine discourse.

Conceptual source domains were tagged semi-automatically using W-matrix (Rayson, 2008), the UCREL Semantic Analysis System (USAS) tagging software, integrated into the research tool created for and used in the present work. This USAS-tool assigns conceptual domain tags to lexical units based on authentic, contextualised language input. In most cases, multiple USAS tags were generated for a single lexical unit, and the most contextually appropriate domain was selected manually to align with the wine review discourse. In the tool, these were selected by clicking on the right domain and in a drop-down menu and these were listed in a field to optimize manual annotation procedures.

The exploratory source domain analysis followed several steps. For lexical units generating more than one USAS tag, their suitability was assessed by evaluating the lexical unit's basic meaning in contrast to the wine review's context, and the options given. This involved re-reading the target sentence containing the lexical metaphor, reviewing each potential domain, and imaginatively determining what the underlying concept was that shaped the meaning of this lexical metaphor. If the selected source domain matched the underlying conceptual meaning and fit the context, it was selected in the database. Figure 8 provides a visual overview of the analysis procedure. Further methodological details are provided in **Appendix 1 (*Existing Research Tools*)**. An illustrative analysis prepared for clarification in this thesis is presented in **Appendix 7 ("*example of analysis: English wine reviews written by experts*")** and dictionary selection in **Appendix 11 (*Dictionary selection and use to reduce bias*)**. Additional methodological considerations can be found in **Appendix 14 (*Additional methodological considerations: the choice between MIP and MIPVU specified*)**.

Step 3: Metonymy identification

To answer the question if and to what extent metonymies are used in the category figurative language, all metonymies are marked in the review in the designated research tool, created to reduce bias when analyzing wine reviews for the presence and absence of metonymies. As metonymies often occur in chunks because they are modified by means of writers using more elaborate noun phrases to enrich the review, these chunks were listed in a chunk slot, a box was ticked for presence, and clustered at a later stage. Examples of single metonymies are 'fruit' and 'chocolate', and examples of chunks are 'red fruit', 'fruit of the woods', and 'dark chocolate'.

Step 4: Text-based Wine Wheel vs. literal wine terms, lexical metaphors, and metonymies

To answer the question how language is used across the two platforms three categories of types of language were analyzed separately that are commonly referred to in research as the parts that make up the whole in specialized register that we refer to as wine speak or talk. To this end, three categories of language were measured against the latest wine lexis list that was produced in research (Croijmans et al., 2020). These categories are widely discussed as frequently occurring in wine reviews and included: literal terminology, referring to concrete objects that can actually be seen and touched, such as wine bottle, wine glass, type of wine, as well as lexical metaphors, and metonymies. This is an additional step to find if linguists who are not wine experts would be able to verify terms that could be considered 'wine

speak' and to align with previous research to test if the present work is able to capture the reality of wine register accurately in the context of wine reviews to overcome the small corpus sample that was analyzed, a quality control check.

Step 5: Simile identification

To answer the question if and to what extent similes are used in the category figurative language, all metonymies are marked in the review in the designated research tool, created to reduce bias when analyzing wine reviews for the presence and absence of metonymies. As metonymies often occur in chunks and these chunks were listed in a chunk slot, a box was ticked for presence, and clustered at a later stage. Examples of similes are wine is like another wine type or a particular odor related to an object, like an old leather trunk.

Step 6: Miscellaneous category of figurative language use identification

To answer the question if and to what extent figurative language use that are lexical metaphors, metonymies, or similes. If yes, a box was checked for presence. This category hold multi-word POS, phrasal verbs, idioms, and phrases. An example is phrasal verb: open up. The basic meaning as listed in Merriam-Webster is 'to make available' (2025). In the target sentence in the review in context, it described how aromas and flavours release and expand, like a person who opens himself, herself, or themselves up to new experiences in life in social setting, conceptually. MIPVU only allows for individual lexical units to be analyzed, which is adopted to align empirical data. Consequently, these chunks were listed in a chunk slot and clustered at a later stage.

Step 7: Self-authorial statement identification

As previous research (e.g. Croijmans, 2016) pointed out, non-experts use evaluative comments, such as *nice*. To explore if and to what extent wine writers make self-authorial statements is investigated. A box for presence was ticked in the research tool and all words or phrases were listed and clustered at a later stage. Five reviews were initially examined and from this four categories were created. Examples are if a wine writer evaluates the wine and foregrounded personal experiences, offers evaluative recommendations, directs reader behaviour through the use of imperatives, and expresses subjective quality statements. In wine reviews all aspects that did not directly relate to the wine or its aromas

being presented were examined and clustered. These categories used while analyzing the 56 reviews in each corpus.

Step 8: LLM reliability assessment: human vs. artificial intelligence coders

The next step in this analysis involved reliability assessment in which the MIP prompt manual coders used to prompt manual annotation was used to compare human coding to artificial coding. The following LLMS were included: Olmo2:7b, Olmo2:13b, Tulu3:8b, Deepseek-r1:8b, Llama3.1:8b, and GPT – 5. The LLMs and their parameter sizes (model sizes) were reported, except for ChatGPT-5, whose parameter count is undisclosed but presumed to exceed that of the other models. See appendix for more details.

2.3 Statistical analysis

In the present work, the platforms are the origin variables, i.e. independent variables. The dependent variables are: lexical metaphor, metonymy, simile, bin category figurative language use, literal wine terms, and self-authorial statement. The quantitative analysis in the present work generated categorical data, which have been analyzed by means of the Pearson's Chi-Square test. In cases where basic assumptions of the test had been violated (Field, 2003), data entries belonging to those cases were excluded.

3. RESULTS

To answer the first research question if and to what extent differences can be found between wine writing on expert platforms vs. non-expert platforms in terms of language use, the statistical descriptives of the corpora were first examined of Wine Enthusiast (expert platform with WSET-certified wine reviewers), and Vivino (wine enthusiast, review platform). Table 3 shows that 56 reviews were randomly selected from the two compiled corpora, and systematically analyzed. Consequently, 112 reviews were randomly selected and systematically analyzed. Combined 2,373 units of analysis, i.e. lexical units, were found in the two corpora that fall in the category content words, and of this total 1,196 unique lexical units were identified. A slightly lower proportion of unique lexical units was found in WE (i.e. 49%, i.e. 693) as opposed to Vivino (i.e. 52%, i.e. 503). In context, however, no words occur in the exact same way as contextual meaning affects the meaning of lexical units. WE reviews in this corpus sample contained on average 25 lexical units as opposed to 17 in Vivino reviews.

Table 3. Platform descriptives: number of units of analysis and lexical units

Wine platform	Wine Enthusiast [experts]	Vivino [laymen]
Number of analyzed reviews	56	56
Number of units of analysis	1413	960
Number of **unique** units of analysis	693	503
Percentage **unique** units of analysis (%)	49	52
Number of units of analysis per review	25	17

Table 4. Platform descriptives: distribution of POS of lexical units

Wine platform	Wine Enthusiast [experts]	Vivino [laymen]
adjectives	352 [25%]	287 [30%]
adverbs	68 [5%]	84 [9%]
nouns	775 [55%]	488 [51%]
verbs	218 [15%]	101 [11%]
Total	**1413 [100%]**	**960 [100%]**

The number of units of analysis, defined here as lexical units or words, differs significantly between the two platforms. WE reviews contain a greater total number of units of analysis, a larger set of unique lexical units, and a higher mean number of lexical units per review than Vivino reviews. To assess differences in part-of-speech (POS) composition in the two samples, a frequency distribution was generated, as shown in tables 4. This analysis indicates that Vivino reviews feature slightly higher proportions of adjectives and adverbs (i.e. 30% and 9%) relative to WE reviews (i.e. 25% and 5%), whereas WE reviews contain marginally higher proportions of nouns and verbs (55% and 15% vs. 51% and 11% in Vivino).

Literal wine terms

Literal language and specifically wine terms are also used, which include terms such as bottle, vineyard, wine, rosé, white, or red wine. The use of literal wine-related terminology differs significantly between platforms, with Vivino reviews containing 43 instances compared to 173 instances identified in Wine Enthusiast reviews. A Chi-square test showed a significant result between the two platforms and the use of literal wine term in wine reviews ($\chi 2(1) = 40.72$). WE reviews in this corpus sample contained 173 literal wine terms as opposed to 43 in Vivino reviews. Figure 5 shows the proportional difference between platforms.

Table 5. Literal wine terms in corpus samples [i.e 56 reviews] of wine platforms

Literal wine terms	Wine Enthusiast [experts]	Vivino [laymen]
Present	173	43
Absent	1240	917

Figurative language use: Metaphorical display

MRWs

To address research question 2 and examine differences in metaphorical display between the two corpora, a comprehensive overview was first compiled of the conceptual domains underlying the metaphor-related words (MRWs) identified in wine writing across both datasets. The first step involved MRWs in wine reviews using MIP. Table 6 presents the identified MRWs in each corpus sample of randomly selected reviews (i.e. 56 wine reviews per platform). MRWs were identified in single lexical units in 558 cases in WE reviews versus 260 in Vivino reviews. They were absent 700 instances in WE reviews and 855 instances in Vivino reviews, proportionally. In addition, the relative number of markers related to MRWs in this category were 10 in WE reviews versus 5 in Vivino reviews. A Chi-square test showed a significant result between lexical metaphors and the two wine review platforms ($\chi 2(1) = 38.41$). The number of units of lexical metaphors differs significantly between the two platforms. Lexical metaphors were present more often in WE reviews (i.e. 39%) compared to Vivino reviews (i.e. 27%) in this corpus sample.

Table 6. Identified lexical metaphors in corpus samples [i.e 56 reviews] of wine platforms

Lexical metaphors (MRWs)	Wine Enthusiast [experts]	Vivino [laymen]
Present	558	260
Absent	700	855
Relative number of markers per review	10	5

Conceptual source domains in both platforms: WE and Vivino

When examining the similarities and differences in metaphorical display in wine reviews across platforms, the second step in this area in the present work involved identifying the conceptual source domains that shape the meaning of MRWs in context to explore how abstract meaning is shaped in concrete terms. Overall, the following with the highest combined frequency of occurrence, and the corresponding MRWs. The analysis shows that the following conceptual source domains were used in wine writing overall, a total of 493 occurrences ranked from highest to lowest across both reviews platforms: *materials* (O, i.e. 143), *general & abstract terms* (A, i.e. 106), *time*, (T, i.e. 67), *the body* (B, i.e. 65), *social actions, states, and processes* (S, i.e. 57), *movement* (M, i.e. 36), *number and measurement* (N, i.e. 31), *psychological actions, states, and processes* (X, i.e. 31), *entertainment, sports, and games* (K, i.e. 27), *language and communication* (Q, i.e. 19), *Emotion* (E, i.e. 12), *money and commerce in industry* (I, i.e. 12), *world and environment* (W, i.e. 11), *food and farming* (F, i.e. 9), *architecture, housing, and the*

home (H, i.e. 5), *government and the public* (G, i.e. 2), *life and living things* (L, i.e. 2), and *Education*, (P, i.e. 1). When source domains related to human beings are clustered a total of 292 can be observed and it accounts for 60% of the total number of occurrences across all source domains, and 40% for non-human ones. Notably, USAS UCREL does not contain sources related to D, J, or R. Other domains that are included in USAS were absent in the reviews in both corpus samples included domains: *arts & crafts* (C), *Science and technology* (Y), and *names & grammar* (Z). An overview of the conceptual source domains is provided in ***Appendix 2 (USAS Category System)***, and the lexical metaphors related to the sub-domains can be found in ***Appendix 12 (Conceptual domains identified: The top 20 MRWs in Wine Enthusiast and Vivino)***. It contains the complete list of identified conceptual domains of the first 20 subdomains of these listed, general source domains used in both platforms.

Specific conceptual source domains in WE vs. Vivino

To answer if and to what extent metaphorical display differs between platforms, conceptual source domains analyzed in the second step of the procedure (see figure 8, p. 31) were analyzed for both platforms. In both corpus samples O4 and B1 were most frequently used so overlap was found, metaphorically.

In WE reviews, however, in terms of metaphorical display in L1 expert wine writing, the most prevalent semantic domains were K2 (*Music and related activities*, i.e. 23), A1 (*General actions*, specifically "making", i.e. 22), and S1 (*Social actions, states, and processes*, i.e. 20). Occurrences of K2 are MRWs: 'notes', 'harmonious tone', and 'tone'. Occurrences of A1 are example MRWs: 'give', 'palate', and 'take'. Examples of S1 are MRWs: 'easygoing', 'shows', 'open', and 'welcoming'. Table 8 shows the top 5 USAS codes for WE reviews.

Table 8. Top 5 of USAS codes [conceptual domains] underlying MRW in Wine Enthusiast [WE]

USAS	MRWs	count	# unique words
O4	chalky, creamy, texture, crisp, soft, flinty, smooth, slippery, fine, silky, firm, softened, weight, balanced, balance, ripe, body, simple, metallic, inky, rigid, elegant, ripeness, qualities, elegant, plush, polished, impressive, beautiful, delicate, lovely, clean, pretty, grace, lithe, fresh, elegance, lush, deep, bright, vibrant, pale, pink, darker, toasty, warms, searing, roasted, taut, rounded, dots, allure	77	51
B1	palate, nose, skin, born	41	4
K2	notes, harmonious, note, tone	23	4
A1	bursting, given, laced, give, take, palate, grip, create, etched, structured, steeping, tightly, tight, contained, taut, packed, includes, framing, ready, ripe	22	20
S1	streak, character, boring, open, casual, easygoing, shows, welcoming, warmth, backbone, forceful, juicy, generously, reserved, balanced, thanks	20	16

In contrast, in Vivino reviews, the most prevalent semantic domains in non-expert, L2 wine writing are: T3 (*Time: old, new, and young: age*, i.e. 13), 5N (*Number and measurement: quantities* i.e. 10), and T2 (*Time: beginning and ending*, 10). Occurrences of T3 are MRWs: 'old', 'younger', and 'aging'. Occurrences of 5N are example MRWs: 'peak', 'full', and 'density'. Examples of T2 are MRWs: 'started', 'introduction', and 'ready'. Table 9 shows the top 5 USAS codes for Vivino reviews. Table 9 shows the top 5 USAS codes for WE reviews.

Table 9. Top 5 of USAS codes [conceptual domains] underlying MRW in VIVINO [non-experts]

USAS	MRWs	count	# unique words
O4	chalky, creamy, texture, crisp, soft, flinty, smooth, slippery, fine, silky, firm, softened, weight, elegant, plush, polished, impressive, beautiful, delicate, lovely, clean, pretty, grace, lithe, fresh, elegance, lush, balanced, balance, ripe, body, simple, metallic, inky, rigid, elegant, ripeness, qualities, deep, bright, vibrant, pale, pink, darker, toasty, warms, searing, roasted, taut, rounded, dots, allure	45	30
B1	nose, palate, mouth, bodied, body, drinking	20	6
T3	old, younger, aging	13	8
N5	peak, full, complete, touch, intense, density, abounded, remnants	10	8
T2	finish, started, introduction	10	3

To answer the question if an to what extent metaphorical display differs in terms of the source domains that help shape meaning of the lexical metaphors in wine reviews, expert wine reviews used more personification. When domains B1 (Physical body), S1 (Social actions), A9 (Getting and receiving), Q2 (Speech acts), and X5 (Human attention) are combined into the integrated metaphor ***WINE IS AN INTRIGUING PERSON WITH SOLID SOCIAL SKILLS***, the combined frequency increases to 127 occurrences, exceeding the 121 occurrences associated solely with physical properties (O4). Contrastingly, non-expert L2 wine writing, writers opted for meaning related to physical properties or attributed of materials more, followed by markers of time and quantities. This distribution suggests that personification is less prominent in lingua franca English than in expert writing in Standard English. A complete overview of domain frequencies is presented in Table 24 (Appendix 12). Across both corpora, however, wine is most often characterised through the attribution of physical properties, corresponding to the conceptual metaphor **WINE IS A PERSON WITH A PHYSICAL BODY**.

Figurative language use: Metonymies

To answer the question if and to what extent figurative language use, and metonymy specifically, differs between experts and non-experts between platforms. This section examines patterns of metonymic usage in the two wine review datasets. Prior research (e.g. Croijmans, 2020) already showed that expert wine writing is lengthier than non-expert wine writing. When examining the headwords and if and how they are modified, it can be observed that expert wine writing involves lengthier metonymies that consist of POS chunks, which are more than one lexical unit that is modified by other POS.

Table 11. Top 10 of **Metonymies in Wine Enthusiast** Reviews [experts]

WE headwords	Metonymy combinations	Headword count
Fruits	black-hued fruits (1x), brambly fruits of the wood (1x), fruits (2x), orchards fruits (1x), ripe black fruits (1x), roasted fruits (1x), white fruits (1x), wild red fruits (1x)	9
cherries	Rainier cherries (1x), cherries (1x), dried cherries (2x), macerated cherries (1x), red cherries (2x), sour cherries (2x)	9
Spice	baking spice (1x), dusty spice (1x), spice (4x), spice infused (1x), spice infused finish (1x)	8
Fruit	Maresh fruit (1x), black fruit (1x), dried fruit (1x), fruit (3x), macerated fruit (1x), tart fruit (1x)	8
Cherry	Bing cherry (1x), black cherry (3x), cherry wood (1x), dark cherry (1x), medicinal cherry (1x)	7
Plum	plum (1x), black plum (2x), plum skin (1x), red and black plum (1x), red plum (1x), yellow plum (1x)	7
Herbs	dried herbs (1x), fresh herbs (1x), herbs (2x), mixed wild herbs (1x), wild herbs (1x)	6
Lemon	lemon (4x), lemon butter (1x), lemon rind (1x)	6
Apple	Pink Lady apple (1x), green apple (2x), tart green apple (1x), yellow apple (2x)	6
Violet	violet (1x), dried violet (1x), violet (3x)	5

Table 12. Top 10 of **Metonymies in Vivino** [non-experts]

VIVINO headwords	Metonymy combinations	Head word count
blackberry	blackberry (9x)	9
fruit	black fruit (3x), dark fruit (2x), dark red fruit (1x), fruit (1x), juicy fruit (1x), red fruit (1x)	9
oak	oak (8x), oak toast (1x)	9
vanilla	vanilla (8x)	8
apple	apple (3x), apple tart (1x), baked apple (1x), green apple (1x), red apple (1x), yellow and green apple (1x)	8
chocolate	chocolate (5x)	5
cherry	Black cherry (2x), cherry (3x)	5
leather	leather (5x)	5
tobacco	earthy tobacco (1x), tobacco (4x)	5
pepper	black pepper (1x), green pepper (1x), pepper (3x)	5

Tables 11 and 12 present the types of metonymy, categorized by headwords and their accompanying modifiers across different parts of speech. **Examples.** In L1 expert discourse fruit is modified as follows: *black-hued* fruits, *brambly fruits of the wood* (1x), *orchards* fruits (1x), *ripe black* fruits (1x), *roasted* fruits (1x), *white* fruits (1x), *wild red fruits* (1x). Contrastingly, In L2 non-expert discourse fruit is described as *black* fruit (3x), *dark* fruit (2x), *dark red* fruit (1x), *juicy* fruit (1x), *red* fruit (1x). Cherry is an even clearer example. In L1 expert discourse it is modified as: *Bing* cherry (1x), *black* cherry (3x), *cherry* wood (1x), *dark* cherry (1x), *medicinal* cherry (1x). In L2, non-expert discourse: *black* cherry. Consequently, the Chi-square results showed that statistical differences were found between platforms concerning the use of metonymies in reviews($\chi 2(1) = 20.57$).

Text-Based Wine wheel of Coijmans et al. (2020): a platform comparison

To answer the question if and to what extent language use, including literal language, differs between experts and non-experts between platforms. This section examines patterns of specialized lexis or wine speak in the two wine corpus samples of the two platforms. Croijmans et al. (2020) created a research-based and *text-based wine wheel*. As the previously discussed three categories of lexical units could appear in wine wheels, the following three dependent variables were compared to the list to determine to what extent overlap could be found with the aim of answering the first research question. These lexical units include: literal wine terms, lexical metaphors, and metonymies. It was found that approximately 20% of single lexical units overlap with the *Text-based wine wheel* (Croijmans et al., 2020), occurred in both platforms. As overlap was found in equal proportions, no statistical difference was found between the two analyzes corpus samples. See table 13 for analyzed lexical units of both corpus samples across platforms. The Chi-square results showed that no statistical differences were found between platforms concerning the inclusion of the wine list vocabulary in reviews.

Table 13. Lexical units overlapping wit text-based wine wheel (Croijmans et al., 2020)

In Wine List 2020	Wine Enthusiast [experts]	Vivino [laymen]
Present	296 (21%)	190 (20%)
Absent	1117 (79%)	770 (80%)

Figurative language use: Similes

To answer the question if and to what extent figurative language use, and similes specifically, differs between experts and non-experts between platforms, this section examines patterns of simile usage. In the preceding sections, the wine reviews were systematically analysed for the presence two dominant types of figurative language in wine writing: lexical metaphors and metonymies. Given that a wider

range of figurative expressions is typically found in discourse, the presence of similes was also anticipated. However, only two instances were identified in each corpus and a statistical comparison would not be feasible. Examples are provided in Table 10. However, the Chi-square results showed that no statistical differences were found between platforms concerning the use of similes in reviews.

In the WE corpus sample, more complex similes were observed. In the first example, two similes are combined: the wine's nose is likened to **a retired sailor**'s old leather trunk, which is further described as carrying the scents of tobacco, vanilla, dried fruit, and dark chocolate, with a hint of saline. The specificity of these sensory details vividly evokes both the trunk and its owner, enabling the reader to imaginatively reconstruct olfactory impressions, including the saline note associated with the tasting experience. The second simile extends this figurative imagery by linking other phases of the tasting process to the trunk's owner. In another WE example, the wine's acidity is compared to grapefruit through a variant of the "as" construction. Although no statistically significant differences were found between the platforms and the number of similes, considerable complexity in the types of simile in expert discourse was observed as it seems to produce more vivid and immersive portrayal of wine experience.

Table 14. Similes in WE and VIVINO

Wine review platform	Similes
WE	The nose is a retired sailor's old leather trunk, smelling of the tobacco, vanilla, dried fruit and dark chocolate once contained within, with a hint of saline. **Like the trunk's owner**, the palate is mature but not boring, with continuing notes of vanilla and fruit, but umami undertones, ominous tannins and searing acid provide contrast. Single lexical units in this simile: 'nose, retired, sailor, old, leather, trunk, smelling, trunk, owner'
WE	This is a sleeper pick of the Oregon rosé season. Bright and lively aromas of guava, plumeria flowers, grilled pineapple and fresh-cut grass are a tropical delight. **The acidity** is almost as tangy **as** the **Ruby Red grapefruit** flavor that dominates the palate. Pair this with SPF30 and a pair of Persol shades. Single lexical units in this simile: 'acidity, almost, as, tangy, grapefruit, flavor, dominates, palate'
Vivino	Tasted at K&L SF Champagne Tent Event. Lemon curd, pear, baked apple, brioche, creme brûlée, ginger, nutmeg, star anise, hazelnut, vanilla**. This is like** an elegantly **oaked white Burgundy with bubbles**. Full-bodied. Creamy structure. Rich. Hedonistic. Single lexical units in this simile: 'elegantly, oaked, white, bubbles'
Vivino	Merci @[1|44353429|Jane Campbell] 4 The Moms Day Special. Color :Crimson King Norway Maple leaf on a rainy fall day;pure gothic romance. The scent is sharp, wet wild grass fields,with masculine pheromones of wet rocks and ions. first sip, it **feels like** what I would describe as **"pongee traveling down the river"** smooth and wetting well the palate. The first thing I taste is "crowberry" a small scarlet berry with black smoked cherries & pepper. End: leaves me with tastes of clay making me dream of an Andes sunset. Single lexical units in this simile: 'describe, pongee, traveling, river'

In the Vivino corpus, one simile compared a wine to another Burgundy. In the second example e.g. target sentence: "**feels like** what I would describe as **"pongee traveling down the river"**, the wine is likened to a thin, soft fabric of Chinese origin woven from raw silk, evoking the image of the wine moving smoothly down the throat in a silky manner. Lexical metaphors were also present in this comparison, consistent with the overlap commonly observed in creative writing.

Figurative language use: miscellaneous

To answer the question if and to what extent figurative language use, and similes specifically, differs between experts and non-experts between platforms, this section examines patterns of the remaining instances of figurative language usage. The remaining figurative language types were consolidated into a single analytical category, serving as an inclusive classification for diverse figurative and linguistic expressions employed in wine writing. This category encompasses multi-word POS, lexical chunks like phrasal verbs, and formulaic expressions such as idioms and fixed phrases. Tables 15 and 16 present five representative examples from each corpus, showing that the Vivino dataset contains 12 such lexical chunks and phrases, whereas the Wine Enthusiast corpus contains 42. A detailed analysis of these expressions is provided in Appendix 15. Due to their divergence, these instances were only treated anecdotally to illustrate what was encountered in wine reviews.

Table 15. Five examples of idioms, phrases, and phrasal verbs in **WE** and their contextual meaning

WE	Idioms, phrases, and phrasal verbs | **contextual meaning**
connect the dots	The act of joining printed dots while using a pen or pencil to trace them to reveal a picture. This Rosé can connect the dots for many wine drinkers.
come on strong	Idiom: to be very forceful or too forceful in doing something social. Here, it involves the wine's tannins to make an assertive first impression.
set the stage for something	To make it possible for something else to happen, so to create the context for subsequent flavours.
opening onto	Something that provides a direct entrance or view to another space, such as a room, area, or place. How warmth and spiciness open the door to the palate.
light-hearted	Describes food that is easy, informal, not heavy. "It's the perfect casual sipper, either on its own or with any light-hearted meal."

A WE example is the phrase '*to connect the dots'*. Joining printed dots while using a pencil to trace them that reveals a picture, it portrays an image of how the entire picture is depicted through systematic analysis of the wine reviewed. This is done in the target sentence:

"This Rosé can ***connect the dots*** for many wine drinkers."

Grammatical choices in WE reviews allowed for a further continuation of the conceptual metaphor HUMAN BEING, the source domain that seems to frame the meaning. In the review, the wine, and Rosé specifically, is placed in the subject position, which is a position that is canonically reserved for people or objects. However, as modal verb *can* is used in the second position of the sentence, it indicates that a person's ability. Here, the contextual source domain at play here is HUMAN BEING, which related to the wine described here. It could be argued that conceptual metaphor WINE IS A PERSON doing something, applies here. The personified wine is solving a puzzle to help humans. Notably, active voice was used, indicating that the wine is the agent, a person who is able to act in a social way for its discursive audience. In another WE example, '*come on strong'*, an idiom was used to indicate that a person is much too forceful in a social setting. This has quite a negative connotation and implies a sense of perceived discomfort. In the target sentence, the wine's aromas are presented as making an aggressive first impression. Finally, in WE expert writing, aromas are also presented as people who are '*setting the stage'* for something to happen. The wine's aromas in the target sentence in the review facilitated the other aromas to be observed or appreciated.

As research has indicated (e.g. López-Arroyo & Sanz-Valdivieso, 2022), lengthier choices may also facilitate wine and its aromas to be presented in a way human beings who are well-liked are treated socially, or how human beings are treated when they violate social norms. Relating to them as human beings may help appreciate them more. Systematic analysis of meaning, using quality dictionaries, reveals that said definitions discuss human characteristics; such dictionaries are tools created in the field of Lexicography, as Lopez-Arroyo and Roberts confirmed (2020). Future research could develop methods to systematically analyze large quantities of chunks and phrases in ways MIP or MIPVU can for single lexical units that are lexical metaphors. USAS UCREL can identify phrasal verbs and perhaps multiword POS, but not idioms or phrases.

Table 16. Five examples of idioms, phrases, and phrasal verbs in **Vivino** and their contextual meaning

Vivino	Idioms, phrases, and phrasal verbs | **contextual meaning**
best and top of the line	Highest quality within Californian Cabernets
on the way to its peak	Wine still ascending toward optimum maturity
to rein something in	Fruit richness held in check, like a horse that is held back.
full-bodied	Dense, high-alcohol, full-bodied wine profile that is compared to a person's physical weight
to cellar away	Writer's instruction to the discursive reader due the lack of maturity of the wine. Here, the word cellar is a literal storage verb used figuratively for maturation advice.

A Vivino example is the phrase '*on its way to its peak'*, where the wine is ascending towards optimum maturity, but not there yet, indicating a slight perceived sense of discomfort. Source domain Time and aging is implicitly used here. Another example is '*to rein something in'*, which is the fruity richness in the wine review, like a horse that is forcefully held back. A final example is the phrase '*to cellar away*'. Not only does the writer give an instruction, which is discussed in the next section in more detail, it is also a literal storage verb used figuratively for maturation advice, a phrasal verb.

Communication style: authorial self-positioning

Prior analysis established that wine descriptors and their associated aromatic compounds are typically positioned as focal elements through figurative language, enabling comparative frameworks between sensory observations and communicative goals for articulating post-tasting experiences. Empirical examination, however, indicates that writers also systematically position themselves as central agents within the discourse through identifiable linguistic patterns. Prior studies have confirmed that this shift was observed after Parker's reviews became popular and more influential (e.g. Hommersberg & Paradis, 2014).

RQ4: To what extent do writers include self-authorial statements, language presented in terms of judgement, evaluation, or personal preference or taste that does not directly involve sensory-related or wine-related information across and between L1 and L2 writers and platforms?

Expert discourse transforms static sensory data into dynamic, experientially accessible narrative structures, enhancing reader engagement through systematic anthropomorphic attribution. In contrast, the Vivino sample exhibits more simplified language and strategies, as in examples where the writer states variations of "I detect flavours" rather than implying "the wine performs for me". Analysis of self-authorial positioning mechanisms seems to reveal distinct strategies: four self-positioning strategies

have been identified between platforms This self-positioning occurs across four communicative functions: (1) foregrounding personal tasting experiences, (2) providing evaluative recommendations, (3) directing reader behaviour through imperative constructions, and (4) expressing subjective quality assessments. A Chi-square test showed a significant result between the two platforms and authorial self-positioning in wine reviews ($\chi 2(1) = 19.94$). How writers position themselves in wine reviews differs significantly across platforms.

> **Example 1 [WE]:** A blend of fruit from Margaret River's far south (Karridale), and from the acclaimed Wilyabrup subregion, this limited release Chardy is beautifully lucid and harmonious, with layers of aromas: citrus, roasted nut, flint, seashell and brioche. There's a tangy lemon core to the palate and a crystalline line of acidity that lifts the creamy texture. A saline edge lends interest to the toasty, nuttiness. Poised and long, it's drinking deliciously now, but could ***cellar*** another decade. The best part? It's a bargain for this level of quality.

Wine Enthusiast review 1 shows two strategies, which are the foregrounding of personal tasting experiences in the underlined sentence. It also provides an indirect evaluative recommendation to put it away longer for it to mature. Lexis such as 'drinking deliciously', and 'could cellar another decade' are responsible for this mapping. In example 2 from Vivino (below), extended syntactic structures are used to put emphasis on the aspect the reviewer chose to highlight. This structure is a what-cleft: what I tasted the first time. Clefts violate the canonical word order, used to this end. In the second underlined part of the review, strategies 1 and 2, as discussed in the WE review can also be observed here. While this small sample offers an impression, more systematic research would be required to analyze how reviewers across platforms.

> **Example 2 [Vivino]:** Chocolate, Plums and Cocoa are *what I tasted the first time*. Second bottle little more blackberry seemed to come through. Always a great bottle to open up or ***cellar away*** for a few years.

In terms of style, examples 1 and 2 illustrate differences in number or words in terms of length and grammatical cohesion between lexical items, either optimizing part-of speech usage to seemingly maximize figurative semantic load per lexical unit as can be seen in WE, or economy as in Vivino. In contrast, Vivino reviews, such as examples 2,3 and 6, display a more telegraphic discourse style characterised by systematic omission of function words (e.g. articles, auxiliaries, and verbs) and punctuation. In this context, lexical optimisation prioritises processing efficiency over semantic density,

a feature that may appeal to certain readers or may be a platform characteristic, though this preference or characteristic requires confirmation in future research. Wines may also be perceived and recognized as a lower-quality wine when writing economy is prioritized (e.g. Windsor et al, 2023).

> **Example 3 [Vivino]:** "Two hour decant. Deep dark vibrant magenta color. Minty chocolate, tar, bay leaf, and blackberry on the nose. Smooth, dry palate, with chalky acidity. Firm tannins on the longish finish."
>
> **Example 4 [WE]:** Raspberry, butterscotch and violet aromas lead the way for black-currant, blackberry, caramel, violet, and clove flavors wrapped in subtle acidity. Rugged tannins build in volume and subside into a long-lasting finish. Drink through 2038.
>
> **Example 5 [WE]:** This smooth-textured Chardonnay smells like a honeydew melon drizzled with sea salt. As the wine warms to the touch, a distinct mineral note surfaces. Tangy white grapefruit and ginger flavors mix with lemon butter and basil notes***. I see*** *a lobster roll in this wine's future.*

Expert discourse further incorporates language and communication strategies that guide reader behaviour through imperative instructions, such as "drink now". Self-positioning by the writer is sometimes present, alongside instances of predictive commentary or even fortune telling, such as suggesting suitable food pairings in a humorous manner (Example 5), and evaluative expressions resembling spontaneous speech. The latter is particularly evident in Vivino reviews, where syntactic embedding is frequently absent (Example 6).

> **Example 6 [Vivino]:** Big, rich and sweet. At almost 30 years old this still has lots of life ahead of it. Gorgeous.

These examples illustrate that wine writers may adopt a particular style in which they choose to foreground personal tasting experiences, providing evaluative recommendations, directing reader behaviour through imperative constructions, and express subjective quality assessments. Future research could rigorously examine if and to what extent writers choose opt for such self-authorial positioning and if these communicative tactics are effective in terms of increasing writer credibility or steer consumer behaviour, such as increase purchase intention (e.g. Windsor, 2023).

Large Language Models (LLMs) reliability and accuracy analysis

Various studies have examined the use of metaphors in wine reviews using LLMs, using older versions available at the time. However, no studies have systematically focused on the inclusion of lexical metaphors, using MIP in a strict sense in the newest available version of ChatGPT-5. To date, also no studies have included or compared LLMs suitable for academic and scientific purposes that meet transparency-related requirements. This study attempts to answer if and to what extent locally or otherwise hosted LLMs can be effectively used to systematically analyze such patterns in wine reviews through prompt engineering, achieving results comparable to manual annotation in terms of inter-rater reliability. Generative AI is a broad field of AI focused on creating new content, while a Large Language Model (LLM) is a specific type designed to understand, analyze, and generate human language. To investigate whether locally or externally hosted large language models (LLMs) can be effectively applied to systematically analyse metaphorical patterns through prompt engineering, which involves achieving inter-rater reliability comparable to manual annotation, seven models were benchmarked for their suitability in scaling the classification of lexical metaphors.

Included LLMs. The following LLMS were included: Olmo2:7b, Olmo2:13b, Tulu3:8b, Deepseek-r1:8b, Llama3.1:8b, and GPT – 5. The LLMs and their parameter sizes (model sizes) were reported, except for ChatGPT-5, whose parameter count is undisclosed but presumed to exceed that of the other models. OLMo and Tülu are fully open-source and transparent models, rendering them particularly suitable for academic research and training applications. In contrast, DeepSeek, Llama, and ChatGPT lack comparable transparency. ChatGPT's precise parameter size is undisclosed, although it is substantially larger than locally deployable models and is accessible exclusively as cloud-based systems. Table 15 presents all LLMs that, with the exception of ChatGPT-5, were locally hosted on a personal computer. Figure 15 offers a visual representation of the LLM's reliability and accuracy over 30 reviews of each data sample, i.e. 60 in total.

The procedure. A single, standardised prompt was designed to evaluate the reliability and accuracy of each model in classifying lexical units as either lexical metaphors or non-metaphors in accordance with the Metaphor Identification Procedure (MIP). Reviews were processed independently without model context retention, ensuring that no prior classifications influenced subsequent outputs. Each model received both the wine review text and the part-of-speech (POS) tags for the relevant content words, consistent with the manual annotation procedure. All LLMs analysed an identical dataset comprising 30 Vivino wine reviews and 30 Wine Enthusiast (WE) reviews. Inter-rater reliability was calculated using

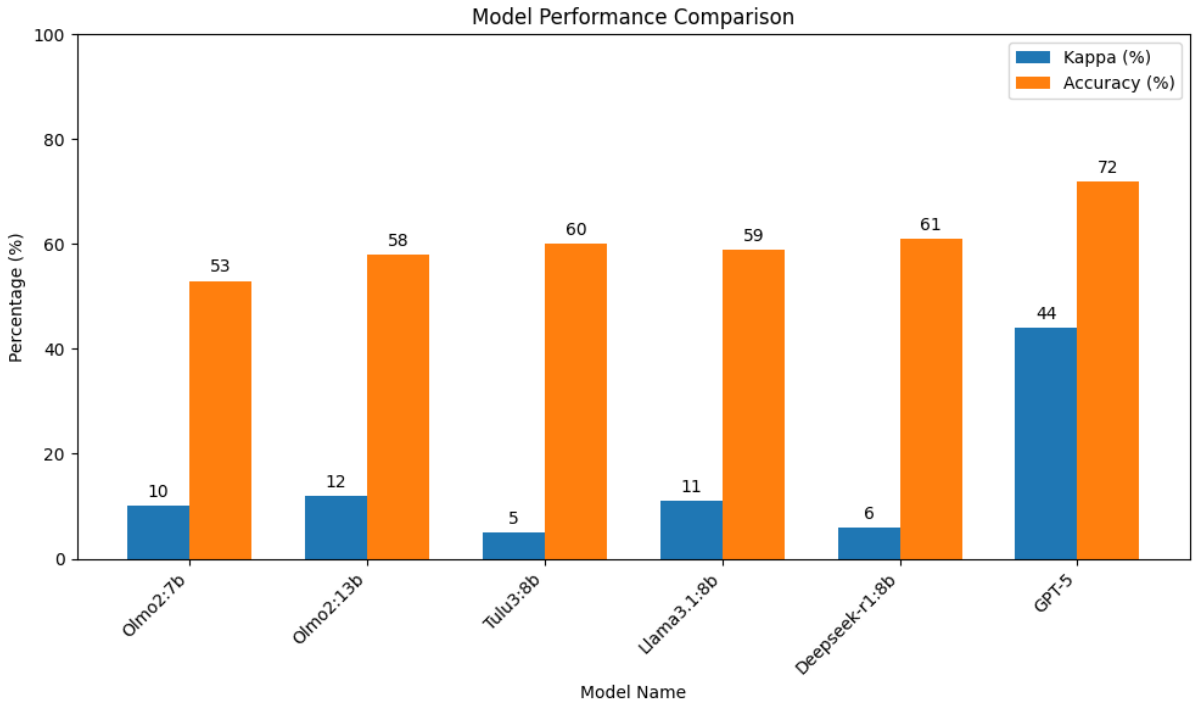
Cohen's κ between Rater 1 (the researcher) and each model. Accuracy was defined as the proportion of exact agreements on metaphorical status (YES/NO) relative to the total number of lexical units in both datasets. Even though Llama and Tulu-3 were unable to process all reviews successfully, and Deepseek-r1:8b failed to classify all available lexical units, results are promising, yet more research would be required to use LLMs to this end. In this part of the present work, sufficient lexical units were processed in total to obtain reliable Kappa results.

The preliminary findings. These show that the Reliability scores are relatively low [i.e. Olmo2:7b: Cohen's κ = .10, Olmo2:13b: Cohen's κ = .12, Tulu3:8b: Cohen's κ = .05, Deepseek-r1:8b: Cohen's κ = .06, Llama3.1:8b: Cohen's κ = .11], lower than the baseline of acceptance, where *no* or *slight agreement* was reached. It should be noted, however, that sufficient reviews were included to generate statistically significant reliability scores. The contextual and basic meaning were well represented and accurate but the LLMs seemed to struggle with the interpretation and interpretating the final classification accurately. What was considerably different were the outcomes of ChatGPT-5 that generated a score of Cohen's κ = .44, which is considered *moderate agreement*. Given that these LLMs are base models, i.e. models that are not fine-tuned or optimized for this particular task, the results of this LLM particularly are promising for the future.

Table 15. Large Language Models (LLMs) reliability and accuracy analysis

LLM Model name	Kappa (0-100)%	Accuracy (0-100)%	Number of Reviews	Number of lexical units
Olmo2:7b	10%	53%	60	1257
Olmo2:13b	12%	58%	60	1228
Tulu3:8b	5%	60%	58	1176
Deepseek-r1:8b	6%	61%	60	1247
Llama3.1:8b	11%	59%	46	792
GPT - 5	44%	72%	60	1230

Figure 9. Large Language Models (LLMs) reliability and accuracy analysis



4 CONCLUSION AND DISCUSSION

Differences in overall language use

The first three research questions (i.e. RQs) are closely connected. The first one asked if and to what differences can be found between L1, expert wine writing on Wine Enthusiast's review platform, and L2, non-expert wine writing on Vivino's platform in terms of language use. [RQs 2 and 3 are discussed in the next section.] In the present work, differences concerning language use were actually found. Expert reviews included more lexical units and more unique ones in their reviews than Vivino. This finding is in line with findings of Croijmans et al. (2020). Expert wine writing in WE proportionally included more nouns and verbs (Windson et al, 2023), rather than adjectives and adverbs in Vivino reviews in the small corpus sample. Expert reviews also included more literal wine terms, such as glass or bottle, than non-expert ones. Such observational patterns may be explained by factors that may have mediated non-expert writing. Findings of Vivino's lower word count and lower number of unique lexical units may point to mediating factors, such as cultural differences in terms of writing economy preferences in non-expert, L2 wine writing on a Global platform, and perhaps platform conventions. When every non-expert

Vivino reviewer uses a limited number of words, other Vivino reviewers may perceive it as a platform rule and may align with such implicit rules to abide by them, possibly signally platform-dependent wine speak. However, future research could perhaps focus on systematically analyzing non-expert reviews for such mediating factors at a larger scale.

To explain the higher word count and use of a higher number of nouns and verbs in expert WE reviews may point to variations in terms of how wines are being presented and described. It points to variations in metaphorical display (i.e. RQ2) vs. the use of concrete taste descriptors (i.e. RQ3), i.e. metonymies. However, it may also point to similar findings in prior research, such as the study of Windson et al. (2023) that has shown a possible and probable correlation between higher price point and verbosity in reviews. Another mediating factor may pertain to L1 and L2 wine writing. When wine writers choose to use as few words as possible to convey their wine drinking experience, it may also be due to possessing a more limited mental lexicon. As Vivino allows reviewers to publish reviews in more languages than English, future research could compare and contrast verbosity in reviews across languages to confirm this hypothesis.

Metaphor-related similarities and differences in wine writing

The second RQ asked if and to what extent figurative language use differed between platforms. The present work found differences in metaphorical display in single lexical units, in line with MIPVU (e.g. Wipf, 2010; Steen et al, 2010). Not only did expert reviews contain a higher word count and higher number of nouns and verbs, expert wine reviews also contained twice as many metaphor-related words than non-expert wine reviews. This may be explained through POS-composition because nouns and verbs may simply carry metaphoricity, compared to adjectives and adverbs. [Such POS may allow for more concrete comparisons through the use of metonymies, explained in the next section of this study.] The second step in the systematic analysis involved identifying the conceptual source domains that shape the meaning in wine discourse through lexical metaphors. Holistically, in wine writing, regardless of the smaller sample size of total number of included reviews in the present study, a total of 2,373 metaphor-related words were identified in the four types of content words across platforms, i.e. nouns, adjectives, adverbs, and verbs. Wine writing, independent of platform, contained 493 metaphor-related words, which accounts for 21 percent of the total number of lexical units that were labelled as 'lexical metaphor'.

The top five of frequently occurring conceptual source domains that formed the underlying structure of meaning in wine reviews included: *materials*, *general & abstract terms*, *time*, *the body*, and *social*

actions & states. When clustering all conceptual source domains of all reviews included across platforms, this study found that metaphors mostly related to WINE IS A HUMAN BEING (60%) vs. wines and its volatile molecules are non-human (40%). It specifically found that ***WINE IS AN INTRIGUING PERSON WITH SOLID SOCIAL SKILLS***, or at least that ***WINE IS A HUMAN BEING WITH A PHYSICAL BODY***. Consequently, the anthropomorphic metaphor seems to frequently occur in wine reviews, which has been identified by many (e.g. Caballero, 2007; Creed, 2016; Ariaans, 2019), and these findings are congruent with such studies. Findings suggesting that materials, such as texture-related vocabulary, would not be included in wine reviews anymore was contested. This was the largest category of conceptual source domains identified in this study, indicating that nuanced language was used by reviewers across the board. However, more research at a larger scale is required to confirm that.

To answer the question related to between-differences concerning platforms, overlap was found related to sub-domains O4 (texture in materials), and B1 (physical body). Examples of lexical metaphors are 'chalky', 'body' and 'palate'. Expert reviews' most frequently occurring conceptual source domains are related to *music*, *general* and *social actions*, such as lexical metaphors: 'harmonious [tone]', 'give', and 'welcoming'. In non-expert reviews, two time-related sub-domains were identified and the one related quantifiable meaning. Examples of identified lexical metaphors with such an underlying source domain in these categories are: 'old', 'new', 'beginning', 'ending', and 'full', and 'density'. Such differences between expert vs. non-expert writing across platforms seems to confirm that sensory-related information may be conveyed figuratively, besides the wine and its aroma being presented as a person in expert wine reviews. In non-expert wine writing, the age of the wine and the wine-tasting stages seem to be central to review writing, which may be figuratively enlivened, as is commonly perceived and typical in wine register. Again, due to the smaller corpus sample size, more research is required to actually confirm this observed pattern.

Metonymy-related similarities and differences in wine writing

López-Arroyo and Sanz-Valdivieso (2024) confirmed that metonymies are commonly used in wine review writing. To answer the third RQ if and to what extent sensory information is described between online review platforms and expert and non-expert wine writing, metonymies were classified less rigorously. Whereas MIPVU imposes the analysis of single lexical units for metaphor-related words, which is a guideline adopted to streamline results obtained using MIP, metonymies occur in chunks and are treated as a separate category or class in line with Wipf's recommendations for analysis (2010) who tested MIPVU for its application in wine register. Consequently, in the present work it was found

significant differences between platforms in metonymy use, and more density in metonymy display was found in L1 expert-wine discourse as opposed to non-expert L2 wine writing. It was specifically found in the present work that headwords in metonymy chunks were lengthier, modified by multiple POS. An example is *brambly fruits of the wood* in WE versus *blackberry* in Vivino, which is a type of bramble fruit. Another observation is that language use in WE tends to be more sophisticated. An example is the distinction between *macerated fruit* versus *juicy fruit*, an adjective-noun combination that is synonymous in terms of indicating that a fruity object is soaked in liquid.

However, the difference is found in terms of *register* that points at L1 vs. L2 level differences concerning higher vs. lower linguistic register. In terms of L2 levels, it would be a classification between C2 and A2: C2, proficiency level language skills vs. A2, basic language skills of CEFR (Cambridge dictionary, 2025; Oxford dictionary, 2025). It should be noted, however, that CEFR's C2 level does not equate native languages levels, but it is generally considered more sophisticated and it roughly resembles what a highly educated L1 user would be able to do in the language (Council of Europe, 2025). In this study, L1 and expert wine writing were found in WE reviews, so such differences in wording may also align with the findings of Windon et al. (2023), who framed the concept of expert wine reviews as a genre using conceptual metaphor: WINE REVIEW IS LINGUISTIC FOREPLAY [to actual wine consumption].

Text-based wine wheel: a platform comparison and ESP training interventions

Prior research identified that wine speak is a collection of two figures of speech (i.e. metaphors and metonymies), and specialized wine terminology. To answer all three RQs related to language use, including literal language, and how it differs between expert-platforms and non-expert platforms, the text-based wine wheel of Croijmans et al (2020) was compared and contrasted to the two corpus samples. Consequently, findings suggest that approximately 20% of single lexical units overlap with this research-based wine wheel in both platforms. However, as the corpus sample sizes of both platforms were relatively small, more research is required to confirm these findings. Future research based on larger corpus samples may also seek to explore how literal wine terms should be defined based on patterns that emerge from such queries.

The text-based wine wheel may just have been the answer to fill the gap identified by López-Arroyo & Roberts (2020), who publish around the same time, and stated that because wheels had not been developed in expert–lexicographer collaboration, wine speak could not be considered standardized, unlike other specialized ESP genres. Problems that emerged as a result of identifying divergence in wine style would be due to the origin in which such standardized wine vocabulary wheels were compiled

(López-Arroyo & Roberts, 2020). Corpus linguistics studies are able to serve the field in this way, as Croijmans et al. (2020) illustrate, and such studies also serve as an accepted means in the field of Applied Linguistics to determine which language to teach in specialized, adult training interventions to prepare for professional endeavours.

Figurative language use in chunks and formulaic language

So far, single lexical units, with the exception of multi-word POS in metonymies, have been discussed, but figurative language use is used more extensively in Wine reviews. Mult-word POS, similes, phrasal verbs, idioms, and phrases are alternative vehicles of metaphor-related words or figurative language use. In the present work, these categories were also identified as they occurred in wine reviews across platforms. To answer the question if and to what extent figurative language use between experts and non-experts between platforms, this section discusses the findings of multi-word vehicles of figurative meaning.

Similes. It was found that similes were not used differently across platforms in terms of number of occurrences. However, when examining the four examples that were present in the 112 reviews, WE reviews contained similes that transferred sensory information in terms of olfactory information (i.e. the sailor's body odor) to the wine's aroma or its acidity. In Vivino, wines were compared to other wines that the wine writer had sampled, or to a travel analogy that is transferred to the sensory experience of the wine's mouthfeel. Future research could analyze what type of similes occur in wine writing at a larger scale. As some overlap was found in terms of metaphorical display within similes, this could be explained by these figures of speech sharing cross-domain mappings (Paradis and Eeg-Olofsson,

2013). While only very few similes were identified in the corpus samples of both corpora, some overlap could be found with the work of Paradis and Eeg-Olofsson (2013), who found that similes were often comparisons between other wines in their corpus.

Miscellaneous figurative language categories. As a wider range and smaller numbers of occurrences, this language was consolidated into a 'bin' category, serving as an inclusive classification for diverse figurative expressions used in wine writing. That metaphor-related words could be identified in these chunks of language was discussed in the 'connects the dots' WE example, where conceptual metaphor WINE IS A HUMAN BEING SOLVING A PUZZLE was at play. In WE expert writing, aromas are also presented as people who are '*setting the stage'* for something to happen. The wine's aromas in the target sentence in the review facilitated the other aromas to be observed or appreciated. It was also

illustrated how grammatical choices and sentence structure likely facilitate such source domain transfer to wine reviews even though more systematic research would be required, either at a larger scale or in terms of more advanced semi-automated tools as only phrasal verbs can be identified using USAS UCREL's conceptual domain tagger. In Vivino's examples sensory information or the wine's maturity were discussed to highlight the uncomfortable or unpleasant experience of the reviewer. If and to what extent negative sentiment or evaluation can be observed across platforms would also be an avenue to be explored in future research.

The examples found in the present work show that lengthier choices concerning figurative use can serve wine reviews in other ways than lexical metaphors and metonymies. López-Arroyo & Sanz-Valdivieso (2022) stated that lengthier choices may also facilitate wine and its aromas to be presented in a way human beings who are well-liked are treated socially, or how human beings are treated when they violate social norms. Relating to them as human beings may help appreciate them more, they argue (López-Arroyo & Sanz-Valdivieso, 2022). According to Windson et al. (2023), lengthier choices may also be chosen by wine writers to indicate that the price point of the wine is higher. Systematic analysis of meaning, using quality dictionaries, reveals that said definitions discuss human characteristics; such dictionaries are tools created in the field of Lexicography, as Lopez-Arroyo and Roberts confirmed (2020). Future research could develop methods to systematically analyze large quantities of chunks and phrases in ways MIP or MIPVU can for single lexical units that are lexical metaphors. USAS UCREL can only identify phrasal verbs and perhaps multiword POS to date.

Figurative meaning transferred through lexico-grammatical choices

To examine the linguistic mechanisms and semantic functions in this wine review, the initial procedure of analysing only single lexical units (as in the MIP approach) was adapted to include multiple lexical units in the present work by analyzing them sequentially: first lexical metaphors and then other types of figurative language. Specifically, lexical chunks and phrases were identified, with dictionary consultation again supplementing the analysis. In wine discourse, multi-word POS, phrasal verbs, idiomatic expressions, and fixed phrases seem to provide syntactic frameworks that position aromatic and sensory information in subject positions within sentences. Their grammatical positioning seems to facilitate the transfer of human contextual associations typically linked to these constructions onto wine components and sensory experiences, but larger-scale research would be required to confirm this hypothesis.

Nevertheless, the identified linguistic structures seem to reveal a systematic pattern in which sensory elements assume grammatical agency rather than serving solely as objects of perception. And, as earlier research in which modes of styles were discussed, this syntactic repositioning seems to transforms wine components from passive sensory targets into active participants in the discourse, thereby generating anthropomorphic attribution through grammatical means. More systematic analysis of this particular 'bin' of figurative language use is required to further explore and confirm this hypothesis. The following Wine Enthusiast review demonstrates the integration of multiple figurative language types discussed in the preceding sections:

> *Aromas of brambly fruits of the wood*, *bittersweet chocolate* and **hints** of *thyme*, *lavender* and *sage* ***set the stage*** for *cassis*, *blackberry*, *mocha*, *violet* and **dried** *Mediterranean herb* flavors. **Plush** tannins **come on strong** and then **vibrant** acidity **kicks in**, **lingering** on the **palate** along with *berry* and *chocolate* **notes**.

To identify additional figurative language types in wine writing and examine their semantic functions in discourse construction, lexical units were categorised as multi-word chunks, while individual lexical items were analysed contextually within the established lexical metaphor framework. Dictionary consultation was used to verify linguistic classifications. In wine discourse, phrasal verbs and idiomatic expressions function as syntactic structures that position aromatic and sensory information in subject positions. This grammatical arrangement facilitates the transfer of human-associated contextual meanings, typically linked to these constructions, onto wine components and sensory experiences.

> **Example 1 [WE]:** "On the palate, a vibrant acidity keeps those fruits **front and center** throughout the length, while the sandy tannins add a welcoming texture."

> **Example 2 [WE]:** "An unexpected but welcome warmth and spiciness come off the nose of this pale-pink rosato **opening onto** a palate that's absolutely alive with acidic citrus, the metallic tang of coins and the saline notes of crushed rocks and seabreezes."

Analysis of figurative positioning mechanisms seems to reveal distinct strategies for sensory prioritisation. In the first example, fruity characteristics are foregrounded within the evaluative framework through the use of a spatial metaphor and adverb ("front and center"). In the second example, spatial conceptualisation is applied to create direct cognitive access to experiential domains that parallel physical environments. This discourse strategy frames warmth and spiciness as

metaphorical facilitators, providing conceptual entry into the palatal experience and establishing a kinesthetic pathway for sensory engagement.

The corpus sample examples of both platforms illustrate that figurative language use combined with grammatical choices, concerning voice, sentence type, subject position, modal verbs, and using phrases, seems to facilitate semantic transfer in which human characteristics and behavioural patterns are attributed to wine components and to the molecules responsible for sensory perception. Such lexico-grammatical choices have also been observed by researchers such as Lopez-Arroyo and Roberts (2020). These instances, therefore, possibly illustrate anthropomorphic attribution in wine description.

Bell and Moran (2020) discussed that review styles can be minimalist vs. romantic. Consequently, variation in figurative language between L1 and L2 wine writers across platforms was found in the present work, albeit in a relatively small sample size. Consequently, figurative language use seems to facilitates the transfer of human characteristics or behaviour onto the object being described and discussed in reviews. In line with Basturkmen (2025), current pedagogical approaches in English for Specific Purposes (ESP) place emphasis on raising learners awareness of linguistic choice, which in professional contexts prioritizes written genres. In ESP for wine writing course design, such insights can be incorporated into adult learning interventions to help wine writers prepare for wine writing and professional writing endeavours.

Communication style: authorial self-positioning

To answer RQ4 to what extent writers include self-authorial statements and if differences can be observed between expert and non-expert platforms, this study found that such differences are present. Empirical examination, however, indicates that writers also systematically position themselves as central agents within the discourse through identifiable linguistic patterns, and the example of Parker was discussed (e.g. Hommersberg & Paradis, 2014). In this study, it was found that expert discourse seems to transform static sensory data into dynamic, experientially accessible narrative structures, enhancing reader engagement through systematic anthropomorphic attribution. In contrast, the Vivino sample exhibits more simplified language and strategies, as in examples where the writer states variations of “I detect flavours” rather than implying “the wine performs for me”. Consequently, analysis of self-authorial positioning mechanisms seems to reveal distinct strategies: four self-positioning strategies have been identified between platforms. This self-positioning occurs across four communicative functions: (1) foregrounding personal tasting experiences, (2) providing evaluative recommendations,

(3) directing reader behaviour through imperative constructions, and (4) expressing subjective quality assessments.

Expert L1 reviews, as illustrated, show two strategies, which are the foregrounding of personal tasting experiences in the underlined sentence. It also provides an indirect evaluative recommendation to put it away longer for it to mature. Lexis such as 'drinking deliciously', and 'could cellar another decade' are responsible for this mapping. Non-expert L2 reviews, however, show extended syntactic structures are used to put emphasis on the aspect the reviewer chose to highlight, such as what-clefts. While this small sample offers an impression, more systematic research would be required to analyze how reviewers across platforms. In line with Herdenstam (2004)'s analysis of the two modes of wine reviews, which can be analytic or synthetic, examples in this study illustrate differences in number or words in terms of length and grammatical cohesion between lexical items, either optimizing part-of speech usage to seemingly maximize figurative semantic load per lexical unit as can be seen in expert L1 wine reviews, or economy as in non-expert L2 reviews. In contrast, non-expert L2 reviewers seem to adopt a more telegraphic discourse style characterised by systematic omission of function words (e.g. articles, auxiliaries, and verbs) and punctuation. In this context, lexical optimisation seems to prioritise processing efficiency over semantic density, a feature that may appeal to certain readers or may be a platform characteristic, though this preference or characteristic requires confirmation in future research. Alternatively, wines may also be perceived and recognized as a lower-quality wine when writing economy is prioritized (e.g. Windsor et al, 2023).

Expert discourse further incorporates language and communication strategies that guide reader behaviour through imperative instructions, such as "drink now". Self-positioning by the writer is sometimes present, alongside instances of predictive commentary or even fortune telling, such as suggesting suitable food pairings in a humorous manner, and evaluative expressions resembling spontaneous speech. The latter is particularly evident in non-expert L2 wine reviews, where syntactic embedding is frequently absent. The examples found in the present work illustrate that wine writers may adopt a particular style in which they choose to foreground personal tasting experiences, providing evaluative recommendations, directing reader behaviour through imperative constructions, and express subjective quality assessments. Future research could rigorously examine if and to what extent writers choose opt for such self-authorial positioning and if these communicative tactics are effective in terms of increasing writer credibility or steer consumer behaviour, such as increase purchase intention (e.g. Windsor, 2023).

ESP course design implications for expert wine writing and non-expert wine writing

The fifth research question concerns to what extent the implications of corpus analysis for ESP practices and research could be determined based on the present study for L1 expert writing and L2 non-expert writing for online review platforms. According to Basturkmen (2025), current pedagogical approaches in English for Specific Purposes (ESP) place emphasis on raising learners awareness of linguistic choice, which in professional contexts prioritizes written genres. Despite this focus on register and genre, less attention has been given to the role of figurative language in specialised registers, an omission that is particularly relevant in professional domains such as wine writing. Consequently, the present work examined the presence of the most commonly observed figures of speech in wine writing, which are lexical metaphors and the conceptual source domains that shape them in discourse, and metonymies which allow for a more concrete comparison of taste and other sensory information with concrete objects, such as brambly fruits. It used MIP with a MIPVU adjustment to ensure a reduction of subjectivity concerning the analysis of single lexical units, and analyzed multi-word chunks, idioms, and phrases separately. Both systematic, rigorous analysis procedures were applied, as well as more qualitative approaches to conducting research. It was found that expert L1 writing and non-expert L2 writing differ across platforms and that grammatical choices and other figurative language facilitate the transfer of the anthropomorphic source domain mapping to wines and their volatile molecules. Overlap between the text-based wine wheel and the language in the four dominant content words was also found in this study. These finding allow for a differentiation between expert L1 and non-expert L2 learner audiences.

While others (e.g. Herdenstam, 2004) have discussed that divergence of styles may be due to modes of wine review writing, more research would be required to determine if and to what extent modes are either analytic or synthetic as discussed. Analytic description isolates the sensory dimensions of wine sight, smell, taste, and touch and represents them through established terminologies intended to facilitate communication. The goals of such a mode is to describe these elements independently. Herdenstam (2004, p. 70) contends that such separation is only partially attainable, given the inherent constraints of human perception and the interdependence of the sensory modalities (Croijmans & Majid, 2016). By contrast, synthetic description aims to convey the integrated sensory experience in holistic terms, frequently using analogy or associative expressions. Herdenstam (2004, p.78) shows that professional tasters may use the same synthetic expression to denote different experiences, reflecting their individual training or interpretive frameworks, none of which can be deemed unequivocally correct or incorrect. In this work, it was confirmed that lexical metaphors and metonymies are used to this end.

Importantly, Herdenstam (2004, p.79) concludes that a strong focus on analytic detail tends to obscure or diminish the synthetic aspects of wine perception. Consequently, while it may be assumed that lexical metaphors could serve the second, synthetic mode, it is assumed that metonymies are most frequently chosen by wine writers as a figure of speech to describe aroma in wine reviews. Both were found and used differently across platforms. However, what was also found is a 20 percent overlap between the research-based wine wheel (Croijmans et al., 2020) in the two corpus samples, including the types of language frequently associated with wine writing is within the scope to determine how language is used across platforms.

In the present work, pre-analytical preparation of the Vivino corpus required extensive data cleaning; however, orthographic irregularities such as inconsistent spacing and capitalisation were retained, as these features are consistent with English as a lingua franca usage patterns. The examples analysed from Vivino illustrates this telegraphic style, which more closely resembles unprocessed tasting notes than the fully developed evaluative discourse characteristic of Wine Enthusiast publications. This stylistic divergence points to the existence of platform-specific discourse communities with distinct communicative norms and expectations, warranting further exploration. Evans (2019, p.42) argued that "the patterns of knowledge representation, and the meaning construction processes that inhere in the mind" are the conceptual structures that lead the way in how writers seem to mentally conceptualize wine and its aromas as language use and communication tactics exposes, which may explain the differences between trained professionals and enthusiastic laymen.

As prior research and figurative language go together, applied linguistics in the field of ESP can incorporated standardized vocabularies for wine evaluation, focus on the structure in which wine tasting notes are composed, and discuss and teach how figurative language use can be used to present the wine and its volatile molecules to its discursive audience. In such ESP training interventions, the text-based wine wheel of Croijmans et al. (2020) can be used discuss wine writing as it encompasses the vocabulary that is actually being used in wine writing and includes lexis that occurs in three well-known standardized vocabularies. Saliently, ESP could also focus on incorporating multi-word POS, and other types of figurative language as well as grammatical choices that facilitate figurative meaning transfer.

The practical implications for English for Specific Purposes (ESP) course design in the context of wine writing and communication would diverge considerably for professional wine writers and wine enthusiasts. Wine writers can generally be classified into three groups: domain experts, critics and specialised journalists, and non-professional writers, such as consumers with an interest in purchasing

and tasting the products (Gluck, 2003). In the present work, two classifications were made: experts vs. wine enthusiasts. Building on this, practical implications for ESP course design are intricately connected to the theoretical underpinnings of the multilevel approach to metaphor proposed by Kövecses (2017). This framework conceptualises metaphor as comprising four interrelated levels, i.e. image schemas, domains, frames, and mental spaces, collectively forming a structured conceptual experience without according hierarchical priority to any single level. Although more empirical research would be required to confirm to what extent the theoretical model holds for figurative language use and metaphoricity specifically in wine writing, it could potentially be useful to discuss in ESP training courses for adult learners.

In the context of wine writing, this model provides a systematic link between observable figurative expressions, their underlying conceptual architecture, and their communicative functions, offering a valuable lens for designing targeted instructional interventions. Needs-oriented corpus-based research shows that the communicative priorities of wine enthusiasts lie in articulating tasting impressions in a spontaneous, often immediate fashion. To meet these objectives, pedagogical approaches should emphasise linguistic economy and accuracy, embedding foundational grammatical principles within the specialised register of wine discourse. Instruction should further cultivate the purposeful use of figurative resources, including metaphors at both lexical and conceptual levels, metonymic formulations, idiomatic patterns, and phrasal constructions. Within a multilevel model of metaphor, the most effective instructional focus is on the more concrete and accessible strata, such as image schemas and conceptual domains, where cognitive processing requirements are minimised and communicative transparency is enhanced. Authorial stance, rhetorical positioning, and audience engagement would remain secondary considerations if addressed at all, as these may not align with the communicative goals or motivations of this learner group, despite having been observed in corpus-based studies over time. Finally, if this group would like to learn how to write like experts, the course requirements of entry to such courses would be WSET-level 3 or higher to ensure that they are essentially already fluent in wine speak to ensure quality control, or be trained in using the text-based wine wheel (Croijmans et al., 2020).

In contrast, WSET Level 4-certified wine professionals typically possess advanced genre knowledge and mastery of wine-related lexis. For these learners, instructional objectives would then focus on developing figuratively dense, conceptually layered descriptions that engage all four levels of Kövecses's model, from schematic image schemas to nuanced mental space scenarios. This would involve training

in persuasive and sensory marketing strategies, crafting descriptions that activate multiple conceptual domains simultaneously, and applying rhetorical techniques such as calls to action and humour to deepen audience engagement. The language choices of professional writers often invoke semantic frames that presuppose a shared cultural and linguistic background in Standard English. This is consistent with Goldberg's (2011, 2019) assertion that semantic frames encapsulate rich world knowledge necessary for lexical meaning, and with Langacker's (2009) account of constructional meaning, which may help in facilitating reader comprehension, which future research could explore.

The communicative effectiveness of professional wine discourse is contingent upon the interaction of metaphorical hierarchies, semantic framing devices, and rhetorical strategies. Further exploration in this direction should address how readers perceive the relative density of metaphor and rhetoric in expert and non-expert wine texts and evaluate the influence of these features on consumer decision-making, such as the intention to purchase the reviewed wines after having read said reviews. Such outcomes would provide an empirical basis for the development of ESP curricula and teaching materials that respond to the communicative requirements of diverse learner groups—ranging from L1 to L2 users and from professional to leisure-oriented writers—while remaining sensitive to the cultural norms of their intended audiences. Given that professional wine reviews, often accompanied by numerical scores, are freely accessible online and function as decision-making tools for potential buyers, the integration of multilevel metaphor theory into ESP pedagogy provides a theoretically robust and practically relevant pathway for improving communicative effectiveness in this specialised domain. However, future research on the multi-level metaphor in wine reviews would have to confirm this.

Metaphor detection using Large Language Models to test LLM reliability

As the main limitation of the present work is the smaller sample sizes, it also simultaneously explored state-of-the art Large Language Model (LLM) research. It asked if locally or otherwise hosted LLMs can already be effectively used to systematically analyze patterns in figurative language use in wine reviews through prompt engineering, achieving results comparable to manual annotation in terms of inter-rater reliability. While some recent studies focused on finding conceptual metaphors using MIP in LLM studies (e.g. Pedersen et al., 2025), using ChatGPT-4o, it showed that such studies were not yet able to generate Danish metaphors but could generate English ones. In this study, five LLMs of various sizes were used and compared using MIP, focused on identifying lexical metaphors, and while results were promising, only ChatGPT-5 reliability testing generated 'moderate agreement', which does not yet meet the requirement for reliable annotation, generally.

As only Tulu and Olmo seem to meet the requirements for scientific study, there is a long way to go to be able to conduct LLM-studies reliably. Limitations in this work included the use of a personal computer with limited capacity to host and use such LLMs locally, and more time would be required to optimize prompt engineering.Taken together, these results indicate that although LLMs demonstrate significant potential for the identification and generation of metaphors, substantial challenges remain regarding their sensitivity to contextual nuance, degree of interpretive transparency, and reliability across cultural settings. Current evidence suggests that LLMs are still limited in their capacity to process figurative language in discourse, owing to culturally embedded patterns of human cognition that they imperfectly replicate (Dmitrijev et al., 2024; Kim et al., 2023; Pedersen et al., 2025; Tian et al., 2024; Wachowiak & Gromann, 2023).

The future of LLM research in wine writing, wine wheels and figurative language use

While standardized frameworks for wine description—such as the Wine & Spirit Education Trust's (WSET) tasting forms and wine wheels or corpus-driven resources like the Text-Based Wine Wheel (Croijmans et al., 2020)—offer systematic lexical inventories, they also restrict the multidimensional character of wine by reducing it to fixed taxonomic categories, even when incorporating tropes such as metonymy. Figurative strategies, particularly metaphor and elaborated forms of metonymy, circumvent these constraints by enabling writers to convey sensory impressions that elude conventional codification. Wine discourse further draws on anthropomorphic descriptions, as confirmed in the present study. How such figurative resources can be operationalized to meet the communicative needs of distinct discourse communities remains insufficiently investigated, despite their evident relevance for professional wine writers and industry stakeholders. In this regard, emerging research on large language models (LLMs) appears especially promising, as their scalability may facilitate an even more systematic and efficient detection of figurative patterns and their optimization in communicative practice.

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Appendices 1-16

Appendix 1: Existing research tools

The output of their research yielded significant tools, such as a means to differentiate between the various building blocks of language, i.e. parts of speech (henceforth: *POS*) in a semi-automated POS-tagger (Rayson, 2008). Likewise, to enable researchers to differentiate between conceptual domains in the quest to identify and label conceptual domains, the USAS-UCREL tagset and a semi-automated tagger were created to differentiate between conceptual metaphors in the various parts of speech in English and other languages (i.e. Rayson et al., 2008; 2024). Finally, over time, and to my knowledge, two metaphor identification methods (Pragglejaz Group, 2007; Steen et al., 2010) were developed to accurately determine through procedures with inclusion and exclusion criteria which words are vehicles for conceptual metaphors. Such methods all facilitate the retrieval of more meaningful, empirical data to capture the complex reality to demonstrate the power of language use in how it shapes meaning in reality and discourse.

While every scientifically developed method has it advantages and limitations, the original method (Pragglejaz Group, 2007) would be most appropriate given the requirements to create relatively objective conditions for the purpose of obtaining reliable, empirical data on metaphorical display. The main reason for this is that inter-rater reliability is not guaranteed for the Metaphor Identification Procedure of the Dutch *Vrije Universiteit of Amsterdam* (Steen et al, 2010; 2018), and prior research has shown that MIP would also be appropriate to use, especially when adding the USAS UCREL semi-automated tagger for Conceptual Source Domains similarly to how it was applied in my own prior, exploratory, quantitative research on metaphorical display in North American print wine advertisements (Ariaans, 2019). What would be interesting to explore is the extent to which lexical metaphors would be classified in similar ways as research findings of prior research suggest (Creed, 2016; Ariaans, 2019), and if the number of lexical metaphors used would differ between North American advertisements (Ariaans, 2019), and North American wine reviews.

Appendix 2: THE USAS CATEGORY SYSTEM, (Archer et al., 2002, p. 2) 21 discourse fields

A general and abstract terms	**B** the body and the individual	**C** arts and crafts
E Emotion	**F** food and farming	**G** government and public
H architecture, housing, and the home	**I** money and commerce in industry	**K** entertainment, sports and games
L life and living things	**M** movement, location, travel, and transport	**N** number and measurement
O substances, materials, objects, and equipment	**P** Education	**Q** language and communication
S social actions, states, and processes	**T** time	**W** world and environment
X psychological actions, states, and processes	**Y** science and technology	**Z** names and grammar

Appendix 3: THE USAS CATEGORY SYSTEM | USAS Semantic tagset, (Archer et al., 2002, p. 2)

A GENERAL & ABSTRACT TERMS
A1 General
A1.1.1 General actions, making etc.
A1.1.2 Damaging and destroying
A1.2 Suitability
A1.3 Caution
A1.4 Chance, luck
A1.5 Use
A1.5.1 Using
A1.5.2 Usefulness
A1.6 Physical/mental
A1.7 Constraint
A1.8 Inclusion/Exclusion
A1.9 Avoiding
A2 Affect
A2.1 Affect: Modify, change
A2.2 Affect: Cause/Connected
A3 Being
A4 Classification
A4.1 Generally kinds, groups, examples
A4.2 Particular/general; detail
A5 Evaluation
A5.1 Evaluation: Good/bad
A5.2 Evaluation: True/false
A5.3 Evaluation: Accuracy
A5.4 Evaluation: Authenticity
A6 Comparing
A6.1 Comparing: Similar/different
A6.2 Comparing: Usual/unusual
A6.3 Comparing: Variety
A7 Definite (+ modals)
A8 Seem
A9 Getting and giving; possession
A10 Open/closed; Hiding/Hidden; Finding; Showing
A11 Importance
A11.1 Importance: Important
A11.2 Importance: Noticeability
A12 Easy/difficult
A13 Degree
A13.1 Degree: Non-specific
A13.2 Degree: Maximizers
A13.3 Degree: Boosters
A13.4 Degree: Approximators
A13.5 Degree: Compromisers
A13.6 Degree: Diminishers
A13.7 Degree: Minimizers
A14 Exclusivizers/particularizers
A15 Safety/Danger

B THE BODY & THE INDIVIDUAL
B1 Anatomy and physiology
B2 Health and disease
B3 Medicines and medical treatment
B4 Cleaning and personal care
B5 Clothes and personal belongings

C ARTS & CRAFTS
C1 Arts and crafts

E EMOTIONAL ACTIONS, STATES & PROCESSES
E1 General
E2 Liking
E3 Calm/Violent/Angry
E4 Happy/sad
E4.1 Happy/sad: Happy
E4.2 Happy/sad: Contentment
E5 Fear/bravery/shock
E6 Worry, concern, confident

F FOOD & FARMING
F1 Food
F2 Drinks
F3 Cigarettes and drugs
F4 Farming & Horticulture

G GOVT. & THE PUBLIC DOMAIN
G1 Government, Politics & elections
G1.1 Government etc.
G1.2 Politics
G2 Crime, law and order
G2.1 Crime, law and order: Law & order
G2.2 General ethics
G3 Warfare, defence and the army; Weapons

H ARCHITECTURE, BUILDINGS, HOUSES & THE HOME
H1 Architecture, kinds of houses & buildings
H2 Parts of buildings
H3 Areas around or near houses
H4 Residence
H5 Furniture and household fittings

I MONEY & COMMERCE
I1 Money generally
I1.1 Money: Affluence
I1.2 Money: Debts
I1.3 Money: Price
I2 Business
I2.1 Business: Generally
I2.2 Business: Selling
I3 Work and employment
I3.1 Work and employment: Generally
I3.2 Work and employment: Professionalism
I4 Industry

K ENTERTAINMENT, SPORTS & GAMES
K1 Entertainment generally
K2 Music and related activities
K3 Recorded sound etc.
K4 Drama, the theatre & show business
K5 Sports and games generally
K5.1 Sports
K5.2 Games
K6 Children's games and toys

L LIFE & LIVING THINGS
L1 Life and living things
L2 Living creatures generally
L3 Plants

M MOVEMENT, LOCATION, TRAVEL & TRANSPORT
M1 Moving, coming and going
M2 Putting, taking, pulling, pushing, transporting &c.
M3 Movement/transportation: land
M4 Movement/transportation: water
M5 Movement/transportation: air
M6 Location and direction
M7 Places
M8 Remaining/stationary

N NUMBERS & MEASUREMENT
N1 Numbers
N2 Mathematics
N3 Measurement
N3.1 Measurement: General
N3.2 Measurement: Size
N3.3 Measurement: Distance
N3.4 Measurement: Volume
N3.5 Measurement: Weight
N3.6 Measurement: Area
N3.7 Measurement: Length & height
N3.8 Measurement: Speed
N4 Linear order
N5 Quantities
N5.1 Entirety; maximum
N5.2 Exceeding; waste
N6 Frequency etc.

O SUBSTANCES, MATERIALS, OBJECTS & EQUIPMENT
O1 Substances and materials generally
O1.1 Substances and materials generally: Solid
O1.2 Substances and materials generally: Liquid
O1.3 Substances and materials generally: Gas
O2 Objects generally
O3 Electricity and electrical equipment
O4 Physical attributes
O4.1 General appearance and physical properties
O4.2 Judgement of appearance (pretty etc.)
O4.3 Colour and colour patterns
O4.4 Shape
O4.5 Texture
O4.6 Temperature

P EDUCATION
P1 Education in general

Q LINGUISTIC ACTIONS, STATES & PROCESSES
Q1 Communication
Q1.1 Communication in general
Q1.2 Paper documents and writing
Q1.3 Telecommunications
Q2 Speech acts
Q2.1 Speech etc: Communicative
Q2.2 Speech acts
Q3 Language, speech and grammar
Q4 The Media
Q4.1 The Media: Books
Q4.2 The Media: Newspapers etc.
Q4.3 The Media: TV, Radio & Cinema

S SOCIAL ACTIONS, STATES & PROCESSES
S1 Social actions, states & processes
S1.1 Social actions, states & processes
S1.1.1 General
S1.1.2 Reciprocity
S1.1.3 Participation
S1.1.4 Deserve etc.
S1.2 Personality traits
S1.2.1 Approachability and Friendliness
S1.2.2 Avarice
S1.2.3 Egoism
S1.2.4 Politeness
S1.2.5 Toughness; strong/weak
S1.2.6 Sensible
S2 People
S2.1 People: Female
S2.2 People: Male
S3 Relationship
S3.1 Relationship: General
S3.2 Relationship: Intimate/sexual
S4 Kin
S5 Groups and affiliation
S6 Obligation and necessity
S7 Power relationship
S7.1 Power, organizing
S7.2 Respect
S7.3 Competition
S7.4 Permission
S8 Helping/hindering
S9 Religion and the supernatural

T TIME
T1 Time
T1.1 Time: General
T1.1.1 Time: General: Past
T1.1.2 Time: General: Present; simultaneous
T1.1.3 Time: General: Future
T1.2 Time: Momentary
T1.3 Time: Period
T2 Time: Beginning and ending
T3 Time: Old, new and young; age
T4 Time: Early/late

W THE WORLD & OUR ENVIRONMENT
W1 The universe
W2 Light
W3 Geographical terms
W4 Weather
W5 Green issues

X PSYCHOLOGICAL ACTIONS, STATES & PROCESSES
X1 General
X2 Mental actions and processes
X2.1 Thought, belief
X2.2 Knowledge
X2.3 Learn
X2.4 Investigate, examine, test, search
X2.5 Understand
X2.6 Expect
X3 Sensory
X3.1 Sensory: Taste
X3.2 Sensory: Sound
X3.3 Sensory: Touch
X3.4 Sensory: Sight
X3.5 Sensory: Smell
X4 Mental object
X4.1 Mental object: Conceptual object
X4.2 Mental object: Means, method
X5 Attention
X5.1 Attention
X5.2 Interest/boredom/excited/energetic
X6 Deciding
X7 Wanting; planning; choosing
X8 Trying
X9 Ability
X9.1 Ability: Ability, intelligence
X9.2 Ability: Success and failure

Y SCIENCE & TECHNOLOGY
Y1 Science and technology in general
Y2 Information technology and computing

Z NAMES & GRAMMATICAL WORDS
Z0 Unmatched proper noun
Z1 Personal names
Z2 Geographical names
Z3 Other proper names
Z4 Discourse Bin
Z5 Grammatical bin
Z6 Negative
Z7 If
Z8 Pronouns etc.
Z9 Trash can
Z99 Unmatched

Appendix 4: Lexical, conceptual and visual metaphors in advertising

One of the words that was included in this list of specialized lexis compiled by Croijmans (2018) is the word 'crisp'. In a previous master's thesis, I focused on wine advertisements, a related wine writing genre, and explored the extent to which visual metaphors were included, and managed to expose that *crisp* is a lexical metaphor that is used in wine advertising. In that study, it was expected that information about smell and taste would be used as this type of information would typically be found in American wine reviews (e.g. Croijmans, 2018). Likewise, research conducted by Van Mulken et al. (2010) had already shown that similes [i.e. the target and source domain are presented separately], hybrid [i.e. the target and source are merged], and contextual metaphors [either the source or target are visually displayed] are the three types of visual metaphor that are used in advertising. In that experimental design, it was found that such a choice to include visual metaphors can positively affect consumer behaviour, especially when an element of surprise is found in it, such as when a hybrid metaphor is used by advertisers. However, increased complexity may not be and have the opposite result, which would be unwanted in a space where increase revenue is the name of the game. What can be concluded is that a sense of simplicity may generally be appreciated by consumers in the display of visual metaphors.

Considering these salient findings, and even though the probable expectation of olfactory language to be central to wine advertising, such as in other genres of wine writing, it turns out that American wine advertisers typically chose to present wines in wine advertisements as people the readership should get to know, and are specifically introduced as sexy women with allure (Ariaans, 2019), albeit that sensory information is sparingly shared in that genre, such as in the following example of the wine house *Mezzacorona*'s advertisement of white wine, where it seems likely that a visual simile was used; see figure 1: the Mezzacorona advertisement.

Linguistically, lexical unit *crisp* turned out to be a lexical metaphor with the underlying conceptual source domain of WEATHER, i.e. WINE is WEATHER which seems to be a simile: wine is cold like weather and cold like a snowy mountain top. It should be noted that labelling and categorizing wine advertisements and types of metaphor in wine writing was beyond the scope of that study. In the Italian Mezzacorona example, the lexical metaphor crisp is visually displayed through a glass of white wine placed against the backdrop of a white mountain top that would visually transfer the cold sensation onto the wine (Ariaans, 2019). In figure 1, the advertisement, as analyzed in Ariaans (2019), can be seen how the meaning of lexical metaphor crisp also seems to be shaped by the images used in the advertisement as advertising is a multi-modal genre. In this example, the advertiser seemed to have

placed the bottle in a container filled with the brand's white wine. And, at the top of the page, it is seemingly poured into it as it is poured through the Italian mountain top. In line with the definition of simile of Van Mulken et al. (2010, p. 3420), where in Table 1 a car is displayed as a dolphin, the wine being poured into the advertisement, which acts like a container, could be a visual simile comparing the characteristic of the wine that is *crisp* to the snowy mountain top. In this advertisement, WEATHER is the underlying contextual domain of the lexical metaphor crisp and has been identified as such (Ariaans, 2019), i.e. WINE is as cold as a mountain top. As wine literally runs through the image of the Italian Alps, the conceptual domain WEATHER is now visually mapped onto the WINE in the advertisement's body copy. This example attempts to demonstrate how conceptual, visual, and lexical metaphors can help shape meaning in advertisements and wine reviews alike.

Figure 1. 'crisp taste' displayed through wine being poured through snowy Italian mountain tops

How such advertising is received by the readership of the Wine Enthusiast Magazine for connoisseurs is unclear, yet scholars have addressed this research on semiotic visual complexity in Relevance theory, which posits that communicated messaging is optimized in terms of minimum effort required to obtain favourable cognitive effectiveness when processing it (Sperber and Wilson (1995; 1986). Likewise, in empirical research, e.g.: Tanaka (1992), Forceville (1996), and Van Mulken et al. (2005; 2010), it was also extensively studied. While some predicted that increased complexity could possibly affect the reader's willingness to put in the effort to comprehend the message, Van Mulken et al. (2010) predicted that an

element of surprise and perceived pleasure could lead to the expenditure of sufficient effort for the purpose of comprehension and increasing communicative effectiveness. Their research that included three types of visual metaphors (i.e. Similes, Complex, and Hybrid metaphors and a control group, i.e. no visual metaphor) indicated that Similes were less appreciated than Hybrid metaphors, which were most appreciated. However, Hybrid metaphors and Similes were more appreciated than Contextual metaphors or the control, which could partly be explained by the respondents failing to comprehend the message properly in the Contextual metaphor research materials used in the experimental design. As the majority of the respondents' age range was 20 to 40, it is assumed that metaphoricity will be less frequently used by adult wine reviewers in this study who are non-experts as opposed to experts who are trained in wine writing, and certified and selected by platforms, such as Wine Enthusiast Magazine, from which Figure 1 and 2 were collected (Ariaans, 2019).

While it was mentioned that the exploratory analysis (Ariaans, 2019) showed that visual metaphors are not usually related to wine taste, smell, or other usual suspects, it was found that wines are often presented as women the audience should really get to know (i.e. Ariaans, 2019; Packard, 1957), which metaphorically accomplished lexically, conceptually and often visually. The second figure is an example of how wines are presented anthropomorphically; see figure 2: the French print wine ad of the wine brand Les Charmes. In the advertisement, two people of whom one appears to be a woman are seated at a table at a restaurant, while the woman is smiling and appears to be enjoying her company and wine.

An anthropomorphic presentation of wines pertains to the advertiser's choice to display an image of a woman next to the wine (Ariaans, 2019, p.3), as displayed in the image in the Les Charmes advertisement, appears to 'behave in a way people are attracted to', which is the dictionary definition of the word charming (Macmillan dictionary, 2019; Cambridge Dictionary, 2024). The lexical metaphor 'charming' in the tagline 'the most **charming** of Chardonnays' seemed to be transferred from the image to the wine bottle displayed, which is visually larger in size and at the same height as the woman in the image. The woman, similar to the wine, appears to behave pleasantly and is considered to be attractive here, so the conceptual metaphor WINE IS A HUMAN BEING also shapes meaning in this ad in said ways. Consequently, wines can commonly be described as living entities having human character traits, causing the wine to be personified in actuality. As the wine is an inanimate object, and the visual metaphors seems to be transferred to the wine in the same way lexical unit 'charming' does, most basic meaning of the word 'charming', which refers to an actual human being, is different from the way in which it is used here as it does not involve an actual person. For this reason, there is evidence to suggest

that **charming** is a lexical metaphor. Consequently, "the meaning of the advertisement's body copy is that the wine as advertised is an attractive woman, whom is liked by most people" (Ariaans, 2019, p. 3). It also appears that the visual metaphor is a simile, one of the typologies of metaphorical display in advertising (Van Mulken et al., 2010). In line with the definition of Van Mulken (2010), this example could also be interpreted as a visual simile, where the wine's characteristics are being compared to a woman who is charming. All in all, it is likely that similar expressions may be covertly used in wine reviews, which this study attempt to expose in a general sense, and it is the present work's aim to explore if and to which extent the anthropomorphic metaphor would also be identified and found in wine reviews.

Figure 2. Print wine ad of the French wine brand Les Charmes (The Wine Spectator, 2013)

An example of a lexical metaphor without imagery is as follows derived from a wine advertisement: "The inimitable Mionetto style is expressed in this refined Prosecco Brut, with its seductive aromas and flavors of honey, golden apple and white peach" (Food & Wine, 2015). This sentence was derived from a print wine advertisement found in a wine magazine in that study, where the language used centred around flavour, yet its aromas were conveyed as being sexually attractive (Cambridge Dictionary, 2024), i.e. seductive. And, as metaphors allow wine writers to describe wines and their taste and other sensory information in terms of sexual attractiveness, i.e. something incongruent with the basic meaning of wine, it is likely that such lexical and conceptual metaphors are to be found similarly in wine reviews, at least in wine magazines. It remains unclear if this type of metaphoricity is commonly used in North

American wine reviews, where it may be chosen to adopt this as a strategy of personal style or to potentially mimic wine advertising to possibly favourably affect purchase intention, or if descriptions or labels of taste and other sensory experiences are central to the output.

Previous corpus-based research in wine writing and regarding Australian wine reviews by Creed (2016) showed that wines are introduced to its readership in various ways, using conceptual metaphors, while using a combination of tools of (Steen at al, 2010) and the tagger and tagset created by Rayson et al. (2008), a similar approach to Ariaans (2018) mentioned previously. Creed's research (2016) exposed that six metaphoric themes could be identified to present wine in Australian wine reviews, where wine is conceptually and linguistically presented as: AN OBJECT, A THREE DIMENSIONAL ARTEFACT, AN INSTITUTIONAL ARTEFACT, A TEXTILE, A LIVING ORGANISM, and A PERSON. Creed (2016) specifically found that wine educators would label the anthropomorphic metaphor (i.e. WINE IS A PERSON) most often. What is more, she concluded that language and culture both affect how language is chosen to be used by professional wine writers in the genre of wine reviews, and that it affects how both sensory and affective information is conveyed to its readership, i.e. audience. As this study aims to investigate if and to what extent, L1 and L2 wine writing are similar or different and such differences that could point towards cultural differences as Creed (2016) posits would be observed in North American wine reviews as well as in North American print wine advertisements (Ariaans, 2019).

Appendix 5: MIP vs. MIPVU

In response to this call for more research, Steen at al. (2010), for example, argued that CMT did not allow for the precise identification of lexical metaphors, i.e. metaphoric words. As there are more roads that lead to Rome, and various levels of language use can be studied from words occurring individually to those being used in sentence chunks, this study aims to explore an avenue of methodology to gain insight into how such metaphoric words are used in a particular domain and discourse genre to be revisited in more detail in the present work. Several challenges to the analysis of metaphoric words have been identified in previous research, such as the need to define what a metaphor in the Linguistic sense of the word. A lexical metaphor would then also expose and reflect the underlying conceptual metaphor that would shape its meaning (Cameron and Low, 1999; Steen et al, 2010). According to Cameron and Low (1999, p. 79), "the notion of Linguistic metaphor […] is a more definite and concrete identity than a conceptual metaphor". Rather than isolating examples taken from real life and presenting them in a more organic way, such as Lakoff and Johnson (1980; 2003) have done, corpus analytical research would offer a more structured way of collecting and analysing data, where the focus would be on a lexico-grammar approach. In this type of approach, the linguistic structure, where lexis and syntax merge and are seen as two aspects of language use that equally depend on each other similar to how a collar relates to a men's dress shirt; such a shirt, which is part of formal attire, typically has a stiff collar that is tied to lustrous fabric. In the Lexico-grammatical approach, both lexis and syntax could still be analyzed separately but are thus believed to give meaning simultaneously. And, Steen et al. (2010) identified that such discourse analysis indeed would require a more structured approach to analysis than CMT offers.

The main reason as to why a solid, empirical approach to content analysis would be required is that Linguistics research has the main objective and potential to gain a more grounded understanding of cognitive, social, and structural processes of language use to optimize human communicative interaction for various purposes that would meet general requirements, such as reproducibility, by analyzing language use in real life, authentic output. Such structured and valid methods of metaphor identification have been developed over time, such as the Metaphor Identification Procedure (MIP), developed by the Pragglejaz Group (2007), which facilitates the identification of metaphoric words, yet not the underlying concepts that are the conceptual mappings that shape meaning. Although newer methods have been developed by some of the same researchers of this group, which is MIP's method by the Vrije University of Amsterdam (MIPVU), it has some serious limitations of the analysis of other languages, like Dutch. In 2007, a first method for more empirical approach to metaphor identification (i.e. *MIP*) had been

developed by the Pragglejazz group, which was followed by a more detailed study on a larger scale by Steen at al, 2018, where Steen continued his work separate from the Pragglejazz group and developed *MIPVU*.

One of the main differences between MIP and MIPVU is that MIPVU considers the conceptual domains that underpin lexical metaphoricity. To overcome that limitation, MIP is going to be combined with Archer's et al. semantic domain tagger in which semantic domains are going to be identified in reviews on a word level (Archer et al, 2002). As the link between the underlying conceptual metaphor and the lexical metaphor measured through the identification of metaphoric words requires strengthening (e.g. Drost et al., 2013), the present work aims to examine lexical metaphoricity in wine reviews across platforms. While Wipf (2010) and Creed (2016; 2020) have already applied MIPVU to wine discourse and discourse of career counselling and successfully identified the presence of metaphorical display, I used MIP combined with W-Matrix/USAS UCREL semi-automated conceptual domain tagger (Archer et al, 2002; Rayson, 2010) and managed to identify such domains and comparable results for content words (2018). In this study, a similar approach is going to be undertaken. Now that other tools for linguistic analysis have been developed over time, like the USAS UCREL semi-automated domain tagger, the methodological limitation that Steen et al. identified (2010) that pertain to MIP's inability to accurately identify lexical metaphors in a way that would potentially reduce reliability is largely overcome. A limitation of all methods of metaphor analysis would still remain that it could potentially be challenging to reliably treat lexical units that offer various degrees of complexity, and overcoming such problems would require more in-depth analysis than the present work aims to achieve.

As the main aim of this part of the study is to identify lexical metaphors in a general sense, MIP serves its purpose. While MIP allows for the exposure of lexical metaphors in a general sense, it does not specify how to deal with instances that are somewhat ambiguous. To ensure the elimination of bias, MIPVU, a more elaborate procedure to distinguish between types of lexical metaphors, will be consulted (Steen et al., 2010). More specifically, this will be done for 'phrasal verbs' and proper names in the noun-category. Likewise, it was decided to establish a rule in which numbers, names and foreign words were excluded from analysis, and parts of speech that were incorrectly classified as content words by the POS-tagger, such as numbers written in full, are excluded from analysis. Such numbers may also turn out to be incorrectly classified as 'nouns' in the POS-tagger. Finally, names of people, wine types, brands and geographical places were systematically excluded due to observed ambiguity, which was detected in the pre-analytical stage of this study.

Appendix 6: Standard English versus English being used internationally as a Lingua franca

How descriptive language is being referred to or labelled in practice and across scientific disciplines and in output varies quite substantially. For example, although Majid et al. (2018) have mentioned that the language use of respondents in their work involved 'concrete descriptors' versus actual 'vocabulary', these should be analyzed and labeled language somewhat differently, and more in line with Halliday's lexicogrammar method (1994) who believed a wide range of words could easily be connected to grammar because natural language use allows for the interdependence of grammar and vocabulary. The field of ESL and EFL adopted his functional grammar method, which is the gold standard in how 'Use of Language' (Cambridge Assessment) is being taught to adult learners worldwide for communication purposes. To put simply: Halliday's method (1994) helps users of English and other L2 languages, such as Dutch as a Second Language, understand and use the language appropriately and it allows us to functionally parse on a lexical level, i.e. single word level, rather than a phrase-level or syntax level to facilitate an easier understanding of natural language. This is done for the purpose of gaining insight and with the practical benefit of selecting language to aid language learning and language acquisition, the latter is the ultimate aim of ESL and EFL interventions to demonstrate and assess actual acquired language and communication skills of adult learners of the target language. Here that would be wine and international business communications experts seeking to communicate more effectively with wine enthusiasts though language use in wine reviews to boost sales.

When relating the lexicogrammar hypothesis that lexis and grammar are tied together, which is commonly accepted, to how Majid et al. (2018) classify language use, what they have deemed as concrete would still be classified as vocabulary. Such language should actually be seen as metaphoricity: lexical metaphors (i.e. direct and indirect i.e. in line with Steen et al., 2010; 2018) and conceptual metaphors, and following metaphor identification methods, it could expose which types can be observed and identified exactly. In the examples given by Majid et al. (2018), which are 'smells like lemon' versus 'musty', the chunks and individual lexical units can be parsed: 'smells' is a third-person verb that marks verb tense, 'like' a preposition, and 'lemon' a noun. Likewise, 'musty' is an adverb that could either modify the verb smells or smell used as a noun – the actual contextual information is omitted in the article; see table 1 for an overview of a Lexicogrammar approach developed by Halliday (1994).

Table 1. Lexico-grammar also known as 'Use of English' (Cambridge Assessment)

Parsing	verb	preposition	noun	adverb
examples	smells	like	lemon	musty

More specifically, such language can be classified as actual parts of speech, i.e. building blocks of language with which sentences can be formed, where function words are linguistically differentiated from content words. It should be noted that Croijmans (2018) already used parsing in his work in one of his studies where he examined wine jargon used by 13 wine experts. As parsing methods are commonly adopted and applied, it would, therefore, be richer if linguistic terminology were to consistently be used in language and communications research to describe what can actually be observed using Lexicogrammar, where lexis meets grammar, to close the gap between fields of study where communication studies intersects linguistics. Language and communication always go together as we are always communicating when we are using words. In conjunction with lexico-grammatical ways of displaying language, we have seen how fields have started to empirically identify types of figurative language use, such as similes of which the dictionary definition is: a "figure of speech comparing two unlike things that is often introduced by like or as (as in cheeks like roses) compare metaphor' (Merriam-Webster Dictionary, 2024). The example of Majid et al. (2018) 'smells like lemon' could thus be seen as an example of a simile. Now, if and how such similes are being used in wine reviews remains to be seen. If wine were to smell like lemon, a direct comparison is then being made between an object that is not wine and no mapping seems to be made in an abstract way in the same way 'Life is like a box of chocolates' would be a literal comparison. An argument can indeed be made that this would be figurative language that is more concrete and less abstract than life being described as a journey, where stories follow each other up, indicating a more abstract way of describing life, where a conceptual mapping seems to take place. Steen et al. (2011), for example, differentiate between deliberate and non-deliberate metaphors as they consider metaphors to not always involve such a mapping, interestingly. Regardless of the subtypes and exact classification, 'smells like lemon' would still be considered figurative language as it does not literally taste like lemon as the wine probably does not have lemon as an actual ingredient. While labelling which exact types of metaphors (e.g. deliberate/non-deliberate or conscious/unconscious (Gibbs, 2011 a/b; Steen et al. 2011a/b) are included in wine reviews, this study aims to identify the exact words which could be considered metaphorical when following an exact metaphor identification procedure due to time constraints.

What is expected is that particular building blocks of language may be underused, such as adverbs and adjectives, which may make it seem less concrete. It may just be a result of language aptitude may differ between users of English and how language skill and proficiency in mapped on the Council's of Europe Common European Framework of Reference (CEFR) levels (Council of Europe, 2024) may shape a human experience as well. Such levels are translated into course materials that help learners achieve and earn certificates with lifelong validity through formal bodies like Cambridge Assessment and Cambridge ESOL, where ESOL stands for English for Speakers of Other Languages than English, i.e. L2 learners. Over time, it has been observed that adverbs and adjectives are typically underused by adult language users who have a B1 or B2 level of proficiency in productive and receptive skills across the board. Such users of English may use basic adjectives, like 'red' pen and may use words like 'really' in an attempt to amplify the meaning of the red colour but may not use richer alternatives as these words may not be in a person's mental lexicon. Similarly, such findings are expected to be found when analyzing the output of L2, non-expert wine writers of wine reviews on internationally accessible wine review platforms, such as Vivino, unlike native English writers who have been trained and certified in wine writing, who are expected to make other linguistic and communication choices in written discourse in which wines are being described and reviewed.

Table 2. Descriptive vocabulary related to colour to describe a red wine

Descriptive words of colour between CEFR levels	B1	B2	C1	C2
	light red purple dark red	deep red orange red really dark red	ruby crimson garnet	mahogany maroon opaque

More specifically, in the field of English for Specific Purposes, where courses are tailored to the occupational context and setting of the adult learner that are mapped on CEFR levels, such as a writing course for wine reviewers, vocabulary (including metaphors, similes, and idiomatic phrases/expressions) could be discussed that are commonly used to describe a red wine, for example. In line with work of Majid et al. (2018) that pointed out that some languages have more words for colour, it may be interesting to see what words could potentially be used by wine writers to discuss this characteristic of red wine, ranging from independent, lower-intermediate (B1) to upper-intermediate users of English (B2) to advanced, either fully operational (C1) or near-native users of English (C2). See Table 2 for vocabulary to be used to describe the redness of red wine in various ways. What can be seen is that the use of basic vocabulary is being modified and even amplified by using an adverb such as the word 'really'

in B2 output. This is typical for second and third circle countries (Kachru, 1992). Such language choices are a direct result of language skills and aptitude, so it exposes the extent to which productive skills are developed that are based on having solid receptive skills in English. When a person's receptive skills are higher, chances are more likely for the language output to feel more natural and for it to be mapped higher on a CEFR level framework, which is done in intake procedures and placement tests as a part of formative language testing used for skills development, or for summative testing by Cambridge Assessment and the British Council used to determine a score and a level of proficiency. This is all relevant as the Netherlands, for example, is still seen as a country where English is used as a foreign language, albeit that an argument could be made for to determine that it is used as a second one in higher education.

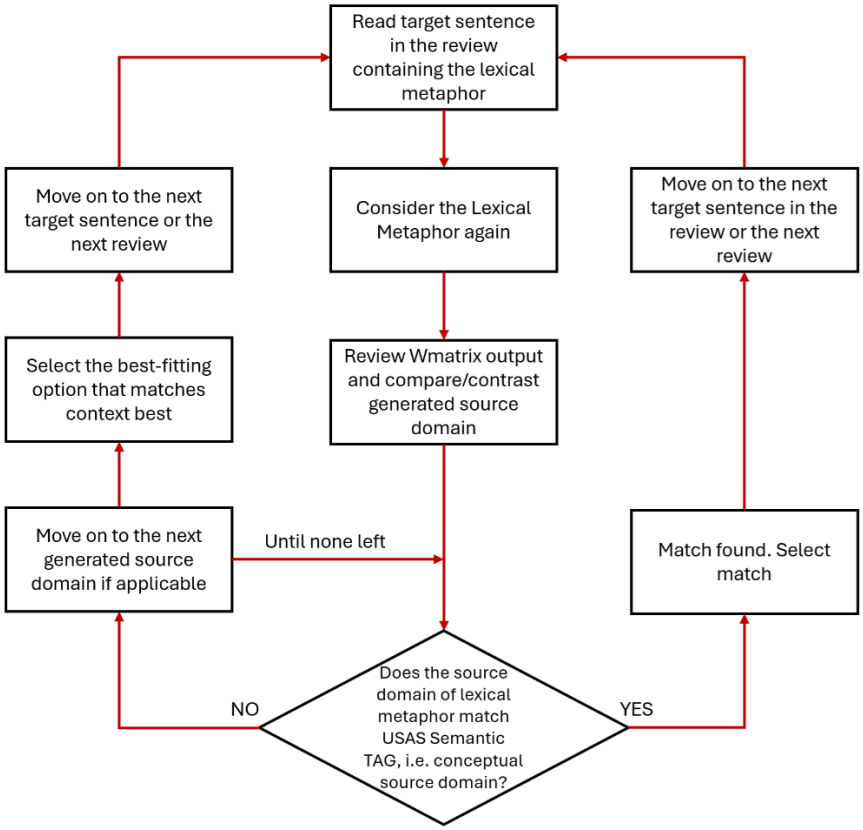
Vocabulary, like grammar, is classified in the category of 'Use of Language' by Cambridge University, which is a historically recognized old-country body whose method to language teaching is historically seen as the gold standard for how language is being taught to ESL and EFL adult learners in line with the CEFR model and its skills levels for how foreign languages are analyzed, classified, as well as how such courses are developed and taught internationally. As can be seen in Table 2, more meaningful, richer, and specific vocabulary exist to capture meaning as can be seen in C1 and 2, i.e. levels of fully operational to near-native/natural language users as Cambridge University and ETS both define the levels in English in line with how the Common European Framework of Reference, the gold-standard of language use in teaching methodology, similar to ETS, responsible for TOEFL in North America – two bodies on two continents who are both authoritative in the field of ESL and EFL and whose methods are used in international classrooms worldwide. And parts of speech such as nouns, e.g. lemon, or adverbs, e.g. musty smell are all 'use of language' and can be identified through parsing, which can be done through the identification of individual words in POS or in chunks on a sentence level, which can now be done semi-automatically through the use of a research tool developed by Rayson (2008) for scientific purposes. While language comprehension is not the focus of the present work, written language can be analyzed. This study, therefore, aims to compare two platforms were English is being used as an L1 by experts, and an L2 by non-experts. On the one hand, language output is analyzed of North American, [by the platform] pre-selected and certified wine connoisseurs and professional and certified wine writers on a platform where wine language is conveyed to an inner-circle country (Kachru, 1992) and English is the first language (i.e. the L1) in the continent of North America, where the readership is North American or international. On the other hand, language output is analyzed of reviewers who are non-experts in a second or third circle country, where English is a second or foreign language on an

international, web-based platform, where such non-expert reviewers exchange reviews on the wines that are being enjoyed by them. In line with this, it would also be likely that the latter has a readership that originates from a second or third circle country in Kachru's model (1992).

Appendix 7: Example of analysis: English wine reviews written by experts

In this section, all examples in this English wine review are given to illustrate how the analysis is being conducted in a systematic way and how it shapes meaning in context as well as how these metaphoric words are connected to shape the review's meaning. This is relevant as a strict procedure is being followed when determining whether or not a lexical unit is a metaphoric word; see figure 3.

Figure 3. MIP, including the WMatrix (USAS UCREL Tagset)



An example of English wine review published in Wine Enthusiast Magazine (2020) can be found below.

Ratti 2019 Serradenari Nebbiolo (Barolo) DOCG, Italy | This wine **expresses** [1] itself with aromas of **wild** [2] cherries, tart red plums, **dried** [3]violets and oolong tea leaves. The **palate** [4] is **elegant** [5] and almost **dances** [6] across the mouth, **leading** [7] with **ripe** [8] red fruits that **give way** [9] to savory flavors of **fresh** [10] bay leaf, clove and balsam. Drink 2025–2040.

[1] Lexical unit '**express**' is a transitive verb written in the third person that has a conceptual underpinning of '*arts and crafts'*. When a human being expresses him/herself, it is done *artistically*, and, here, the wine seems to do so and is presented as a living entity (i.e. the conceptual source domain

PERSON), so *express* is a lexical metaphor, and the wine is presented anthropomorphically (i.e. WINE IS A PERSON).

[2] Lexical unit '**dried**' is a transitive verb in the past tense. The basic meaning of dried is 'being free or relatively free from a liquid and especially water' (Merriam-Webster, 2024). The conceptual metaphor that is underlying here is that of *materials and substance* and *dry* specifically. As the wine does not contain actual violets and oolong tea leaves as actual ingredients, the lexical unit is labelled as a metaphoric word because the tasting experience can be experienced through the dried flowers and tea leaves.

[3] Lexical unit '**palate**' [of the wine as derived from context] is a noun which has the underlying conceptual metaphor of *anatomy and physiology* in line with the word's basic meaning, where the 'palate' is the roof of the mouth separating the mouth from the nasal cavity (Merriam-Webster, 2024). However, the more abstract meaning is a *sense of taste*. When following the finding that the wine is being presented as a person doing something, like having a sense of taste, this word is marked as a metaphoric word.

[4] Lexical unit '**elegant**' is an adjective, where the basic meaning is high grade (Merriam-Webster, 2024), rather than the attractiveness of people or their behaviour (Oxford Dictionary), which is the meaning that seems to apply contextually here. As the basic meaning and the meaning in context are different, and the conceptual metaphor actually frames meaning here in terms of *judgement of appearance* and *beautiful* to be specific (USAS UCREL: semantic tagger, 2024), this lexical unit is marked as a metaphoric word.

[5] Lexical unit '**dances**' is a verb and its basis meaning is to move one's body rhythmically usually to music (Merriam-Webster, 2024). As the wine's palate is not physically able to rhythmically use its body, the word's contextual meaning is wildly different from its basic meaning and can be marked as a metaphoric word.

This wine **expresses** [1] itself with aromas of **wild** [2] cherries, tart red plums, **dried** [3]violets and oolong tea leaves. The **palate** [4] is **elegant** [5]and almost **dances** [6] across the mouth, **leading** [7] with **ripe** [8] red fruits that **give way** [9] to savory flavors of **fresh** [10] bay leaf, clove and balsam. Drink 2025–2040.

[6] Lexical unit '**leading**' is a noun that grammatically acts like a verb (i.e. a gerund), which is understood in the underlying conceptual metaphor of *power relationships*, and specifically refers to an entity being

in power, so the wine's palate is taking charge in a manner of speaking, whereas the word's basic meaning is coming in first as in ranking first, usually used in this way in the context of sports or business. As the basic meaning of 'leading' does not apply contextually here, 'leading' is marked as a metaphoric word.

[7] Lexical unit '**ripe**' is an adjective of which the basic meaning is a person having matured knowledge (Merriam-Webster, 2024), whereas the contextual meaning is more focused on the *general appearance* and *physical properties, plants, and food* (USAS UCREL: semantic tagger, 2024), so the state of optimal growth, and the smell of red fruits.

[8] Lexical chunk **'gives way'** is a phrase and can be analyzed as follows. The basic meaning is to collapse or to yield oneself without restraint or control (Merriam-Webster, 2024; Oxford Dictionary, 2024), where the meaning in context seems to be replaced by something else followed by particular savory flavours. [It should be noted that 'give way' are both individual words that have the same semantic underlying meaning when used together (Archer et al., 2002: USAS UCREL tool, 2024).] Here, the underlying contextual metaphor seems to be 'without power,' so taste association of red fruit of the wine is being an entity that is forced to yield in some way to the power of other savory flavours.

[9] Lexical unit '**fresh**' is an adjective and its basic meaning is having its original qualities unimpaired (Merriam-Webster, 2024), where the contextual meaning is *time* and then *old versus young* (USAS UCREL tool, 2024). Here, the wine's taste is understood in terms of young savory flavours as listed in the review. This lexical unit is marked as a metaphoric word with conceptual metaphor 'time' that helps shape its meaning in discourse. It could also be considered less of a conceptual mapping and more as a direct lexical comparison between tastes, i.e. a simile. As similes are considered metaphors in MIP, it could be argued that the wine taste is being compared to fresh leaves as opposed to dried ones, which according to wine experts have different flavour profiles and properties.

Consequently, based on the analysis of this wine review, the Italian Barolo wine (2019) is implicitly being introduced as a person using metaphoric words with the underlying anthropomorphic conceptual semantic source domain. In 2019, I found that this type of lexical strategy is commonly used in advertising, a genre of wine writing, where an object is being described as having human qualities and characteristics, as if the readership is at a networking event where people are being introduced to them. What is more, the sensory information relating to a sense of smell and taste are being metaphorically discussed to enliven the wine drinking experience while reading the review. Now, when the wine review

as discussed is considered, what can already be observed is that the wine review of an Italian wine contains 49 words, and nine metaphoric words, where the wine is described in comparison to particular flavours. The wine is being presented as a human being doing and undergoing something, where sensory information of smell is presented as forces to be reckoned with and the wine itself has to yield, and the use of conceptual metaphors seem to offer the additional benefit of particular referential points for wine audiences to understand concepts and phenomena in wine reviews as well and seem to make an effort to make the wines come to life.

Finally, the flavours are presented like in direct comparison to other concepts or objects and are typical similes, a figure of speech comparing two unlike things – a topic in Cambridge Proficiency in English C2 (CPE) courses leading up to a near-native level in English for foreign language learners, and a common topic in figurative language usage.

Appendix 8: Detailed data scraping procedure

Method: Vivino and Wine Enthusiast Data Scraping Procedure

To gather data for the analysis of wine reviews, I implemented a web scraping procedure targeting both the Vivino and Wine Enthusiast websites, popular platforms for wine reviews. The following steps outline the methodology used to extract and store the data:

Setup and Logging

1. Logging Configuration:
    - I configured logging to track the progress and any issues encountered during the scraping process. Logs are saved to a file named scrape_vivino.log for Vivino and scrape_wine_enthusiast.log for Wine Enthusiast.
2. Libraries Used:
    - The script utilizes several Python libraries, including requests for making HTTP requests, pandas for data manipulation, json for handling JSON data, pathlib for file path operations, and time for handling delays.

API Exploration

1. API Endpoint:
    - Both websites use APIs to serve data. By inspecting the network traffic in the browser's developer tools, I identified the API endpoints used to fetch wine and review data.
2. URL Construction:
    - For Vivino, I constructed URLs to query the API for different pages of wine data. Each URL includes parameters to specify the type of wines and the page number.

```
def get_vivino_url(page):
    return f"https://www.vivino.com/webapi/explore/explore?wine_type_ids%5B%5D=1&wine_type_ids%5B%5D=2&wine_type_ids%5B%5D=3&wine_type_ids%5B%5D=4&wine_type_ids%5B%5D=7&wine_type_ids%5B%5D=24&page={int(page)}&per_page=100"
```

    - For Wine Enthusiast, I constructed URLs to query the API for different pages of wine data.

```
def get_wine_enthusiast_url(page):
    return f"https://www.wineenthusiast.com/api/wines?page={int(page)}&per_page=100"
```

Data Retrieval

1. Fetching Wine Data:
    - For each page, I sent GET requests to the API endpoints to retrieve wine data. The responses were parsed as JSON.
2. Saving Raw Data:
    - The raw JSON responses were saved to files for backup purposes, ensuring I could refer back to the original data if needed.

Metadata Extraction

1. Metadata Structure:
    - I extracted relevant metadata from the JSON responses, including vintage ID, year, vintage name, wine ID, wine name, country of origin (COO), region of origin (ROO), winery name, and the API query used.
2. Saving Metadata:
    - The extracted metadata was saved to CSV files. Master CSV files were maintained to aggregate metadata from all pages.

Review Data Retrieval

1. Fetching Reviews:
    - For each wine ID obtained from the metadata, I constructed URLs to query the APIs for reviews. I looped through pages of reviews until no more reviews were available.
2. Handling API Limits:
    - The APIs impose a limit of 100 records per page. I handled this by iterating through pages and fetching reviews in batches.
3. Saving Raw Review Data:
    - The raw JSON responses for each page of reviews were saved to files.

Review Data Extraction

1. Review Structure:
    - I extracted relevant review data, including review ID, rating, review note, language, creation date, reviewer ID, reviewer name, and associated wine metadata.
2. Saving Review Data:
    - The extracted review data was saved to individual CSV files for each wine ID and appended to master CSV files.

Execution and Logging

1. Looping Through Pages:
    - The script manually looped through a specified range of pages to explore and query the APIs. Progress was logged, and any issues were recorded in the log files.
2. Error Handling:
    - The script included error handling to manage issues, ensuring the scraping process could recover and continue.

In sum, this scraping procedure allowed me to systematically extract and store comprehensive data on wines and reviews from both the Vivino and Wine Enthusiast websites. The data was structured and saved in a way that facilitated subsequent analysis, making it a valuable resource for linguistic research on wine reviews. Finally, the use of logging ensured transparency and traceability throughout the process, enabling me to monitor progress and troubleshoot any issues that arose.

Method: more detail: Vivino and Wine Enthusiast Data Scraping Procedure

The data scraping procedure for Vivino and Wine Enthusiast involves several key steps to ensure comprehensive and structured data collection. Below is an elaboration on the data retrieval, extraction, and logging processes:

Data Retrieval

1. API Endpoint Construction:

Wine Data: I constructed URLs to query the Vivino and Wine Enthusiast APIs for wine data. The URLs include parameters for different wine types and pagination.

```
def get_vivino_url(page) :
    return f"https://www.vivino.com/webapi/explore/explore?wine_type_ids%5B%5D=1&wine_type_ids%5B%5D=2&wine_type_ids%5B%5D=3&wine_type_ids%5B%5D=4&wine_type_ids%5B%5D=7&wine_type_ids%5B%5D=24&page={int(page)}&per_page=100"
def get_wine_enthusiast_url(page):
    return f"https://www.wineenthusiast.com/api/wines?page={int(page)}&per_page=100"
```

Review Data: For each wine ID obtained from the wine data, I constructed URLs to query the APIs for reviews.

```
def get_vivino_review_url(wine_id, page=1):
    return f"https://www.vivino.com/api/wines/{wine_id}/reviews?page={page}&per_page=100"
def get_wine_enthusiast_review_url(wine_id, page=1):
    return f"https://www.wineenthusiast.com/api/wines/{wine_id}/reviews?page={page}&per_page=100"
```

2. Fetching Data:

Wine Data: I sent GET requests to the API endpoints for each page of wine data and parsed the responses as JSON.

```
response = requests.get(url)
data = response.json()
```

Review Data: For each wine ID, I sent GET requests to the API endpoints for reviews, iterating through pages until no more reviews were available.

```
response = requests.get(url, headers={'User-agent': 'research bot 0.1', 'Accept-Language':'en-US,en,nl'})
data = response.json()
```

Data Extraction

1. Wine Metadata Extraction:

I extracted relevant metadata from the JSON responses, including vintage ID, year, vintage name, wine ID, wine name, country of origin (COO), region of origin (ROO), winery name, and the API query used.

```
info.append({
    'vintage_id': vintage.get('id'),
    'year': vintage.get('year'),
    'vintage_name': vintage.get('name'),
    'wine_id': vintage.get('wine', {}).get('id'),
    'wine_name': vintage.get('wine', {}).get('name'),
    'coo': vintage.get('wine', {}).get('region', {}).get('country', {}).get('name'),
    'roo': vintage.get('wine', {}).get('region', {}).get('name'),
    'winery': vintage.get('wine', {}).get('winery', {}).get('name'),
    'scraper_query': url,
    'scraper_page': explore_page
})
```

2. Review Data Extraction:

I extracted relevant review data, including review ID, rating, review note, language, creation date, reviewer ID, reviewer name, and associated wine metadata.

```
info.append({
    'review_id': review.get('id'),
    'rating': review.get('rating'),
    'note': review.get('note'),
    'language': review.get('language'),
    'created_at': review.get('created_at'),
    'reviewer_id': review.get('user', {}).get('id'),
    'reviewer_name': review.get('user', {}).get('seo_name'),
    'vintage_id': vintage.get('id'),
    'year': vintage.get('year'),
    'vintage_name': vintage.get('name'),
    'wine_id': vintage.get('wine', {}).get('id'),
    'wine_name': vintage.get('wine', {}).get('name'),
    'coo': vintage.get('wine', {}).get('region', {}).get('country', {}).get('name'),
    'roo': vintage.get('wine', {}).get('region', {}).get('name'),
    'winery': vintage.get('wine', {}).get('winery', {}).get('name'),
    'scaper_wine_id': wine_id,
    'scaper_page': review_page,
    'scaper_query': url
})
```

Data Logging

1. Logging Configuration:

I set up logging to track the progress and any issues encountered during the scraping process. Logs are saved to files named scrape_vivino.log and scrape_wine_enthusiast.log.

2. Logging Data Retrieval:

I logged the retrieval of wine data for each page and the retrieval of review data for each wine ID.

```
logging.info(f"Saved
number of reviews={len(info)} to inter and  files for wine_id {wine_id}, page {review_page}")
```

3. Error Handling and Warnings:

I logged warnings and skipped querying reviews for wine IDs that had already been processed.

```
logging.warning(f"Wine_id {wine_id}, already has a info file, so querying reviews are skipped
for this wine")
```

Data Storage

1. Saving Raw Data:

I saved the raw JSON responses for both wine data and review data to files. This ensured that the original data was preserved for future reference.

```
with open(f'vivino/raw/meta-{explore_page}.json', 'w') as outfile:
    outfile.write(json_object)
with open(f'vivino/reviews_raw/reviews_{wine_id}_{review_page}.json', 'w') as outfile:
    outfile.write(json_object)
```

2. Saving Extracted Data:

    - I saved the extracted metadata and review data to CSV files. Metadata was appended to a master CSV file, while review data was saved to individual CSV files for each wine ID and appended to a master CSV file.

```
pd.DataFrame(info).to_csv(meta_file, mode='a', index=False, header=False)
pd.DataFrame(info).to_csv(info_file, mode='a', index=True, header=not info_file.exists())
```

Finally, by following this structured approach, the data scraping procedure for Vivino and Wine Enthusiast ensures comprehensive data collection, accurate extraction, and reliable logging, making it a valuable resource for linguistic research on wine reviews.

Appendix 9: Detailed overview of how the Thesis Analysis Tool was developed

The Thesis Analysis Tool is a sophisticated web-based application developed using Streamlit, specifically designed to facilitate the analysis of linguistic data, with a particular focus on metaphor and simile annotations in wine reviews. The following sections provide a detailed overview of the tool's functionality:

User Interface: The tool features an intuitive user interface that allows users to interact with various elements such as buttons, text areas, and data tables. The interface is divided into two main sections: a sidebar for settings and a main area for displaying and analyzing data. The sidebar enables users to configure settings, load data, and select specific reviews for analysis, while the main area presents the selected data and provides tools for annotation and analysis.

Data Loading: Users can load data from pre-defined Excel files containing wine reviews. Upon loading, the data is displayed in a table format within the main area of the interface. This table allows users to browse through the reviews and select individual entries for detailed analysis. The ability to load and display data in a structured format ensures that users can efficiently manage and analyze large datasets.

Session State Management: The tool employs Streamlit's session state to maintain the state of the application across user interactions. This includes storing loaded data, selected reviews, and analysis results. By preserving the state of the application, the tool ensures a seamless user experience, allowing users to navigate between different sections without losing their progress or data.

Text Processing: The tool leverages the spaCy library to process the selected review text. SpaCy's pre-trained language model is used to tokenize the text and identify parts of speech (POS) such as nouns, adjectives, adverbs, and verbs. Additionally, the tool utilizes the PyMUSAS tagger to annotate the text with semantic tags. This comprehensive text processing capability enables users to perform detailed linguistic analysis on the review data.

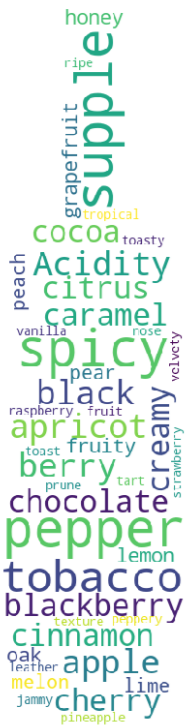
Annotation and Analysis: The processed text is displayed in a table where users can manually annotate words as metaphors, similes, or other categories. The tool provides options to add researcher notes and match USAS tags to specific categories. This annotation functionality allows users to systematically categorize and analyze linguistic features within the reviews, facilitating in-depth linguistic research.

Data Saving and Loading: Annotated data can be saved as JSON files, preserving the analysis for future reference. This ensures that users can save their work and return to it later without losing any annotations. If a review has been previously analyzed, the tool can load the saved annotations, allowing users to continue their work from where they left off. This feature enhances the efficiency and continuity of the research process.

Visualization: The tool includes functionality to visualize the evolution of Cohen's Kappa, a statistical measure of inter-rater agreement, over time. This visualization helps in assessing the reliability of the annotations made by different raters. By tracking changes in Cohen's Kappa, users can evaluate the consistency and accuracy of their annotations, providing valuable insights into the reliability of their linguistic analysis.

Overall, the *Thesis Analysis Tool* streamlines the process of annotating and analyzing linguistic data, providing a user-friendly interface and robust backend processing to support research in linguistics. The tool's comprehensive functionality ensures that users can efficiently manage, analyze, and visualize linguistic data, making it an invaluable resource for linguistic research.

Appendix 10: Figure on the front page



Method: Creation of a Word Cloud Using Wine Vocabulary: To visualize the frequency and prominence of various wine-related terms, a word cloud was generated using a Python script. The following steps outline the methodology employed in the creation of the word cloud.

Libraries and Setup: The script utilized several Python libraries to facilitate the creation of the word cloud. Specifically, matplotlib.pyplot was used for plotting the word cloud, wordcloud for generating the word cloud, numpy for handling the image mask, and PIL (Python Imaging Library) for image processing.

Text Data: The text data used for generating the word cloud consisted of a predefined list of wine-related vocabulary. This text data was directly defined within the script as a string containing various wine descriptors, including terms such as "acidity," "apple," "apricot," "berry," "black pepper," "blackberry," "caramel," "cherry," "chocolate," "cinnamon," "citrus," "cocoa," "creamy," "fruity," "grapefruit," "honey," "lemon," "lime," "melon," "oak," "peach," "pear," "pepper," "pineapple," "prune," "raspberry," "spicy," "strawberry," "supple," "texture," "tobacco," "tropical fruit," "vanilla," "jammy," "nose," "peppery," "ripe," "spicy," "supple," "tart," "toasty," "tobacco," "velvety," "leather," and "toast."

Image Mask: An image mask was employed to shape the word cloud. The mask was a JPEG image of a wine bottle, which was loaded and converted into a NumPy array using the PIL library. This array was then used by the wordcloud library to define the shape of the word cloud.

Word Cloud Configuration: The WordCloud class from the wordcloud library was used to configure and generate the word cloud. Several parameters were specified to customize the word cloud:

- stopwords: A set of words to be excluded from the word cloud. The STOPWORDS set from the wordcloud library was used to filter out common words that were not useful for the analysis.
- mask: The image mask that defined the shape of the word cloud.
- background_color: The background color of the word cloud image, set to white.
- max_words: The maximum number of words to be included in the word cloud, set to 2000.
- max_font_size: The maximum font size for the largest word, set to 500.
- random_state: A seed for the random number generator to ensure reproducibility, set to 42.
- width and height: The dimensions of the word cloud, set to match the dimensions of the image mask.

Generating the Word Cloud: The generate method of the WordCloud class was called with the text data to generate the word cloud. This method processed the text, applied the mask, and arranged the words within the specified shape.

Visualization: The generated word cloud was visualized using matplotlib.pyplot. The imshow function was used to display the word cloud image, and the axis function was used to turn off the axis labels for a cleaner presentation. Finally, the show function was called to display the word cloud.

All in all, the word cloud was created by processing a predefined list of wine-related vocabulary and arranging the words within the shape of a wine bottle and the use of an image mask allowed for a visually appealing representation that highlighted the most frequent terms in the context of wine descriptions.

Appendix 11: Methodological procedure on dictionary selection and use to reduce bias

As various methods for metaphor identification exist in Linguistics and in its subfields as well as computer science, it is relevant to examine the types of dictionaries to be used and to determine which ones are to be selected in this thesis. The Metaphor Analysis Procedure of Steen et al. (2010) prescribe the use of specific dictionaries, unlike MIP. Not all dictionaries are equal and there are many ways in which existing dictionaries differ in how they are compiled, what language is used to explain concepts or notions, and their level of specificity in language use. Wipf (2010) decided in her thesis to exclude specialist wine-related dictionaries as her main objective was to research metaphors in wine tasting notes that can be recognized by users of General English, as opposed to language for specific purposes and wine expert discourse; the act of building a mental lexicon of wine language for wine experts would fall in the sub-field of Linguistics, i.e. English for Specific Purposes, and could be a practical or societal implication of this thesis yet it is beyond the scope of this thesis. And, while this genre [wine reviews/wine tasting notes] is written for a non-expert audience, and only French wine dictionaries existed at the time (Wipf, 2010) impairing reliability of analysis in such studies, the use of such a resource of expert knowledge would potentially get lost in translation, so MIPVU's restrictive guidelines, pertaining to using non-specialist dictionaries for analysis purposes in this sense are accepted in this thesis as well, yet other considerations and limitations of MIPVU's protocol are also examined for feasibility.

Dictionary use is highly restrictive in MIPVU. For English metaphor identification studies, it prescribes the use of Macmillan dictionary, the Longman dictionary, and the Oxford English Dictionary (OED), where the Macmillan one is used as a backbone of such analyses. Although Macmillan Education decided to discontinue their dictionary on Jun 30, 2023, its advantage was that it used the 7500 most frequently used words in English, ensuring accessibility and clarity of language use. However, as this online version is no longer available, Merriam-Webster dictionary is used, a standard American, history-based dictionary that includes British phonemic script as well as American.

For English, dictionaries are available online for all varieties of English, fortunately. As North-American wine reviews are the units of analysis in which standard American English is used, Merriam-Webster dictionary is selected, a history-based dictionary established in 1982 under its current name, yet dates back to 1828. This way, MIPVU's prerequisite that only corpus-based dictionaries ought to be used as lexical units would otherwise have to be excluded from analysis can be circumvented by using MIP.

Appendix 12: Conceptual domains identified: MRWs in Wine Enthusiast and Vivino

Table 1. A. GENERAL & ABSTRACT TERMS

Wine platforms combined	Most frequently occurring domains and MRWs per metaphoric theme
A1 General	
General actions / making (A1.1.1)	structured, steeping, create, etched, laced, grip, bursting, given, give, take
Suitable (A1.2+)	ripe, ready
Constraint (A1.7+)	tightly, contained, taut, tight
Inclusion (A1.8+)	packed, enclosed, includes, framing
A2 Affect	
Change (A2.1+)	becomes, evolved, became, extended, blending
Change (A2.1)	reduced, improve, developing
Cause & Effect/Connection (A2.2)	interplay
A4 Classification	
Detailed (A4.2+)	focused, vivid
examples (A4.1)	version
A5 Evaluation	
Evaluation: Good (A5.1+)	balanced, good, refined, fine, solid
Evaluation: True (A5.2+)	straight, forward
Evaluation: Accurate (A5.3+)	balanced
Evaluation: Authentic (A5.4+)	display, keeps, leaves, pure, surprise, add, give, reveal, showing
A6 Comparing	
Comparing: Different (A6.1-)	contrast
Comparing: Similar (A6.1+)	harmonious, set
Comparing: Varied (A6.3+)	mixed
A7 Definite (+ modals)	
Likely (A7+)	promise
A9 Getting and giving; possession	
Getting and possession (A9+)	captures, owner, keep, keeps
Giving (A9-)	offers, give, bottling, provide, offering

Table 2. B. THE BODY & THE INDIVIDUAL

Wine platforms combined	Most frequently occurring domains and MRWs per metaphoric theme
Anatomy and physiology (B1)	palate, skin, nose, born, bodied, body, drinking, mouth
Medicines and medical treatment (B3)	medicinal
Cleaning and personal care (B4)	cleanly
Clothes and personal belongings (B5)	trunk

Table 3. E. EMOTIONAL ACTIONS, STATES & PROCESSES

Wine platforms combined	Most frequently occurring domains and MRWs per metaphoric theme
E1 General	
States And Processes General (E1)	hearted
E3 Calm/Violent/Angry	
Calm (E3+)	soothed, gentle, gently, balanced
E4 Happy/sad	
Happy (E4.1+)	bright, delight
Content (E4.2+)	Pleasing
E5 Fear/bravery/shock	
Fear/shock (E5-)	foreboding
Bravery (E5+)	bold

Table 4. F. FOOD & FARMING

Wine platforms combined	Most frequently occurring domains and MRWs per metaphoric theme
Food (F1)	cooked, spiced, savory
Drinks and alcohol (F2)	decant, sip, drinking
Farming & Horticulture (F4)	orchard

Table 5. G. GOVT. & THE PUBLIC DOMAIN

Wine platforms combined	Most frequently occurring domains + MRWs per metaphoric theme
G2.2 General ethics | Unethical (G2.2-)	taint
G3 Warfare, defence and the army; Weapons	bomb

Table 6. H. ARCHITECTURE, BUILDINGS, HOUSES & THE HOME

Wine platforms combined	Most frequently occurring domains + MRWs per metaphoric theme
houses and buildings (H1)	structure, gothic
Parts of buildings (H2)	cellar

Table 7. I. MONEY & COMMERCE IN INDUSTRY

Wine platforms combined	Most frequently occurring domains + MRWs per metaphoric theme
Money and pay (I1.1)	richer
Money: Affluence (I1.1+)	rich, opulent
Cheap (I1.3-)	bargain
Professional (I3.2+)	full

Table 8. K. ENTERTAINMENT, SPORTS & GAMES

Wine platforms combined	Most frequently occurring domains + MRWs per metaphoric theme
Music and related activities (K2)	notes, note, harmonious, tones

Table 9. L. LIFE & LIVING THINGS

Wine platforms combined	Most frequently occurring domains + MRWs per metaphoric theme
Life and living things (L1)	richer
Living creatures generally (L2)	rich, opulent

Table 10. M. MOVEMENT, LOCATION, TRAVEL & TRANSPORT

Wine platforms combined	Most frequently occurring domains and MRWs per metaphoric theme
coming and going (M1)	converge, waft, traveling, pops, emerge, reached, arise, comes, rolls, arises
transporting (M2)	wafting, lifted, wound, brings, lift, turned, pulled, draws, pull, lifts
Location and direction (M6)	end, surfaces, tails, forward, leaning, top, background, way
Places (M7)	tropical
Stationary (M8)	linger, lingering

Table 11. N. NUMBERS & MEASUREMENT

Wine platforms combined	Most frequently occurring domains and MRWs per metaphoric theme
N3. Measurement	
Weight: Light (N3.5-)	light
Size: Big (N3.2+)	big
tall and wide (N3.7+)	longish, deep, elevated, long
Speed: Fast (N3.8+)	snappy
N5. Quantities	
Quantities: many/much (N5+)	dense, ample, density, intense
Part (N5.1-)	remnants
Exceed; waste (N5.2+)	drench, abounded
Quantities: little (N5-)	touch, coffee
Entire; maximum (N5.1+)	peak, complete, full, imbued

Table 12. O. SUBSTANCES, MATERIALS, OBJECTS & EQUIPMENT

Wine platforms combined	Most frequently occurring domains + MRWs per theme
O1. Substances and materials generally	
Substances and materials generally (O1)	essence, elements, mousse
Substances and materials: Solid (O1.1)	plush, flint, solid
Dry (O1.2-)	dried
Substances and materials: Liquid (O1.2)	super, concentrated, wetting, juicy
O2 Objects generally	
Objects generally (O2)	bubbles, frame, layers
O4 Physical attributes	
General appearance and physical properties (O4.1)	inky, balance, ripeness, velvet, heavy, earthy, metallic, crumbly, oily, ripe, body, simple, rigid, layered, balanced
Judgement of appearance (O4.2)	allure
Judgement of appearance: Beautiful (O4.2+)	elegance, elegant, lush, pretty, grace, fresh, lithe, delicate, elegantly, impressive, polished, beautiful, delicious, lovely, good, clean, stunning, plush
Colour and colour patterns (O4.3)	luminous, deep, dark, vibrant, bright, pale, pink, darker
Shape (O4.4)	sharp, rounded, taut
Texture (O4.5)	fine, smooth, firm, creamy, crisp, gritty, silky, weight, chalky, soft, texture, textured, velvety, softened, slippery, oxidized, complexity, rounded, sharp, flinty
Temperature: Hot / on fire (O4.6+)	warms, searing, roasted, toasty

Table 13. P. EDUCATION

Wine platforms combined	Most frequently occurring domains + MRWs per metaphoric theme
Education in general (P1)	textbook

Table 14. Q. LINGUISTIC ACTIONS, STATES & PROCESSES

Wine platforms combined	Most frequently occurring domains and MRWs per metaphoric theme
Q1 Communication	
States And Processes; Communication (Q1.1)	expressive, alluded
Paper documents and writing (Q1.2)	notes
Q2 Speech acts	
Speech: Communicative (Q2.1)	go, tell
Speech acts (Q2.2)	hailing, hints, hint, welcome, presented, expressions
speech and grammar (Q3)	perfect

Table 15. Q. LINGUISTIC ACTIONS, STATES & PROCESSES

Wine platforms combined	Most frequently occurring domains and MRWs per metaphoric theme
Q1 Communication	
States And Processes; Communication (Q1.1)	expressive, alluded
Paper documents and writing (Q1.2)	notes
Q2 Speech acts	
Speech: Communicative (Q2.1)	go, tell
Speech acts (Q2.2)	hailing, hints, hint, welcome, presented, expressions
speech and grammar (Q3)	perfect

Table 16. S. SOCIAL ACTIONS, STATES & PROCESSES

Wine platforms combined	Most frequently occurring domains + MRWs per theme
S1 Social actions, states & processes	
States And Processes (S1.1.1)	shows, warmth, welcoming
Deserving (S1.1.4+)	deserves
Personality traits (S1.2),	character, boring, streak
Informal/Friendly (S1.2.1+)	casual, easygoing, nice, open
Formal/Unfriendly (S1.2.1-)	reserved
Polite (S1.2.4+)	thanks
Impolite (S1.2.4-)	juicy
Tough/strong (S1.2.5+)	strong, robust, forceful, backbone, powerful
Sensible (S1.2.6+)	balanced
S2 People	
People (S2)	mixed
People: Male (S2.2)	masculine
S3 Relationship	
Personal relationship: General (S3.1)	meet, meets
Relationship: Intimacy and sex (S3.2)	romance, seductive
S5 Groups and affiliation	
Belonging to a group (S5+)	joined, incorporates
S6 Obligation and necessity	
Strong obligation or necessity (S6+)	needs, need
S7 Power relationship	
In power (S7.1+)	powerful, dominant, dominates, lead, reined
Respected (S7.2+)	stately
Competitive (S7.3+)	compete
S8 Helping/hindering	
Helping (S8+)	supported, back, backed
S9 Religion and the supernatural	
Religion and the supernatural (S9)	ominous

Table 21. T. TIME

Wine platforms combined	Most frequently occurring domains and MRWs per metaphoric theme
T1. Time	
Time: Past (T1.1.1)	once, originally
Time: Future (T1.1.3)	ahead
Time: Period (T1.3)	complexity, life, baby, classic, long, birth, lasted, length, enjoyable
Time period: long (T1.3+)	long
T2 Time: Beginning and ending	
Time: Beginning (T2+)	started, introduction, ready
Time: Beginning (T2++)	continuing
Time: Ending (T2-)	finish, finishing, finishes
T3 Time: Old, new and young; age	
new and young; age (T3)	old, aged, fresh, aging, vintage, age, ageing, younger
Time: Old; grown-up (T3+)	mature, old, school, classic
Time: New and young (T3-)	young, youth, fresh, freshly, vintage, freshness

Table 22. W. THE WORLD & OUR ENVIRONMENT

Wine platforms combined	Most frequently occurring domains + MRWs per metaphoric theme
Light (W2)	light
Geographical terms (W3)	river, undercurrent, sandy, peak
Weather (W4)	rainy, wet, drizzled, hazy

Table 23. X. PSYCHOLOGICAL ACTIONS, STATES & PROCESSES

Wine platforms combined	Most frequently occurring domains + MRWs per metaphoric theme
X2 Mental actions and processes	
Knowledgeable (X2.2+)	retrospect
Unexpected (X2.6-)	unexpected
X3 Sensory	
Sensory (X3)	sense
Sensory: Taste (X3.1)	dry, dark, richness, tang, tart, rocky, delicious, dryness, aftertaste
Tasty (X3.1+)	smoky
Sensory: Sound (X3.2)	tone
Sensory: Touch (X3.3)	touch
Sensory: Smell (X3.5)	smelling, aroma
X5 Attention	
Attentive (X5.1+)	highlighting, focused
Interested/excited/energetic (X5.2+)	lively, vibrant, intriguing, interesting, heady
X7 Wanting; planning; choosing	
Wanted (X7+)	blueprint

Table 24. **USAS CODE frequencies** USAS codes of lexical metaphors in wine review for both platforms for the top 20 conceptual domains

USAS codes	MRWs	count	number of unique words
O4	smooth, oxidized, complexity, fine, rounded, sharp, silky, textured, velvety, creamy, crisp, gritty, chalky, texture, soft, flinty, slippery, firm, softened, weight, beautiful, stunning, elegant, elegance, good, elegantly, delicious, plush, polished, impressive, delicate, lovely, clean, pretty, grace, lithe, fresh, lush, earthy, layered, oily, velvet, heavy, crumbly, balance, balanced, ripe, body, simple, metallic, inky, rigid, elegant, ripeness, qualities, luminous, deep, dark, vibrant, bright, pale, pink, darker, toasty, warms, searing, roasted, sharp, taut, rounded, dots, allure	121	69
B1	nose, palate, mouth, bodied, body, drinking, skin, born	60	8
T3	old, ageing, younger, vintage, age, aged, aging, fresh, young, vintage, fresh, freshly, youth, freshness, classic, mature, old, school, matured	28	16
S1	nice, open, casual, easygoing, robust, powerful, strong, backbone, forceful, streak, character, boring, shows, welcoming, warmth, juicy, reserved, deserves, generously, balanced, thanks	27	21
K2	notes, tones, harmonious, note	25	4
A1	structured, bursting, given, laced, give, take, palate, grip, create, etched, steeping, tightly, tight, contained, taut, enclosed, packed, includes, framing, ready, ripe	23	21
T2	finish, finishing, finishes, started, introduction, ready, continuing	22	7
A5	add, leaves, reveal, showing, give, pure, surprise, display, keeps, refined, solid, fine, balanced, good, balanced, straight, forward	19	16
N5	peak, full, complete, filled, imbued, intense, density, ample, dense, touch, coffee, abounded, drench, remnants	19	14
X3	dry, aftertaste, delicious, dark, rocky, tart, dryness, richness, tang, aroma, smelling, touch, tone, sense, smoky	18	15
T1	life, long, birth, lasted, enjoyable, classic, length, baby, complexity, long, lengthy, age, once, originally, ahead	17	14
O1	super, concentrated, juicy, wetting, dried, plush, solid, flint, mousse, elements, essence	17	11
A9	offers, bottling, provide, offering, give, keeps, captures, keep, owner	16	9
A10	lucid, flashes, shows, featuring, opens, features, open, faded, underlying, sleeper, masked	14	11
M2	pulled, brings, lifts, wound, wafting, lift, turned, draws, pull, lifted	14	10
Q2	expressions, hint, welcome, presented, hints, hailing, go, tell	14	8
N3	longish, deep, long, elevated, snappy, big, light, weight	12	8
I1	opulent, rich, bargain, richer	10	4
A2	blending, became, extended, evolved, becomes, reduced, improve, developing, interplay	10	9
X5	lively, vibrant, interesting, heady, intriguing, highlighting, focused	10	7
M1	reached, traveling, rolls, arise, pops, emerge, arises, converge, comes, waft	10	10

Appendix 13: Idioms, phrases, and phrasal verbs and their contextual meaning in wine writing

Table 12. Idioms, phrases, multi-word POS and phrasal verbs in Vivino and their contextual meaning

Vivino	Idioms, phrases, and phrasal verbs | **contextual meaning**
1. broad-based	wines with wide, spreading 'palate' weight, like a man.
2. fruit-forward	Fruit-flavour placed in the forefront
3. come through	A flavour becomes perceptible in the wine
4. best and top of the line	Highest quality within Californian Cabernets
5. on the way to its peak	Wine still ascending toward optimum maturity
6. lacks feeling	The wine seems to fall short in emotive impact
7. in one bite	A single sip immediately seems to trigger nostalgia
8. to open up	Aromas and flavours are released and expressive
9. to rein something in	Fruit richness held in check, like a horse that is held back.
10. to be worthy of the name	Top ranking truly fits its reputation related to moral entitlement
11. full-bodied	Dense, high-alcohol, full-bodied wine profile that is compared to a person's physical weight
12. to cellar away	Writer's instruction to the discursive reader due the lack of maturity of the wine. Here, the word cellar is a literal storage verb used figuratively for maturation advice.

Table 13. Idioms, phrases, multi-word POS, and phrasal verbs in **WE** and their contextual meaning

Wine Enthusiast	Idioms, phrases, and phrasal verbs | **contextual meaning**
1. organically farmed vines	Phrase: a climbing or trailing woody-stemmed plant related to the grapevine.
2. bound to grow	Expected to become more complex with age
3. something brings out	Something reveals flavours
4. full-body	Dense, high-alcohol, full-bodied wine profile that is compared to a person's physical weight
5. casual sipper	Wine is like a friendly, easy-going person, an easy-drinking wine
6. finding one's way	Idiom: to go or arrive somewhere by chance or after a time of wandering. Here is a wine that is gradually establishing an identity or style.
7. broad texture	Wine or taste that has a visual or tactile quality that has a large-scale, expansive feel
8. come on strong	Idiom: to be very forceful or too forceful in doing something social. Here, it involves the wine's tannins to make an assertive first impression.
9. connect the dots	The act of joining printed dots while using a pen or pencil to trace them to reveal a picture. This Rosé can connect the dots for many wine drinkers.
10. idiom: Light on ones feet	Capable of moving in a quick and graceful way. The wine is light on its feet but impactful with a balance of grace, agility and strength.
11. straight-forward	A wine that is uncomplicated, easy to understand
12. set the stage for something	To make it possible for something else to happen, so to create the context for subsequent flavours. "Aromas of brambly fruits of the wood, bittersweet chocolate and hints of thyme, lavender and sage set the stage for cassis, blackberry, mocha, violet and dried Mediterranean herb flavors."
13. reserved notes	Discrete aroma/flavour elements
14. warms to touch	A surface feels noticeably warmer than the surrounding area or what is considered normal body temperature. The wine's temperature is being referred to here.
15. lead the way for	Aromas are the first, most salient scents
16. kicks in	To start to have an effect or to happen, so the acidity activates after tannins.

17. light-hearted	Describes food that is easy, informal, not heavy. “It's the perfect casual sipper, either on its own or with any light-hearted meal.”
18. all together	All in one place or in a group
19. take over	Phrasal verb: flavors take over
20. front and center	Adverb phrase: in a prominent or important position. “On the palate, a vibrant acidity keeps those fruits front and center throughout the length, while the sandy tannins add a welcoming texture.”
21. draw the nose deeply into	Aromas powerfully engage the taster/wine reviewer.
22. draws balance from	Aromas achieve harmony by relying on tart-fruit lift. “An umami, sanguine nose of soil, herbs and peppery meat draws balance from an undercurrent of sour cherries and wild strawberries.”
23. come through	Perceptual emergence
24. becomes more forceful	Fruit flavour grows in intensity
25. Flavour **persists** after swallowing	Flavour persists after swallowing
26. open up	Aromas and flavours release and expand, like a person who opens him/her/their self up to new experiences in life in social settings.
27. opening onto	Something that provides a direct entrance or view to another space, such as a room, area, or place. How warmth and spiceness open the door to the palate. “An unexpected but welcome warmth and spiciness come off the nose of this pale-pink rosato **opening onto** a palate that's absolutely alive with acidic citrus, the metallic tang of coins and the saline notes of crushed rocks and seabreezes.”
28. old-school	Old fashioned but in a way that allows the writer to take pride in. “The wine finishes with a dank earthiness, and old-school character, leaning toward a barnyard quality that might be polarizing to some but I find enjoyable.”
29. laser-focused	describes a person or mind that has an extremely intense and narrow concentration on a single objective or task, without any distractions. Here the acidity keeps the wine fresh with tart orchard fruits and citrus with hints of lees aging on the finish.
30. play on (the palate)	Flavour elements interact dynamically
31. phrase: bang for the buck	value of the wine is received from outlay or effort
32. phrasal verbs: be laced with sth	Flavours intricately woven through the wine
33. ready now	The wine is completely [mentally] prepared to be consumed/tasted, available for immediate action or use, so mentally in the right state to be enjoyed.
34. provide a backdrop	Flavours are providing a setting for the wine to be consumed in.
35. popping (into the finish)	to visit a place briefly or for a short time, often informally. Here, the experience is like experiencing the finishing phase of the wine tasting experience briefly. “Hints of oak popping into the finish.”
36. sleeper pick	In sports/betting: an under-noticed choice that outperforms expectations
37. year in and year out	Phrase: continuously or repeatedly over a period of years.
38. steeping in	To soak (food or tea) in water or other liquid so as to extract its flavour or to soften the material
39. wrapped in something	Flavours that seem to physically cover or enclose something with material,
40. work well together	Flavours that work well together like people who can collaborate effectively and productively, demonstrating cooperation, mutual understanding, and a shared purpose to achieve common goals.
41. to show [much] promise	The wine that exhibits qualities, behaviors, or traits that suggest a strong potential for future success or excellence in a particular field or endeavor.
42. lead into something	Aromas lead into the flavour sequence.

Appendix 14: Circulation figures of the hard-copy edition of Wine Enthusiast Magazine

Circulation figures for the hard-copy edition of Wine Enthusiast Magazine are presented in Table 2. A second corpus was compiled from reviews collected on Vivino.com, a platform where non-expert wine enthusiasts post written reviews of wines they have consumed. In both corpora, the units of analysis are individual wine reviews scraped from the respective company website or review platform.

Table 1. Leading US wine magazine (Alliance for Audited Media, 2024; Wine Enthusiast, 2024)

Wine magazine	Circulation in 2023	Issues per year
Wine Enthusiast	337,296	12

To illustrate the popularity and readership of *Wine Enthusiast*, circulation figures and the number of annual issues of the magazine were included. As this study relied on scraping reviews from wineenthusiast.com and vivino.com, estimated website traffic data from a randomly selected month in 2024 were also reported. These figures suggest that the websites and their online reviews are likely accessed more frequently than reviews published in print editions of magazines such as *Wine Enthusiast*. Given that the corpus in this study consists exclusively of online reviews, the number of reviews collected for the sample and for the full corpus are reported in Tables 2 and 3, respectively.

Appendix 15: Additional methodological considerations: the choice between MIP vs. MIPVU

The code descriptions provided by Rayson (2008) include examples for each code, which were used to support the classification of domains in cases of perceived ambiguity. The USAS UCREL W-matrix software tool for corpus analysis and comparison was employed to examine how wine is described through familiar concepts and to identify the conceptual domains underlying the basic meanings of the lexical metaphors detected using MIP.

To reliably study metaphorical language in authentic discourse, various analytical tools have been developed over time (Pragglejaz Group, 2007; Steen et al., 2018), each providing inclusion and exclusion criteria to guide raters in identifying metaphorical words. The Pragglejaz Group (2007) observed that rater intuitions often diverge, limiting the precision with which metaphors can be reliably identified in real-world contexts and thereby constraining the comparability of empirical analyses. They, therefore, called for the development of new tools to enable more consistent analyses. Since then, two procedures have become dominant: the Metaphor Identification Procedure (MIP; Pragglejaz Group, 2007) and the Metaphor Identification Procedure Vrije Universiteit (MIPVU; Steen et al., 2018).

MIP has been shown to be sufficiently explicit, reasonably reliable, and flexible for identifying metaphorical words (MRWs) in discourse, and was, therefore, selected for the present study. The Pragglejaz Group (2007) argues that applying MIP to standard varieties of the target language in which the genre naturally occurs, such as Standard American English used in Wine Enthusiast reviews, allows raters to cross-check intuitions against dictionary definitions and grammar resources in context, producing more accurate and meaningful interpretations of meaning and linguistic structure (p. 23).

MIPVU extends this approach by specifying which dictionaries should be consulted to increase inter-rater reliability in empirical research, yet inter-rater disagreement persists in other languages. For reasons of scope, time, and practicality, this thesis focuses primarily on content words (e.g. nouns and adjectives) most likely to be mapped as metaphorical. Accordingly, MIP was adopted as the primary analytical framework, with MIPVU consulted as a secondary reference when discussing methodological limitations and identifying potential directions for future research. Both MIP and MIPVU do not account for the nature or content of underlying cross-domain mappings, which future studies would need to address. The dataset used in the present work consists of original material, namely online wine reviews from two digital platforms, processed using theoretical and semi-automated tools (e.g. USAS UCREL), with outputs refined through manual annotation.

Appendix 16: Inter-rater reliability scores for both platforms combined

Figure 1. Inter-rater reliability scores for both platforms combined