

PIOTR NAGÓRKA

TERROIR

- climate
- soil
- topography
- exposure
- altitude

VINEYARD MANAGEMENT

- pruning
- canopy
- yield
- organic vs conventional

HARVEST

- timing
- manual vs mechanical sorting

FERMENTATION

- yeasts
- temperature
- maceration
- time

MATURATION

- oak vs steel
- lees contact
- time

BLENDING

- components
- balance
- complexity

SOIL

- composition
- structure
- drainage
- nutrients

WINE
CRAFT / TRADITION / PASSION

SPARKLING METHODS

- traditional
- Charmat
- transfer

WINE PRODUCERS

- Ruffert (1790)
- Kell (1842)
- Schramberg (1862)

DRY SPARKLINGS

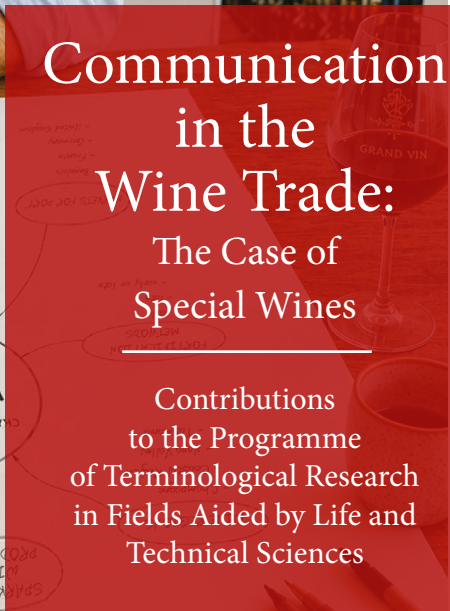
- amontillado
- cloroso
- palo cortado
- fino
- manzanilla

FLAVOUR COMPOUNDS

- ethereal
- limed
- social
- strawberry fragrance
- vanillin

MEDICAL BENEFITS

- Bactera
- Boud
- Cerebral
- Malvaria
- Sarcoid



Communication in the Wine Trade: The Case of Special Wines

Contributions to the Programme of Terminological Research in Fields Aided by Life and Technical Sciences

- Runt (it)
- Kung (king)
- Schramm

Communication in the Wine Trade

PIOTR NAGÓRKA

Communication
in the
Wine Trade:
The Case of
Special Wines

Contributions
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of Terminological Research
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Technical Sciences

A Scientific Report



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Author's preface

On the morning of 15 November 2011 most members of the Faculty of Applied Linguistics of the University of Warsaw were present at a public dissertation defence. Sitting among them was the founder of Warsaw's Institute of Applied Linguistics, Professor Franciszek Grucza. The author of this book defended the dissertation to the accompaniment of several interpolations on the part of Professor Grucza, whose query on my understanding of the word 'theory' used in my dissertation on the subject of terminology continued to reverberate in my ears until I finally decided to put pen to paper in order to offer a much more substantive and comprehensive answer to Professor's question than I did originally.

When attempting to answer this question, several issues need to be addressed. Most notable among them is that no consensus has been reached in the scientific community, much less in the community of language sciences, on a strict definition of the word 'theory'. The word is used either to mean a system of accepted knowledge aiming to explain aspects of the natural world, or as a synonym of 'hypothesis'.¹ Another difficulty is that terminological sciences seem to lack a well-established tradition of posing problems, formulating hypotheses, and proving their validity based on (real-world) evidence, these processes being crucial to theory building, regardless of which understanding of the word in question one chooses to adopt.

Inspired by my urge to respond to the problem of theories, this book represents an attempt to graft linguistics (in general) and terminology science (in particular)

¹ Polysemy of the word 'theory' as observed in scientific literature finds confirmation in reference works and monographs, including (among numerous others): WordNet 3.1 (<https://wordnet.princeton.edu>), *Academic Press Dictionary of Science and Technology* (Morris, 1992: 2200), *The Fundamentals of Economic Research* (Milo, 2018: 195–196), *What is Theory: Answers from the Social and Cultural Sciences* (Corvellec, 2013: 11 ff.), etc.

onto the ground of hard sciences. This endeavour envisages retaining the creation of knowledge models, an activity at the heart of terminology work ever since Eugen Wüster laid the foundations for this discipline in the 1930s. Crucially, the book offers a sustainable research programme exploiting terminological models which facilitate understanding of a subject field, enabling researchers to explore a domain to observe regularities and thus provide answers to questions while testing their tentative insights, with the aim being to achieve secure knowledge.

Terminology as presented in this book will be viewed as an exploratory science, with this discipline seen primarily (but by no means exclusively) as corpus-driven, in the sense that the researcher will (usually) embark on their journey through (a) selected subject field(s) before formulating core guiding questions on specialised communication. Researchers' insights are viewed as testable by means of models of structured knowledge, the accuracy of which must depend on the problems posed. Such undertakings in various subject domains will lead to communication-related theories – cumulative deposits of (carefully) attested knowledge regarding communication for specific (*i.e.* professional) purposes.

In this view, every new research endeavour in communication for professional purposes can benefit significantly from previously established (observable) patterns and regularities, with the researcher being able to exploit the deposits of secure knowledge (on field-specific concepts, their markers, as used for communication purposes, and their interrelationships), serving to illuminate new(ly selected) paths by which they pursue their discoveries in particular areas. Consistent with the ongoing effort to formulate a reliable theory of terminology, this book offers a foundational contribution based on findings on communication in the wine industry, aided by discoveries in the field of oenology, a vital part of life (*id est* natural) and technical sciences.

Terminology as a scientific enterprise employing models aligns with the view of research where terminologists build in order to learn, and not learn in order to build, the latter being required of an engineer. This work demonstrates the results of a multifaceted attempt to test usable hypotheses derived from questions, which can be of interest to both science and industry. The book presents the outcome of testing the hypothesis on the productivity of concepts and sheds light on conceptual differences between knowledge areas in the domain of special wines, indicating in which of these areas winemaking can prove an intellectual challenge. The book also offers insights on the theory of borrowing (*i.a.* Durkin, 2014, 2020; Winford, 2019). These may help heads of wine schools decide which of the industry's leading languages to include in their curricula.

In addition to placing terminology research within a framework focused on research questions, hypotheses, and knowledge modelling, the research

programme outlined in this book envisages the coverage of the encyclopaedic component of knowledge in the modelling process. By shedding light on the histories of industries through descriptions of events and people that have founded and shaped them, the researcher can find correlations between language processes, such as direct borrowing from an industry's leading language(s), and the degree of cultural distance between business partners representing different nations and speaking different languages. This auxiliary component can facilitate the quest for cultural explanations for findings of corpus-driven studies, a task that Anna Wierzbicka would probably consider a matter for cultural anthropology.²

The terminological research programme proposed in this dissertation is focused on hypothesis testing through description and modelling rather than on standardisation. Non-prescriptive in character, it shares many fundamentals with ecoterminology, a scientific programme adopted by researchers at Université Bourgogne Europe's Centre Interlangues TIL (Texte, Image, Langage) in Dijon (see Gautier *et al.*, 2025: 117–128). In 2023, during seminars conducted by TIL's head, Professor Laurent Gautier, I learned that the Varsovian School and the French School based in Dijon have much in common, not least as both of them seem to combine various aspects of the main post-Wüsterian approaches to research.

These approaches include: A. socioterminology, represented by François Gaudin (2003), which places great emphasis on variation and brings terminology closer to semantics of discourse; B. communicative theory, developed by Maria Teresa Cabré Castellví (2003), which considers subject descriptors as specific units of communication; C. sociocognitive approach, proposed by Rita Temmerman (2000), highlighting the epistemic dimension of concept markers in professional discourse; D. pragmatical stance, advocated by Dardo de Vecchi (2016), emphasising the actual use of terminological units in subject discourse; E. cultural approach, by Marcel Diki-Kidiri (2007), based on the idea that communicative acts convey specific worldviews, constantly shaped by experience.

My research into discourse on special wines has been a journey of discovery, involving not only desk research, but also fieldwork, especially for interviews with specialists, which enabled me to close gaps in professional knowledge when preparing models. My research has taken me on numerous trips around Europe's vineyards. Field research was conducted during two consecutive visits to Lower Austria (2014, 2015) and Madeira (2014, 2019), a visit to the Douro and Villa Nova de Gaia (2020), short visits to wine-producing estates in the Polish part of Pomerania and Lower Silesia (2022), two research stays in Champagne (2023, 2024), a trip

² For Anna Wierzbicka's distinction between tasks for linguists and those for the cultural anthropologist see *i.a.* Wierzbicka, [1996] 2004: 395–397.

to Lubusz Land (2024), and a call on wineries in Sussex (2024). The majority of these visits were supported by microgrants awarded by the University of Warsaw, for which I am immensely grateful.

The list of people to whom I am indebted is long. I am certain that had it not been for past generations of scholars, I would have been unable to develop the research programme that I present in this book. Just like Bernard of Chartres and John of Salisbury in their times (*see* John of Salisbury, [1159] 1955: III.4), I cannot help but notice and appreciate the intellectual strength of many that have trodden the winding paths of science before me, and upon whose shoulders I have the privilege to stand. At this point I think with gratitude of Socrates – for outlining the principles of research work, combining the concept of science with that of humility, and of Aristotle – for the method of defining concepts by *genus* and *differentia*.

Reading David Hume's works has impressed on me the value of intellectual modesty. It has taught me to question popular assumptions and acknowledge the natural limits of my own knowledge. I also appreciate Birger Hjørland's contribution to confirming my conviction that understanding and effective modelling of the subject matter requires a grasp of not only general knowledge organisation principles, but also the specifics of a given area of discourse. Finally, I admire Anna Wierzbicka's (1975) courage and determination in her search for semantic primes, which constitutes one of the greatest intellectual challenges in the history of science, following on from earlier attempts by Gottfried Leibniz and John Wilkins.

I also owe much to representatives of the Varsovian School, notably Franciszek Grucza and Jurij Lukszyn. Conversations with these scholars have helped me realise that one problem with theory building in the remit of terminology, as in all human and social disciplines, lies in the difficulty presented by the objects of research, which can be seen as more dynamic than those investigated in natural and technical sciences. The fact that we deal with humans (and not merely manifestations of their knowledge) may be far from obvious given the way that the subject of terminological research is often defined.³ This observation alone could shed sufficient light on the challenge of covering the dynamic character of human concepts, their markers and interrelations.

I would also like to thank Grzegorz Pawłowski – now a professor of linguistics – for fruitful discussions on the subject of science and related issues. Suffice it to say that they have been going on for almost two decades. I consider these

³ Terminology science is typically defined as a study of designations and concepts (identifiable in one or more domains), data related to these concepts and their designations, methods of modelling subject knowledge, as well as the relevant terminology resources (*cf.* ISO, 2019: 3.1.12).

lively conversations to be living proof that scientific knowledge is largely the fruit of collaboration and sustained effort, and is socially situated. When we pretend this is not the case, we perpetuate harmful myths about academic work, which portray scholars as locked away in an ivory tower and attribute their discoveries to single flashes of insight. Reinforcing these stereotypes may effectively obscure the (highly) interactive moments that are emblematic of the research process.

The book that you are holding in your hands is the result of deep and prolonged reflection on the nature of science in general and terminological sciences in particular. My research has stretched intermittently over ten years, most of which I spent studying discourse on special wines and preparing models: *Madeira, Port, Sherry: The Equinox Companion to Fortified Wines* (2014–2021) and *Sparkling Wines: The Equinox Guide for Wine Professionals and Connoisseurs* (2015–2024), both crafted using computer-assisted intellectual methods and published.⁴ The outline of the programme of terminology research is presented in the first chapter. The second chapter covers the application of this programme to the study of discourse on special wines, with the third showing the outcomes of this research, including theoretical contributions.

Developing an adequate research programme containing theoretical inputs – particularly to the theory of concepts and the theory of borrowing – required a substantial amount of work. Much in our scholarly research and achievements depends on those closest to us, who usually remain largely invisible. Any form of assistance is invaluable during research lasting many years, as it fosters a sense of togetherness, which in turn strengthens a researcher's perseverance. I owe the greatest debt of gratitude to my family, particularly to my parents Irena and Ryszard, my brother Paweł, my wife Beata, and my children: Helenka, Jadwinia, Jasieniek, and Staś, for their unconditional love and unwavering belief in me. It is thanks to their patient support that this book has seen the light of day.

⁴ References to these two models of professional knowledge (published in 2021 and 2026) are made throughout this report. Direct access to the aforementioned models may be helpful for optimal understanding of this book. For those who do not have such access, an active link to the conceptual maps that form the basis of each of these models is provided in the chapter on models dedicated to the wine trade (see Chapter II.5). For the reader's convenience, I also include this link here: <https://ukraina.uw.edu.pl/maps-of-knowledge/>.

Introduction

Humans have been developing practical models of knowledge in various fields according to needs from time out of mind, while constantly improving these models' precision. Examples range widely, from the Sumerian (and Akkadian) wordlists, written in cuneiform characters on clay tablets,⁵ authored between 3200 BC and late first millennium BC (Considine, 2016: 605–606), to modern interactive controlled vocabularies created in the 21st century, published in the online environment. The current instruments include educational tools whose scope is increasingly encyclopaedic, for instance *The Visual Thesaurus*® (Thinkmap, [1998] 2022), and structured online databases, such as *AGROVOC Multilingual Thesaurus* (FAO, [1981] 2022) and *Art & Architecture Thesaurus*® (GRI, 2017). The creation of such products of intellectual activity is enabled by terminology work, whose milestones have been reached over millennia. Achievements of ancient Greeks include the principle of exercising intellectual humility by recognising the limits of one's knowledge in the course of research (Plato, [~399–387 BC] 1997: 29a–b). This Socratic attitude seems of particular relevance to language scholars (terminologists), who are tasked with exploring and exhibiting conceptual structures in multiple domains of specialised knowledge (ISO, 2009: 0.1). Aristotle, the author of the classic method of defining named objects of inquiry, classified as species, by means of these species' genera and differences (Aristotle, [~340 BC] 2015: 140a 25–35), has also offered terminology a set of enduring principles, some of which are now part of international standards. One needs only mention the principle of

⁵ Among primary examples of the earliest Sumerian vocabularies is Urra = Hubullu, an organised collection of Sumerian–Akkadian wordlists, impressed on 24 clay tablets. A “Vocabulary of Food and Drink Terms” is Urra = Hubullu's twenty-third tablet. Partially broken, the tablet dates back to ca late first millennium BC. Purchased from Reverend William Hayes Ward in 1886, it is now in the collection of The Metropolitan Museum of Art in New York.

inheritance (Aristotle, [~340 BC] 2015: 143a 15–30; ISO, 2009: 5.5.2.2.1), stating that in a generic relationship a subordinate (child) concept inherits all the characteristics of the superordinate (parent) concept, which means that the subordinate (specific) concept includes the intension of the superordinate (generic) concept and (at least) one delimiting feature. Another notable example is the substitution principle (Aristotle, [~340 BC] 2015: 146a 30–35; ISO, 2009: 6.3.4). Based on this principle, the *definiens* part of a definition can replace the *designation* part (*definiendum*) in discourse with no loss of, or modification in, meaning. While authors of the relevant standard (ISO, 2009) recommend that the inheritance principle be used for testing and validating a generic relationship in a conceptual system, the substitution principle is currently widely applied to test the validity of intentional definitions (ISO, 2009: 6.2).

The idea of conceptual organisation of language data gained an increasingly strong support from 17th- and 18th-century philosophers, crowned with essays and epistemological treatises, including those by John Wilkins, John Locke, and David Hume. John Wilkins' innovative (taxonomic) classification of knowledge was an attempt to ease communication in both science and trade (Wilkins, [1668] 2022). Wilkins' essay implies that the achievement of communicative goals presupposes precision in the elaboration of languages understood as cognitive-communicative systems. John Locke's scholarly work has contributed to a greater awareness in considering the order of expressions in documents as reflecting the order of concepts (Locke, [1690] 1999: IV.21 4–5). His empirical programme, highlighting ideas of the inquirer as the starting point for obtaining knowledge (Locke, [1690] 1999: I.24), may be regarded as a canary in the coalmine for the research programme of terminology, initiated by the Vienna School in the 20th century (see Wüster, 1979: 0.211). In a similar vein, when reading Hume's work, one can witness an attempt at laying the foundations for the theory of connections between ideas, while learning that the operations of the mind, such as that of causation, can only be known to us by consulting experience (Hume, [1748] 1777, 7.27 74–7.28 76). The cause-and-effect relationship yields to the explanation that humans bear in mind repeated sequences of facts, and in recognising this relation, they are (ultimately) motivated by habit. Hume argued that distinguishing between and ordering of ideas are amongst the laudable, albeit laborious, tasks of science (Hume, [1748] 1777, 1.12 12–1.14 13). Notably, modelling the order of ideas is also the main activity associated with terminology work, which continues to draw support from epistemology in its study of concepts and their representations (see Aarons, 2006: 166–170; ISO, 2009: 0.1). No less importantly, Hume proved that knowledge derived from inductive inferences

offers not certainty but only (lesser or greater) probability based on experience (Hume, [1748] 1777: 4.1 25–4.23 39).

An increasingly conscious deliberation on the use of vocabulary in natural science domains in the 18th and 19th centuries, represented *inter alia* by Carl von Linné, Antoine Lavoisier, and William Whewell, can be viewed as both an impetus for and an introduction to terminological sciences (Linné, [1735] 1758; Lavoisier, 1789; Whewell, 1828). An interest in the rules of formulating concept markers, currently known as terms, was shown by botanists, zoologists, chemists, and geologists, with engineers and technicians of the 20th century following a similar path (see Cabré, 1992: 1–5). General principles of terminology, proposed and developed by Eugen Wüster since the 1930s, constituted the groundwork for an attempt to build a general theoretical framework for the field of terminology, initiated at and supported by the Vienna School (Wüster, 1979). Deficiencies of this framework have been observed and discussed in terminology circles at the very least since the 1990s (Faber Benítez, 2009: 112). Many critics have indicated that this framework may be overburdened with the task of standardisation (Cabré Castellví, 2003: 170, 177). For example, a notable problem with the programme of the Vienna School has been linked with the principle of synchronic analysis (Wüster, 1979: 0.213). A decision on the synchronic analysis of concept systems, understood as linked with the need for recency-related limitations on documents considered in terminology work, may not be in line with modes of conceptualisation found in representatives of non-empirical fields, such as ethics or aesthetics (see Nagórka, 2017a: 5–6). Using the theoretical base of language sciences, terminology, since at least the mid-20th century, has benefited much from contributions of other fields. Not least among these have been insights on the part of library and information scientists (Hjørland, 2002: 441–446), as they employed the lexicographical concept of thesaurus to deal with an unprecedented increase in the number of concept markers in natural and technical sciences (Roberts, 1984: 271–281). Experts in the fields of information management and knowledge organisation have developed international standards for the construction of knowledge models (ISO, 2011), thus providing term specialists with advanced tools facilitating terminology work. Suffice it to mention that the representatives of the Varsovian School have been using the concept of thesaurus to diagnose specialised knowledge through terminological work ever since the early 2000s (Lukszyn & Zmarzer, 2001; Zmarzer, 2005a, 2005b, 2005c; Łukasik, 2017a).

Today, supported by international guidelines for their construction, developed on the fertile ground of language sciences, and informed by the achievements of (*inter alia*) epistemology, information science, neurobiology of language,

and translation studies, models of knowledge, including monolingual and multilingual terminological ontologies (inclusive of thesauri and semantic networks), whose structures may range from simple to complex (Lacasta *et al.*, 2010: 2–12; GdQ, 2012), seem increasingly reliant on the results of diagnosing three realms of human understanding recognised by modern linguistics (Lukszyn & Zmarzer, 2009: 9–11). These key areas of investigation in modern terminology must, of necessity, include human concepts, conceptual relationships, and language forms that can materialise in various ways (*see* Cole, 1987: 77–78; Pavel & Nolet, 2001: 14; Lukszyn, 2011). From the vantage point of a terminologist tasked with building a knowledge model, the content of a relevant standard (ISO, 2011) is reducible to identifying concepts using an adequate corpus of documents, diagnosing paradigmatic relationships between the identified units of thought, and choosing language forms to mirror the subject matter of sources comprising the corpus (*see* Pavel & Nolet, 2001: 15, 34–60). Ultimately, terminologists' objects of interest have their basis in the structure of the human brain, whose models present language functions as processed within a distributed cortical and sub-cortical system (Damasio & Tranel, 1993; Dick *et al.*, 2014: 453–464; Tremblay & Dick, 2016: 68). Although analogies observable between evidence obtained by neuroimaging of the brain and that obtained by inference from language products are far from definitive, with the known problem of levels of explanation not an issue to be resolved in these considerations, active cooperation between language neurobiologists and terminologists is likely to bring lasting theoretical reinforcement to terminology while providing neuroscience with external stimuli for research.

While useful in creating knowledge models, not least for their interoperability, international standards can prove insufficient in the face of ambitions to perceive terminology as a fully scientific (and not merely practical) endeavour. An urgent need to develop a strong theoretical framework began to be recognised in the early 2000s. To paraphrase the words of Maria Teresa Cabré Castellví (2003: 181–182), terminology will only advance as a serious scientific discipline when researchers are ready to ground their theoretical statements in empirical evidence. Indeed, every distinguished school of terminology, notably Canadian, Praguian, Russian, Varsovian, and Viennese, has been formed as a result of careful studies of specialised vocabularies specific to particular domains, and (subsequently) products of monolingual and multilingual terminography (*see* Cole, 1987: 79; Lukszyn, 2005c: 125). The point is that the task of terminology ought not to be reduced to clinging to recommendations contained in the standards and reference works (*e.g.* COTSOES, 2003) at the expense of limiting the researcher's sensitivity to the individual characteristics identifiable in the objects of research or restricting their

creativity related to the description of these objects' properties. And more significantly, perhaps, reliance on knowledge models alone, without structuring the research work initiated and guided by research questions (Powner, 2015: 21–22), entails the risk of failure in developing a coherent and clearly articulated theory in terminology. Significant for theory building though they certainly are, especially in terminology, which has probably put much more effort into standardising them – thus facilitating the possibility of their integration – than any other scientific discipline, models of expertise should not be treated as an ultimate goal, but rather be seen as a key component of any research design aimed at creating scientific theories (*see* Fried, 2020: 336). However, the notions of *model* and *theory* are understood differently across academic communities (Frigg & Hartmann, [2006] 2020). The resulting discrepancies in the perception of the relationship between these notions could prove challenging. It may therefore be vital to readers to learn how the terms are used in this book.

Models of knowledge resulting from terminology work are understood as a springboard for theory formation (*see* Fried, 2020: 340; Jaccard & Jacoby, 2010: 28–29). Viewed as providing simplified representations of initial systems using relevant data, they are designed to indicate these systems' components and illustrate precisely how these components interact. Guided by research questions, the researcher must ignore much of reality in creating models so that they become useful in offering pertinent answers (Fried, 2020: 336–337; Smaldino, 2020: 212–214). Models developed by means of terminology work are produced on the basis of a selection of concepts confined by subject and a limited number of conceptual relationships accepted as germane to conceptual systems to be covered. When set against theories, models tend to be narrower in scope. Offering local rather than general descriptions of a given phenomenon, without any pretensions to perfection but capable of providing actionable insights, as was the case with both Rutherford's atomic model in physics (Badash, [1998] 2021) and Ogden and Richards' semiotic model in linguistics (Ogden & Richards, 1923: 11), they are legitimately said to act as intermediaries between a selected portion of observable reality (such as acts of professional communication) and theories. Theories are defined as bodies of (certified) knowledge that are relatively broad in scope and developed with the aim to describe and explain, or even predict, persistent phenomena (*see* Fried, 2020: 336). They can be expressed by sets of coherent statements that assist in further advancing accumulated knowledge, enabling testable hypotheses or predictions and providing guidance to further research (*see* Pedersen, 2007: 114–115, 123; Jaccard & Jacoby, 2010: 31–32). Notably, thus understood, an existing theory contains elements which can now be tested against additional cases, a process likely to

lead researchers to formulate hypotheses, collect data, discover patterns, and eventually create new models (Powner, 2015: 26). In this light, it becomes apparent that a scientific enterprise must be viewed as a cyclical and iterative process (see Schapiro Grosz & Sardy, 1985: 11–12; Fried, 2020: 341), whereby theories are constantly refined in response to new evidence. Against the background of numerous outlines of the research process provided in scholarly discourse (*i.a.* Schapiro Grosz & Sardy, 1985: 11–18, 63–64; Powner, 2015: 25–53), regardless of discipline, the stage of theory building invariably occupies a key place. By contrast, the use of advanced models of professional knowledge, such as controlled vocabularies, for finding answers to research questions appears to be the exclusive domain of terminology, giving the discipline a hitherto underutilised potential to generate and validate scientific theories.

Developing in the fertile ground of linguistics (Faber Benítez, 2009: 109–110), terminology has the capacity not only to create and seek confirmation for its own theories, but also to reinforce linguistic theories that grow neither from a terminological root nor from one attributed to information science. For instance, the terminological model of encyclopaedic knowledge in the domain of oenology (Nagórka, 2021a) can be seen as an exemplification of some of the basic tenets of the LCCM (Lexical Concepts and Cognitive Model) Theory, also known as the theory of access semantics (Evans, 2006: 500–517), as applied to a professional community. As a matter of fact, every thesaurus, or single-topic encyclopaedia, created by means of an expanded set of identified conceptual relationships presented explicitly, including instance relationships for hierarchies (Gilchrist, 2018: 20), adheres to and embodies one of the theory's fundamental commitments, namely that lexical concepts, here expressed as terms, provide venues of access to encyclopaedic (*id est* experience-based and not merely corpus-derived) knowledge (Evans, 2006: 500–517; Diki-Kidiri, 2007: 21–22; Evans, 2007: 120–121; Faber Benítez, 2009: 127–128; Evans, 2013: 21–50). Among numerous manifestations of the theory's commitment is the fact that advanced (highly structured) models, such as educational thesauri, encyclopaedic in scope and made as a result of exercising strict control over the main faculties of the language of description, not only label pertinent concepts, but also offer defined pathways between concept markers, ensuring their accessibility to the reader. Most importantly, however, terminologists are increasingly expected to begin making a more effective use of their highly structured models in an attempt to advance and validate claims that comprise their own theories (see Sager, 1990: 130; Cabré Castellví, 2003: 169–170; Faber Benítez, 2009: 112–113).

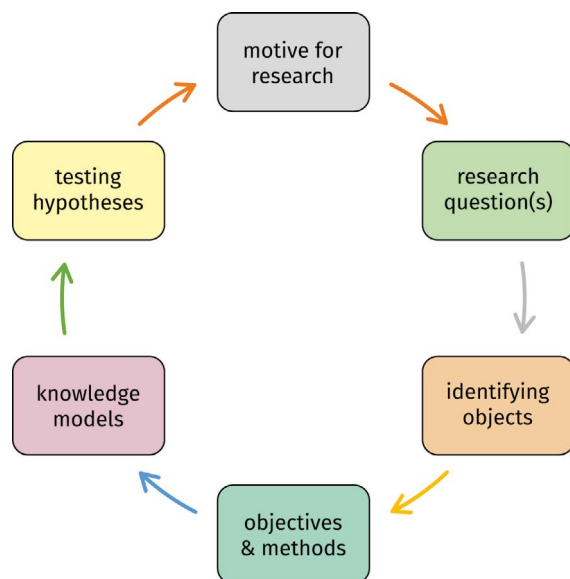


Figure 1. A research cycle within terminological sciences designed for theory-building purposes (cf. Jaccard & Jacoby 2010: 26–27; Condamines & Narcy-Combes, 2015; Condamines, 2021; Nagórka, 2024b; *etc.*).⁶

The iterative (recursive) transition from close observation to data collection to knowledge modelling to theory building to empirical confirmation (Popper, [1959] 2005: 28–29; Leplin, 1980: 274–275, 278, 281–282; Jaccard & Jacoby, 2010: 26–27; Chafe, 2018: 13–14) seems central to the conscious development of terminology as a science. This work aims to further the understanding of methodological principles in linguistic sciences while establishing directions of research to be pursued by terminologists seeking to use advanced knowledge models for

⁶ Linguists exploring communication in professional domains can find certain similarities between the approach adopted in this study and the needs-based approach – reliant on knowledge models developed using human-oriented controlled natural languages (CNLs) – advocated (and applied) by Anne Condamines, a CNRS (Centre national de la recherche scientifique) scholar conducting her research within the situated linguistics paradigm (Condamines, 2021: 20–22). Among the most fundamental of these analogous features one ought to name (at least) the following three: 1. the identification of needs or problems in a professional community and translating these needs or problems in the course of research into questions and hypotheses; 2. collection of data using a dedicated corpus; 3. the requirement that crafted knowledge models be confirmed as usable and accepted before their application, preferably by representatives of the field (or fields) to which they have been dedicated, an idea that appears to have been borrowed from both information science (see e.g. Tomasik-Beck, 1977: 5; ANSI/NISO Z39.19, 2005: 11.1.3.2; Nakano *et al.*, 2018: 68) and ergonomics (see Rastier, 1993: 336–338; ISO, 2018: 3.1.1; Condamines, 2021: 21–27).

answering research questions and developing theories. In order to conform to the basic tenets of scientific inquiry (Popper, [1963] 1972), a terminological research programme must include several fundamental stages, preceded by the development of skills of scientific inquiry. The tradition of passing the torch of knowledge, including the knowledge on scientific methods, to successive generations of scholars is deeply ingrained in the history of science, and dates back to ancient times (see Newton, [1676] 1959: 416). In the course of the scientific endeavour, formulating questions presupposes motivated reflection on (a) selected object(s) in a field of interest (see Farrugia *et al.*, 2010: 278–279; Sunderland, 2010: 12–13, 17–18). Regarded by many as cornerstones of the entire research design (Sunderland, 2010: 26; see Ketchen *et al.*, 2019: 66), operationalisable research questions in terminological sciences, as in all (language-related) human sciences, are typically followed by identifying humans considered as carriers of properties and sources of relevant data. As reported by researchers in various disciplines, it may prove useful at this stage to transform research questions into hypotheses (Farrugia *et al.*, 2010: 278–279). Notably, should the pursuit of justifiable knowledge take a terminologist outside their area of competence, they may choose to seek answers to their questions (as well as evidence for their hypotheses) by drawing on other fields of scientific knowledge (Yngve, [2004] 2006b: 349), with such a decision likely to have an impact on both the statement of objectives and the choice of (data collection) methods (Rexhepi, 2018: 51–52). Used with success in information science and other design-intensive domains (Buckl *et al.*, 2010: 6–8, 2013: 75–80), knowledge models based on observable patterns may, so it seems, be utilised with similar success in terminology. Terminological models, such as specialised thesauri, representing condensed and (highly) structured knowledge, may be explored in an attempt to test (either corroborate or disprove) previously advanced hypotheses. Taking the form of predictive statements, hypotheses can be tested against structured data of knowledge models and used to inform the process of theory building and enhancement. The resultant body of knowledge may produce new research questions and hypotheses. This open-ended (iterative) research design envisages using models as products of terminology work, enabling terminological sciences to test their (falsifiable) theories and make sustainable progress.

The overall aim behind this book is to provide the readership with a sustainable programme of terminological research on professional communication. The intention of the author is, then, to demonstrate how this programme works when applied to studying discourse on special wines, a salient agri-food category (EC, [2024] 2025: 4–10). As many new initiatives, this programme also encountered difficulties during its implementation in research practice. In each case, these

issues have been clearly indicated with a view to offering viable solutions. Not least among these challenges was the attempt to reconcile the expectation – well-aligned with (and strongly implied by) the concept of embodied cognition (see e.g. Evans, 2009: 29–30) – that the researcher will show initiative and engage physically in gaining comprehensive knowledge on the subject of their inquiry, making use of all available sources and methods – situated research methods included (see Leigh & Brown, 2021: 7–11) – with the researcher’s duty to ensure that the knowledge they acquire – and thus also the model they develop – is reliable. This can always pose a challenge, as the sources available to the researcher are not always accurate or precise. The ultimate goal behind this report has been to demonstrate the effectiveness of the proposed research programme by highlighting the contributions that its implementation has made to the theory of professional discourse in general, and to the theory of industrial discourse on special wines in particular. These theoretical contributions can be considered as the capstone of an entire lifecycle of terminological research, from inspiration to impact. My hope is that the findings will enhance or consolidate our understanding of professional communication – notably in fields aided by life and technical sciences, of which the wine industry is a prime example – both in terms of the conceptual foundations of discourse and in terms of language forms that are essential for effective communication between professionals.

PART I:
TERMINOLOGICAL RESEARCH
RETHOUGHT

Part I: An overview

Part I is an attempt to outline a programme of research into professional discourse, mapping out routes to achieve sustainable progress in obtaining certified knowledge. Based on my two decades' worth of experience as a terminologist, the sequence of steps presented in the pages that follow takes the form of a code of good research practices. Applicable for inquiry into professional communication in all fields of knowledge, the programme can be expected to focus primarily on issues relating to the agri-food sector. Intended as a code of good practices in research on professional discourse, this presentation does not employ a format inviting an open critique of other programmes, past or present. Instead, it draws on ideas that seem conducive to effective modelling of subject knowledge aimed at testing communication-related hypotheses advanced at the early stages of the research enterprise.

Based on long and intricate traditions of scientific inquiry, along with a relatively modest history of my own research endeavours, the research design presents several stages regarded as building blocks of scientific research. Since scholars are the driving force behind the entire research process, motivation – intrinsic as well as external – appears crucial to inspiring and sustaining their efforts, both individual and collective. As with the process of meaningful learning (Ausubel, 1963: 27–29), this human dimension of scientific research assumes gaining at least some prior knowledge in the field investigated. Noteworthy here is the fact that pioneers of terminology as a field of study were subject experts, including Eugen Wüster, an Austrian engineer recognised as the founder of this discipline (in its basic format) and head representative of the Vienna School.

Designed to reconceptualise terminology work as a scientific enterprise, *Part I* considers prior knowledge as highly beneficial for formulating relevant and insightful questions and crafting reliable knowledge models with increased readability, enabling researchers to test hypotheses and interpret results. The practice

of posing questions has been regarded as a catalyst for inquiry since ancient times (Krapiec, 2000: 76–87), and the history of the use of questions as key to scientific research seems to represent a gradual shift from passive observation to proactive inquiry. Queries serve to define the problem encountered. This seems to align with the Popperian stance that science begins with a problem, typically a knowledge gap or a conflict between an existing theory and the most recent results of observation, which – in either case – requires a question to initiate inquiry and guide it in a specified direction.

Part I presents terminology as an exploratory science. Hence, only when sufficient knowledge has been gained and modelled through the analysis of a corpus can an appropriate hypothesis be formulated, with the latter regarded as a cornerstone of the scientific process, serving as the critical link between an existing body of certified knowledge in a field and empirical testing using a model being prepared. The use of hypotheses is in no way new to communication-related research. Examples include Eric Lenneberg's critical period hypothesis (see Lenneberg, 1967), the interaction hypothesis, credited to Michael Long (1981), and the knowledge gap hypothesis (Tichenor *et al.*, 1970). It is hoped that a hypothesis-driven approach presented in this book pushes the boundaries of established practice in research fields concerned with professional discourse, offering these fields a solid footing for furthering their theoretical ambitions.

Professionals are viewed as the real objects of the study on industrial discourse, with their communications treated as partial (and rather imperfect) manifestations of their knowledge. This perspective, which assumes studying professionals in their natural environments, enables detection of latent intentions, capturing tacit and implicit knowledge, understanding social dynamics, and deepening interpretative accuracy throughout the research process. This programme combines two classical criteria of truth, namely coherence between propositions and their correspondence with reality, utilising them at different stages of research. In coherence-oriented work, the scholar attempts to find out if words, expressions, and definitions found in discourse fit logically and consistently within an existing system of terms and concepts in a domain (see Rescher, 1973). Later in the process – in the correspondence-oriented work – the researcher will in turn want to ensure that candidate terms and definitions accurately reflect the reality to which they refer (see Plato, [~360 BC] 1997: 263b).

The programme envisages the use of highly structured models as a way to answer research questions and test presumptions, expressed as hypotheses. The idea behind the approach presented in this book is centred around the use of knowledge models as calibrated by demands imposed by research queries and hypotheses, the latter considered as guidelines in the entire modelling

process. Thus, *Part I* attempts to change the traditional role of models from those used simply to (vaguely) reflect the conceptual structure underlying subject discourse to those applied to substantiate theories on how professionals communicate. The programme identifies three broad areas in which theoretical contributions can be offered: conceptual, relational (semantic), and formal (see Faber, 2011). This reflects a fairly widespread view that mappings between concepts, relations and forms enable and facilitate purposeful communication, including for professional purposes.

1.1. Motivation and competence

While motivation factors in terminological research, just as in all scientific endeavours, tend to be numerous, they seem reliant on a few fundamentals. These include, though are by no means limited to, a researcher's intellectual curiosity, regarded as a driving force behind their quest for true knowledge (Langmuir, 1932; Joynson & Leyser, 2015), and their intrinsic willingness to solve societal and industrial challenges (Iorio *et al.*, 2017: 501–507; Suominen *et al.*, 2021). The first of the two motivations for scientific work aligns with the Aristotelian objective of science (Aristotle, [~350 BC] 2015a: 980a–980b, 982a 5–982b 26; Krąpiec, 2000: 76–87), a stance which accords priority to pure knowledge, while the second of these motives seems to underlie the Baconian principles (Bacon, [1620] 2017) and tends to be associated with applicable knowledge (see Grucza, [1983] 2017b: 110–116).

Guided by Bonaventuran ethical principles regarding (the objectives of) their intellectual work (Bonaventure, [1259] 1999: *Prol.* 4, III 6–7; see Krąpiec, 2000: 81–82), terminologists, be they model builders or scientists who use models for the purpose of testing hypotheses and creating new (or modifying existing) theories, will be obliged to pursue truth while respecting the free will and dignity of research participants, a circumstance which may occur if they need to supplement a given corpus of documents with a set of interviews with field professionals to fill lacunae identified in the networks of candidate terms (Meyer, 2022: 116). A sustainable programme of research requires that a terminologist adopt the criteria of truth applied in natural sciences. This means that their hypotheses, viewed as tentative explanations of phenomena, must submit to tests based on observable evidence (Yngve, [2004] 2006b: 351).

Grateful to predecessors though a researcher, hence also a terminologist, ought to be for their scientific inheritance, their very competence assumes their determination to follow the motto of the Royal Society (proposed by John Evelyn) – *Nullius in verba* – and, as a consequence, accept nothing on authority (see

Lyons, [1944] 2015: 39; Ashworth, 2017). This in turn entails a commitment to test (either corroborate or falsify) all statements within their field of interest by an appeal to facts. A terminologist willing to operate by these standards will need a limited number of basic assumptions. These encompass: the existence of the real world (a key point of reference in professional communications), assumed to be regular, and hence capable of being discovered and investigated in the course of research to lay the groundwork for prediction (Yngve & Wąsik, [2004] 2006: 329), and acceptance of basic explanatory principles (Aristotle, [~350 BC] 2015b: II 3–9; Hume, [1748] 1777: I.III.7–15, I.IV.1; Woodward & Ross, [2003] 2021).

Hypotheses, as we know from Newton, are to be understood not as propositions inferred from observed phenomena (Newton, [1713] 1846: III.506–507), but as propositions which human experience has (as yet) failed to, but still could, provide. This view on (the use of) hypotheses appears to have been acknowledged and further developed by Dewey (*see* Dewey, 1929: V). Admittedly, the correctness of an idea, or a proposition, may not be guaranteed by a research worker's accumulation of experience; still, their (extensive) experience with phenomena in their area of inquiry, especially when combined with their previous knowledge about these phenomena, has been widely reported as increasing markedly the probability of advancing correct (or partially correct) propositions (Putnam, [1974] 1991: 134–135; *see* Yngve, [2004] 2006b: 354). Hence, in order for terminologists to be able to formulate meaningful questions and plausible hypotheses (Yngve, [2004] 2006b: 349–350), inherent in their research competence ought to be a constant and relentless pursuit of self-education in a targeted field.

Specificity of terminology sciences implies the use of models, a tradition necessitating their inclusion in the programme of explanatory research. If the worth of (scientific) theories is measured by the degree to which they provide an understanding of particular phenomena (McCain, 2016), then the role of models, created in the course of terminology work and illustrating coherence relations in a targeted field, can hardly be overestimated. Suffice it to recall that models of compressed knowledge, which showcase a coherent semantic structure, have been reported as improving understanding (Elgin, 2007: 36; Wilkenfeld, 2018: 2828–2829). Hence, to implement the programme of terminological research using models, one needs to adopt principles of data compression based on a reduced number of field-specific conceptual relationships (*see* Wolff, 2019: 4–8), which have been found to manifest themselves in a variety of information objects comprising a usable corpus (Buckland, 1991: 351–356).

A scholar engaged in terminological research is required to be *au fait* with the most recent findings on both standard and non-standard sets of conceptual relations identified in various domains. These sets are provided by not only

terminologists or linguists (Wierzbicka, [1996] 2004; Lukszyn, 2005a: 99; *see* Nagórka, 2011, 2012: 33–49), but also scholars representing related fields (Chaffin & Herrmann, 1984: 135–136; Winston *et al.*, 1987: 421–440), notably data scientists (*i.a.* Hsu *et al.*, 2015: 29–36; AlMousa *et al.*, 2021) and researchers in library and information science (Hjørland, 2016: 149–153). Among sources containing indicative lists of conceptual links that terminologists may find useful when diagnosing semantic patterns in a selected domain are normative documents (*e.g.* ISO, 2011) and structured reference works characterised by an advanced degree of semantic richness (*see* Hjørland, 2015: 120), such as thesauri, topic maps, and ontologies (*e.g.* Nagórka, 2021a).

A sound approach to research presupposes recognition of the methods for the division of concepts valid in a field under study (*see* Nagórka, 2017a: 4–6). Terminologists focused on the conscious creation of a scientific theory acknowledge that conceptualisations, with their discovery viewed as fundamental for not only linguists (Wierzbicka, [1996] 2004: 391, 395), but also terminologists, are usually field-specific. This observation implies consequences for the scale of research, reflected in the sizes of corpora, which vary depending on such factors as the purpose for which they are designed (Spencer, 2019: 505) and the character of a targeted domain. Resulting, *inter alia*, from various truth criteria adopted across targeted domains, differences in terms of applicable modes of conceptualisation (Faber *et al.*, 2009: 6–7) can be significant. In the case of life and technical sciences, such as oenology, synchronic corpora will usually suffice; in the case of dogmatic fields, such as agathology, whose representatives participate in an eternal discourse, diachronic corpora are indispensable (Nagórka, 2021a, 2021b).

Neither a definition – often the goal of investigations rooted in dialectical disciplines (Yngve & Wąsik, [2004] 2006: 327) – nor models of knowledge, which are central to terminology work (in the traditional sense), must be the end objective of terminology viewed as a science. On the contrary, a scientific terminology requires that terminologists add to the body of justified knowledge on specialised communication based on their theoretical findings. While demonstrating their ambition in meeting this challenge, a research fellow also needs a keen awareness and understanding of their limitations, as they are obliged to adhere to the principle of intellectual humility, displayed by Socrates (Plato, [~399–387 BC] 1997: 29a–b), and practiced *inter alia* by Hume ([1748] 1777: I.IV.1), who observes that causal reasoning, which is the mainstay of building scientific theories, offers science not certainty but probability.

In the course of their research into communication in various domains, terminologists may gain advanced specialised knowledge, especially when terminological coverage of a domain is encyclopaedic in scope (Zmarzer, 2011: 198–201; Nagórka,

2012: 45–46). Even though the types of stored knowledge gained by terminologists and domain specialists may be considered similar and, in many respects, analogous, they ought not to be regarded as corresponding in all their specialised functions, partly as they usually differ much in their evolutionary origin. While knowledge of a wine scientist is rooted in facts established by observational and experimental evidence, the correspondent knowledge of a terminologist who has researched professional communication in the wine field rests on facts of discourse, and more specifically, consistent bodies of information (see Khosrow-Pour, 2013: 477). Put simply, a terminologist is expected not to isolate sotolon from madeiras created from Malvasia grapes to confirm correlations between the formation of this odorant and sugar degradation (Nagórka, 2021a: 13–14), but to assess the extent to which specialists reporting on this matter agree or differ (Nagórka, 2021a).

Akin to the statement on intellectual humility exercisable in terminology sciences are the principle of terminologists limiting their interest in professional communities to matters of communication and the (ancient) principle of deferred judgment. The former serves as a guide for terminologists to include in their working corpora non-standard documents (information objects), such as artefacts, objects bearing traces of professional activities, material evidence associated with events, photographs, and models representing ideas (see Otlet, [1934] 2021: 217; Briet, 1951: 7–8; Buckland, 1991: 351–357), only inasmuch as these are perceived as relevant to (aspects of) professional communication under study. The principle of deferred judgement (Gr. ἐποχή), whose origins can be traced back to the sceptical traditions of ancient Greeks (Sextus Empiricus, [~200] 1935: II.118–124), may prove useful when a researcher detects inconsistencies across documents of a given corpus when preparing a model.

The attitude of deferred judgement may be adopted when a terminologist encounters problems related to alternative understandings of expressions offered by authors of documents taken into consideration, or when these authors are found to communicate contradictory solutions to tasks falling within their job descriptions. The issue of differences among specialists, ascribed to dissimilarities in their states of knowledge, finds expression in the tenets of the Varsovian School, whose representatives differentiate both between individual communication methods and between human states of knowledge based on their ontological status (see Grucza, 1993: 151–159; Pawłowski, 2017: 56–62, 109–110, 126–127). A stance in which a corpus is seen as made up of single-author corpora is critical to not only reconcile differing professional views, but also solve the problem of disputed authorship (Coulthard, 2004). Most notably, deferment of terminological evaluations in structuring a targeted field until the completion of the process of data collection enables terminologists to avoid misjudgements (see Deutsch, 2012).

When aspiring to the status of a mature scientist, a terminologist needs to adopt methods which will ensure reliability of their findings. An accepted standard across disciplines is that relevant data be sought by consulting multiple independent sources (*see* Bazeley, 2008: 134; Borgman, 2015: 149). The proposed minimum requirement for the acceptance of a concept into the conceptual system of a domain is that the concept, not otherwise attributed to a single person, must have been presented in at least two independent sources (Nagórka, 2021a: 312). Notably, terminologists' competence in building (and applying) models presupposes their intimate knowledge of internationally recognised guidelines for their construction (*i.a.* ISO, 2009, 2011). Since humans, broadly speaking, are (most probably the most active) part of the natural world (Katz, 1993: 225), it seems sensible to heed the advice on involving experts as terminological work proceeds (*e.g.* ISO, 2011: 13.3.4) with the purpose of ensuring that models being created are valid and reliable.

Skills that are widely regarded as indispensable for terminology work, such as demarcation of concepts, their combination and naming, must be accompanied by a researcher's aptitude for learning (new) languages. Their knowledge of a field's primary language(s) (*see* Łukasik, 2017b: 3–4) must be (at least) to the level necessary to compare the underlying conceptual network against the conceptual networks that guide professional discourse in other languages of interest. Conceptual networks manifesting themselves through forms of a domain's leading language(s), regarded as systems serving professional communication in which knowledge is represented to the highest degree of precision (Łukaszyn & Zmarzer, 2001: 60 *ff.*), become an important reference point in the development of models. By basing research on both a corpus of documents produced in a relevant language and an accompanying corpus of texts created in a field's primary language(s), where the latter serves as a control tool, there is a high probability that the resultant model will remain useful as an instrument of diagnosis.

Of all the methods of accepting tentative knowledge (expressed in the form of hypothetical statements) as legitimate, the highest priority is given to justifying that knowledge through testing hypotheses against terminological knowledge models, notably conceptual maps and specialised thesauri. While it is true that observations and theories are not to be accepted on ultimate authority (Yngve, [2004] 2006b: 350), there still is a place in science, and hence also in terminology, for submitting the fruit of one's inquiries to the judgement of the scientific community (*see* Dewey, 1938: 4). Conclusively, as observed by John Dewey (1929), the validity of theoretical assumptions, which are suggestive of operations to be performed, depends on practical consequences of these operations. A similar stance has been adopted by Hilary Putnam, who advocates the primacy of practice

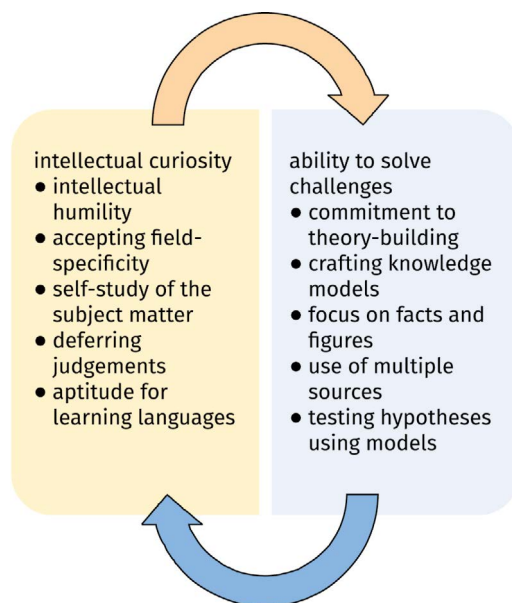


Figure 2. A list of foundational motivating factors and research competences considered key to theory-building in the proposed research programme in terminological sciences.

in certifying correctness of hypotheses (see Putnam, [1974] 1991: 134). Terminology sciences as depicted in this book use a view in which a certificate of superior credibility can only be awarded to knowledge justified by its practical effectiveness (see Grucza, 2009: 28–29).

Finally, under the refined research programme, terminologists are not merely perceived as diagnosticians or modellers; rather, they must (also) be seen as scientists or theory builders (see Cabré Castellví, 2003: 179–182). This dissertation outlines a vision of shifting the focus in terminology from model building to hypothesis testing through knowledge models, and thus building theories. In this view, a theory of terminology is to be understood as an open collection of internally coherent and substantiated claims aimed at explaining principles of professional communication (see Popper, [1982] 2014: 12 ff.; Cabré Castellví, 2003: 182). This theoretical framework enables and provides space for a collaborative endeavour in which the system of claims continues to grow stronger with each new hypothesis tested, whether disproved or confirmed. In sum, the programme of terminological research makes high demands on researchers. They are required to not only capture and model specialised knowledge in selected domains, but also confront their propositions and hypotheses with facts of discourse to determine factors key to communication in professional communities.

1.2. Research questions

The practice of sound academic work prompts the formulation of an empirical question resulting from a researcher's identification of a problem (Popper, [1982] 2014: 11) and their (genuine) desire to close a gap in scientific knowledge on professional communication in a targeted field. Notably, in order to be aware of such a gap, the researcher must have some substantial knowledge on both the subject matter of their research and previous findings on the subject in their own discipline (see Loewenstein, 1994: 94). With terminologists showing a keen interest in domains of professional knowledge, the guiding question in terminology considered as a science is 'How do professionals communicate?' (see Yngve, [2004] 2006a: 29–30). Since acts of human communication (Grucza, 2012: 33–39) are widely regarded as resting on concepts, viewed as units of knowledge (ISO, 2009: 5.1), their interrelations, and forms of expression, any particular questions subsumed under the central question will be concerned respectively with either professional concepts or semantic links, or subject-related words and expressions, treated as concept markers.

The tradition of posing questions, especially those turned into (testable) propositions (see Yngve, [2004] 2006: 27), guides research not only in Socratic dialectics (Plato, [~399–380 BC] 1997: 331a–d, 359a–360e), but across scientific areas, from dogmatic fields, such as ethics (McIntyre, [1958] 2004: 43–46), through humanities and social disciplines (White, 2009; Farrugia *et al.*, 2010: 278–279; Pawłowski, 2017: 11–14; Rexhepi, 2018: 3–10), to natural sciences (see Darwin, [1859] 1998: 6–7; Kruchten & O'Brien, 2022: 188). While exploring properties underpinning communication in various fields of human intellectual activity, scholars engaged in terminological research ought to differentiate between core questions, central to their own discipline and concerning specialised communication, and those of interest to (and posed by) representatives of a targeted domain which these terminologists endeavour to support. Notably, while rarely linked directly to professional communication (in the strict sense), the latter type of questions must not be overlooked, if only because they tend to provide external inspiration for both terminological inquiry and research in other scientific fields (see Du Toit, 2015: 62–63).¹

¹ The practice of considering questions only indirectly related to the subject matter of disciplinary research echoes the words of Jacob Bronowski, who argued that impertinent questions are capable of setting the scientist on a path leading to pertinent answers (Bronowski, [1973] 2011: 118). For instance, questions on degrees of intellectual challenge presented by a task in a specified profession are characteristic of and of interest to the representatives of that profession. Nonetheless, they can be adapted by terminologists and reflected in questions concerning the degrees of conceptual complexity of the relevant subject field (as evident from representative samples of professional communication).

Guided primarily by core research questions associated with professional discourse within a domain (Cabr  Castellv , 2003: 178; Thoiron & B joint, 2010: 105), terminologists may also use in their own research questions typical of other disciplines that, like terminology, offer their generous support to the domain concerned. With modern terminology capable of taking into account for the creation of models all facts of discourse available, names of individual concepts and non-verbal manifestations of specialised knowledge included, the researcher may as well observe by means of the collected data regularities suggestive of solutions to questions raised by historians or cultural anthropologists narrowing their focus to business organisations and industries. These additional questions can be addressed by terminologists only insofar as providing a tentative solution to the problem of a historian or an anthropologist does not distract them from the task of mapping conceptual areas of the field in question (*see* Wierzbicka, [1996] 2004: 395–396), and provided that the proposed solution offers a useful explanation of the regularities in the structure of communication in the field under study that have previously been observed and captured in the model.

All research questions in terminology, as in other (empirical) disciplines, are generally divisible into those on qualities of the area under study and those relating to quantitative aspects of the subject matter. In a scientific terminology, as conceived in this book, whose results rely on (communicable) data comprising models of knowledge in a targeted field, qualitative research questions, which focus on experiences and understandings that people have on a subject (*see* Pitts, 2017), typically precede quantitative inquiry (Angus & Gallois, 2017), which centres around measurements of systemised data collections. Crucially, while qualitative research initiated by an appropriate set of questions affords the researcher an in-depth understanding of the subject matter, including the diversity in communication related to the subject as well as its dynamics, quantitative research allows generalisability of the findings (Angus & Gallois, 2017), enabling terminologists to explore tendencies and detect (regular) patterns. Notably, both question types may concern conceptual, semantic (relational), and formal properties, viewed as the building blocks of every act of (professional) communication.

Even when a quantitative question constitutes a major driving force for initiating research, as is often the case, qualitative questions on the properties relevant to the subject matter ought to be attempted first in order to have a strong basis for seeking a reliable answer to questions about quantity (Sodan, 1999: 53). For instance, questions such as: ‘In which sector of a domain under study is communication between professionals marked by the greatest complexity?’, or ‘Which concept field underlying communication in sectors comprising a professional domain is the largest in size?’, may only be attempted once the researcher

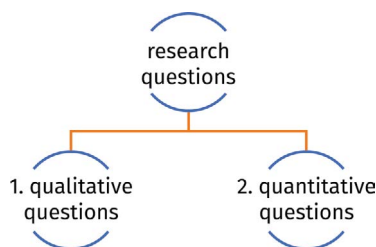


Figure 3. A microhierarchy of questions guiding terminological research (*cf.* Hesse-Biber *et al.*, 2015).

has managed to identify most (if not all the) conceptual properties germane to that domain. Similarly, attempts to address questions about relational properties, such as: ‘What modes of professional thought are dominant in communication among professionals in a given trade?’ or ‘Which concept links are the most represented in communication on the subject?’ necessitate finding conceptual relations specific to the subject matter in question. By the same token, responding to queries on formal factors guiding professional communication, for example: ‘To what extent does knowledge of a particular (national) language suffice for communication in a selected trade?’ or ‘Knowledge of how many languages ensures effective communication in a professional domain?’, presupposes the discovery of language forms used in a relevant community.

Qualitative questions on (sets of) concepts representative of the professional knowledge held by members of a community are determined from a purpose-related viewpoint. For instance, efforts of terminologists interested in conceptual differences between trade areas of a single domain may be guided by questions such as: ‘What concepts can be regarded as typifying (or unique to) communication in each of the areas comprising a given domain?’, ‘What conceptual characteristics comprise professionals’ understandings in the trade area that they represent?’, or ‘Do trade professionals, who represent different areas of a single domain, apply analogical concepts?’. Attempts to answer these questions, which can be based on studying an expanded corpus containing all relevant information objects available and thus bringing the researcher a step closer to transforming their questions into usable hypotheses (*see* Mills, 2017), provide the necessary foundation for posing quantitative questions, whose presence in terminology science can be attributed to cognitive semantics (Geeraerts, 2006: 654–655). Questions of that type include the following: ‘How many concepts do representatives of a trade area use for its coverage?’ or ‘Do representatives of a speciality area recognised as part of a particular professional domain need a larger number of concepts to

describe their own province of expertise than representatives of other speciality areas known to comprise that domain?'.

The study of conceptual structures, which lies at the heart of the traditional conception of terminology and has its points of departure in concepts and their interrelations (*see i.a.* Geeraerts, 2006: 653–654; Sharoff & Hartley, 2012: 317–318), requires questions to be raised about the nature of concept relations inherent in a subject field (ISO, 2019: 3.1.4–5). Relevant qualitative questions may take the following forms: 'What kinds of relations hold between concepts underpinning communication in a selected domain?', 'What concept relations are used in communication between professionals representing specialised areas of a selected domain?', or 'Are concept relations (identified) in professionals representing different areas of a single domain analogical or different?'. Questions about quantitative measurements, often regarded as the building blocks of (empirical) science (*see* Thomson, [1883] 1889: 73–74), may include the following: 'Are specialised areas of a selected domain describable using the same number of relation types?', 'Is the concept system of a trade area in a targeted domain characterised by a greater complexity than systems of other areas in that domain?', or 'Which types of concept relations are dominant in communication among professionals in each area of a selected domain?'.

Questions about forms applied by representatives of a professional domain for the purpose of communication, conceived collectively as an integral component of a person's cognitive-communicative system, which serves, *inter alia*, to present conceptual content, can vary depending on the researcher's interests. Qualitative questions related to (language) forms used in a community for the coverage of a subject field tend to focus on structural aspects of these forms (Lukszyn & Zmarzer, 2001: 109–110). For instance, a researcher might inquire about examples of the usage of eponymic forms. In a similar vein, when taking account of borrowings from source languages, questions on formal qualities underlying professional communication can develop into the following: 'Does the professional community under study, whose members communicate in a given national language, use (traces of) foreign language forms?' or 'Which officially recognised languages can be viewed as sources of borrowings into the language adopted by the professional community in question?'. By way of analogy, researchers interested in quantitative aspects of the subject matter may pose questions such as: 'How much do eponymic expressions contribute to the description of communication in the subject field under study?', 'To what extent are representatives of a professional community communicating in their national language reliant on borrowings from other languages considered as crucial to the development of their field?'.

The programme of terminological research as put forward in this book assumes that intellectual curiosity of the researcher manifesting itself through questions that they have posed ought to be restricted by their conscious reflection on ethical issues related to the subject matter. Although a researcher animated by curiosity has a keen interest in accumulating knowledge, identifying its structure (Summa, 2024), and examining the credibility of its sources, their desire to expand knowledge should not be unrestricted. We can distinguish between two general sources of limitation for applying cognitive curiosity in scientific research: internal factors and external factors. First, in full accordance with the spirit of the research programme outlined in this book, terminologists ought not to use their knowledge modelling skills when they become aware or are able to foresee that the results of their work, in particular those concerning the ordering of knowledge, will be used for unworthy purposes. In this respect, the position of the physicist and radiobiologist Joseph Rotblatt is exemplary. Second, limitations imposed on the pursuit of knowledge can be understood as derived from the principle that activities of science should respect the human will (Krąpiec, 2000: 29–32, 87–90), thus reinforcing the view that – in their essence – ethical values, including (among others) humility (Pirożyński, [1946] 2017: 27), truth-seeking, honesty, and respect, present a tendency to bear some resemblance to and complement one another,² which may lead the researcher to achieving integrity (*i.e.* internal consistency) (Nagórka, 2024a: 126). Intellectual curiosity should be limited especially in the case of detailed questions, including those to which answers have been obtained by the researcher with the reservation from interviewees not to make them public. Restrictions of this type are based on the researcher's respecting the will of an interviewee or the will of a deceased person who asked that these or other documents of his or her authorship not be used (including for purposes related to research).

With a research hypothesis defined as an assumption about the potential answer to a previously formulated research question, research questions and hypotheses can be said to be intimately related. Derived from research questions, hypotheses tend to be more precise, requiring at least a minimum knowledge of

² This observation about ethical values can be made if only by examining the scientific dispute between Socrates and Protagoras, where Socrates maintains that scientific progress must rest on formulating testable hypotheses (Plato, [~399–380 BC] 1997, 331a–c). In the course of their dialectic, guided by propositions and counter-arguments, Protagoras eventually seems to accept Socrates' proposition that the virtue of justice does bear some resemblance to that of piety (Plato [~399–380 BC] 1997, 331d), and also, by the same token, to other virtues (Plato [~399–380 BC] 1997, 359a–360e).

the problem. Hence, when formulating a hypothesis, pilot or exploratory studies may sometimes be of use, as they allow the researcher to investigate phenomena or issues for the purpose of gaining subject knowledge while not yet aiming for conclusive results. For instance, when crafting terminological models for the coverage of the field of fortified wines, it would take at least some previous knowledge of the subject matter to make the assumption that – despite similarities – the subject area of madeira wines may be characterised by greater complexity (and – for this reason – require a greater number of descriptors) than the area of port wines or the area of sherries (Nagórka, 2021a: 8–9, 114–115, 215–216, 307–317). Exploratory studies (Smith, 2024) often enable the researcher to gather preliminary data while sometimes also informing a more comprehensive study design. Importantly, these preliminary studies may reveal the need to refine research questions and modify hypotheses, ensuring they are both focused and aligned with the aim of the main research process. Well-formulated, anticipated answers to questions posed in the research process tend to provide the researcher with clues in terms of the type of data to be collected during the main research and the manner in which these data ought to be analysed.

1.3. Objects of research

The fundamental task of a scientific terminology, as that of a scientific linguistics focused on specialised communication, is to study professionals, not languages, a stance whose origins can be traced back at least to the founders of the Neogrammarian School (of linguistics) (Osthoff & Brugman, [1878] 2013: iii), and subsequently also to structural linguist Ferdinand de Saussure ([1916] 1995: 23). This attitude was developed into research programmes much later by two scholars working independently – Franciszek Grucza ([1983] 2017a, [1983] 2017b, 1993, 2009 *ff.*) and Victor Yngve (1996: 23–46, 121–145 *ff.*). Terminology can only come into its own as a mature science if its objects are (taken as) given in advance, *id est* when they antedate the researchers' mental creations and viewpoints. Considering terminological research as conducted on representatives of a profession, rather than on their languages, with the aim being to gain secure knowledge about the pillars of their mutual communication, implies the possibility of inferring the foundations of specialised communication on the basis of various manifestations of professional knowledge. This stance dovetails with the position, long accepted in both terminology and information science, that human subjects (under study), and hence also professional communities that they co-create, manifest their knowledge not only verbally, but in many (various) ways

(i.a. Otlet, [1934] 2021: 217; Briet, 1951: 7–8; Felber & Budin, 1989: 3.152.5, 3.152.51; Buckland, 1991: 351–357; Schlamberger Brezar, [2004] 2006: 151–152; Lukszyn, 2011: 11–20).

As a consequence, in diagnosing conceptual content and the corresponding, relatively fixed, forms of its expression, a scientific terminology has no obligations to restrict its attention to verbal(ised) information. Indeed, as well as using an adequate corpus of documents, standard and non-standard alike, terminologists may also benefit from immersive research. An effective form of self-education in a field concerned, the act of embedding in a professional community enables terminologists to gain experiential knowledge (Greene *et al.*, 2013: 288). This fieldwork, which often assumes the form of participatory observation, so well established in such fields as anthropological linguistics and communication studies (see Malinowski, 1923; DeWalt *et al.*, 1998; Cohen, 2000), affords researchers an insider's perspective on the researched field, enabling them an intimate familiarity with its representatives. This kind of experience has been found to result in its beneficiaries standing out with a markedly denser network of linkages between concepts in a specific content area (Greene *et al.*, 2013: 293) compared to their previous knowledge on the subject. Crucially, terminologists interested in professional communication with all its manifestations, conducting field research, and thereby (often) enriching the existing corpus with audiovisual records, have the opportunity to add to their model of professional knowledge, supplementing it with (some) non-verbal manifestations, and thus reinforcing the transmission of relevant content.

Focused on finding stable forms of expression for the identified content, terminologists are ultimately engaged in identifying properties safeguarding effective communication between specialists within a professional community. These properties, understood as the pillars of professional communication, encompass domain-specific concepts (in the scope established by the researcher), along with these concepts' interrelations, as well as their corresponding labels or designations (see Lukszyn, 2005b; ISO, 2009: 5.1–5.6). Importantly, a subject corpus may contain documents whose contents prove (partly) incompatible, in which case researchers tasked with building a reliable model are required to find a solution. It is good practice to adopt specialised designations, taken as candidate terms, and their definitions, according to the degree of reliability recognition accorded to documents of various authors and types (Buckland, 2012: 4–6). Thus, a structured source of reference, such as a normative document published by a scientific and technical organisation recognised for its competence in the industry, ought to be taken as more valuable to a model builder than a professional blog article, especially when these documents cover types and classifications of objects viewed

(by the targeted group of professionals) as key to the trade.³ Similarly, when developing maps of encyclopaedic knowledge for a life science, such as oenology, researchers working in the field of terminology may need to face the problem of which documents to trust, knowing that each and every act of communication, including communication of a scientific fact, is a culturally situated construct (*see* Fleck, [1935] 1980). When investigating the concepts of events, places, and dates, the researcher's work may resemble that of an historian of (individual) concepts, where factual knowledge needs to be confirmed against (independent) sources of (historical) evidence. As much as possible, priority ought to be given to (authentic) artefacts to the extent these can be used as compelling evidence, and, if they should not be accessible, to sources by authors who report on the subject matter from their own research or experience, rather than those who cite the ones who first reported on the matter.⁴

Maintaining the quality of research work in view of the social utility of the results requires that the acceptance of a concept, whether general or individual, into a (conceptual) system be made conditional on that concept having been

³ This can be exemplified by excerpts from professional discourse on sherry. In October 2018 Ruben Luyten (2018), a certified sherry educator recognised by the Sherry Wine Regulatory Council (Consejo Regulador de los Vinos de Jerez y Manzanilla), pointed out the error of the wine bloggers and authors Madeline Puckette and Justin Hammack (2018) in their classification of sherry exclusively as a dessert wine, especially in view of the fact that the category of dry sherries is the most numerous. Another example on the importance of consulting the most recent normative documents, such as those published by IVBAM (Instituto do Vinho, do Bordado e do Artesanato da Madeira; the Madeira Wine, Embroidery and Handicraft Institute) is provided by the book authored by James Halliday and Hugh Johnson ([1992] 2013: 186) including in the classification of madeiras with the much-contested term 'vintage', rather than the official term denoting madeira from a single year, which (unlike vintage port) has aged in cask for at least 20 years (Mayson, [1994] 2015: 503; *see* Nagórka, 2021a: 312).

⁴ For instance, terminologists tasked with building an encyclopaedic model of knowledge on special wines may find of use Jean François de Troy's *Le Déjeuner d'Huîtres* (Oyster Lunch), a painting commissioned by the King of France in 1734 and unveiled in the following year. Currently in the collection of Musée Condé (the Condé Museum) in Château de Chantilly, the painting not only features cork-stoppered glass bottles used in Champagne for sparkling wines in the first half of the 18th century, but also depicts some of the oldest traditions of serving champagnes and pairing these wines with seafood. Similarly, rather than relying solely on information offered by journalists and wine writers about Graham's Six Grapes Reserve Port being served to passengers of the luxury ocean liner RMS Queen Mary in May 1936, the researcher had better confirm the link between the concept of the reserve ruby port with that of the ship's inaugural cruise by supplementing the corpus with a photograph of a dinner menu card from that cruise, with a copy of the original card being on exhibition in Graham's Port Lodge at Rua do Agro in Vila Nova de Gaia.

captured in documents produced independently. Notably, care must be taken to ensure that cases of circular reporting (Drayson, 2017; Mercier, 2020: 166–180), also sometimes referred to as false confirmation, are detected and not relied upon when the model being created is to serve an industry as a benchmark against which its further progress may be gauged (Zmarzer, 2005c). In cases where documents created by two different authors offer information reliant on the same original source, it seems desirable as well as sensible for terminologists to investigate that source, while also proving veracity of the information it contains against additional (independent) data or artefacts. Similarly, when the author of a document being considered provides information on the subject of interest but fails to include a list of their sources, which may often be the case with professional materials and handbooks published without seals of quality granted by regulatory organisations, model builders ought to treat such a document with caution and attempt to find support for the data that it provides in sites known for their reliability and transparency, such as peer-reviewed scientific journals, academic (book) series, and (structured) reference sources published by designated professional authorities.⁵

Particular caution will be required when working on projects involving the identification of data representing concepts of single (or singular) events affecting the personal lives of their participants, greater than with terminological enterprises requiring the finding of information representing concepts of recurring events, or work habits, that does not contain sensitive data in any sense of the word. Quality-oriented terminological research would require scholars to be as meticulous and conscientious as possible in verifying data representing precise concepts, such as those of dates, events, places, persons, *etc.*, encountered in the subject documents, especially as the research practice shows that some of these documents, when synthesised, contain information that seems – or, indeed, turns out to be – inconsistent (*id est* contradictory) or fragmentary (*id est* incomplete).⁶ In these and similar cases contradictory claims about reality

⁵ Notable examples of trade organisations in Europe's winemaking industry are Comité Champagne (Comité interprofessionnel du vin de Champagne) and Consejo Regulador de la Denominación de Origen Protegida 'Cava', which serve significant sectors of the sparkling wine industry; and also Instituto do Vinho, do Bordado e do Artesanato da Madeira and Instituto dos Vinhos do Douro e do Porto, representing key interests of sectors of the fortified wine industry.

⁶ This is the case with several documents used in the (ongoing) project aimed at an encyclopaedic description of the concept field of sparkling wines, with a special emphasis on champagnes, conducted – intermittently – ever since 2019 at the University of Warsaw. Inconsistencies were encountered when studying documents related to deportations of managers and employees of prominent champagne houses accused of collaborating with the Resistance during World

appear to be sufficient to make the researcher abandon idealist views, purely statistics-based claims included. Similarly, when attempting to model precise knowledge, researchers ought not to rely solely on identification of analogous concepts in documents produced by different authors, as the relevant sources may well contain the same type of error. To avoid perpetuating errors, clear criteria for prioritising information sources may be necessary. One idea for establishing degrees of credibility of sources would be to select documents based on the quality of research methods employed (Hjørland, 2021: 7–8), a solution borrowed from evidence-based practice (*e.g.* Hjørland, 2011b; Pawson *et al.*, 2011). Adopting this stance with regard to handling high-precision data means that priority would be given to highly reliable archival documents, analysed and pre-selected on the basis of their authenticity by experts on a particular case, notably historians and archaeologists employed at thematic (single-subject) museums and archives, rather than book chapters or (scientific) articles whose authors have treated the subject matter either cursorily or superficially, discussing mainly other issues.

1.4. Objectives and methods

Terminology work, as conceived in this book, is carried out as an attempt to offer (a) reliable model(s) of professional knowledge in a targeted field (*see* Cole, 1987: 79). Some terminology products (also known as deliverables) are listed by international standards (ISO, 2008: 4.1–4.3.5.5). Among them, systematic terminologies deserve special attention, especially in view of their usability in the area of information and content management, notably for the purpose of testing hypotheses. Given their versatility (adaptability), which entails virtually unlimited possibilities of (deep) structuring of a subject field, tailored to

War II. In Lucand ([2017] 2019) one can read that Paul Chandon-Moët was ‘deported and killed at Auschwitz’ (179); whereas in Sellier ([1998] 2003), the name Paul Chandon-Moët was linked with names of two other concentration camps, namely Buchenwald and Mittelbau (Dora) (185). Given the perceived inconsistency, archival data were consulted in late January 2023, including those from Arolsen Archives and Archives of the Auschwitz-Birkenau State Museum in Oświęcim. Based on these sources, Paul Chandon-Moët was first brought from Paris to KL Auschwitz in April 1944, and – later that year – transferred to two other camps, first to KL Buchenwald, and subsequently to KL Mittelbau. This information has been both confirmed and supplemented by that from Centre de recherche d’histoire quantitative (CRHQ), with a data search conducted online on 10 February 2023 revealing that, prior to his death in 1967, Paul Chandon-Moët was chairman and CEO of the champagne house owned by his family.

research questions and needs, and enables capturing encyclopaedic knowledge of a professional community, subject thesauri, such as *NCI Thesaurus* (NCI, 2022), and ontologies, for instance *Disease Ontology* (IGS UMSOM, 2022), seem a natural choice as instruments for hypothesis testing (Castro-Rea, 2010: 446–447). Crucially, focused on building a model for accurate presentation of a subject field (Upmeier zu Belzen *et al.*, 2021), the researcher must in each case determine which parameters are necessary for the target model for the sake of efficient execution of their research task. For instance, when an adopted hypothesis posits that measuring the state of knowledge of the relevant professional community should indicate that flavour profiles of classic fortified wines (*id est* madeira, port, sherry) show more similarities than differences, the knowledge model being sought must be designed to include not only descriptors covering fortified winemaking methods, but also chemical nomenclature (ISO, 2019: 3.7.7), listing names of flavour compounds identified in wines representing each category.⁷

The creation of a microcorpus of subject documents, if only as part of another enterprise undertaken for practical purposes, *e.g.* for the creation of a domain-specific encyclopaedia, terminological dictionary, or concept map needed for the construction of conceptual profiles for problem solving in various fields of activity, can be adopted as a pilot study for hypothesis generation. As a matter of fact, term specialists can deal with the mapping of encyclopaedic knowledge, capturing, among other things, historical and geographical data, and also personal names, thus enabling their hypotheses to be derived from the corpus.⁸ More importantly,

⁷ Although the research method used in the present study and the one applied at CNRS (Centre national de la recherche scientifique) by Anne Condamines show a significant number of similar aspects (*see Introduction*), they can be viewed as different in the ways in which knowledge models are employed. Working in the paradigm of situated linguistics while also making use of concepts found in ergonomics, Anne Condamines considers models as products of controlled natural languages that can improve communication in professional communities, as in the aeronautics industry (*see Jahchan, 2019*). As a consequence, models in her studies tend to be evaluated for their efficiency (Condamines, 2021), with relevant hypotheses concerning professionals' interactions with these models. By contrast, in this research (complete) models are viewed primarily as advanced representations of (professional) knowledge in relevant aspects, where hypotheses advanced are diagnostic in character (Nagórka, 2024b). Hence, both answers to research questions and the results of hypothesis testing can be obtained by examining the models themselves.

⁸ Research into communication on fortified wines, fundamental for creating the terminological encyclopaedia *Madeira, Port, Sherry: The Equinox Companion to Fortified Wines*, published in late autumn 2021, began in 2013. While this enterprise was inherently practically oriented, with its aim being to enhance communication between specialists, at its very early stage I noticed in the

perhaps, from the methodologist's viewpoint, terminological coverage collating in a single database specialised vocabulary with (numerous) designations attributed to concepts of facts and figures can facilitate attempts at forming adequate hypotheses on the subject. If these hypotheses are based on causal relationships, as they often are, then they are also capable of providing explanatory links that hold concepts together, with these links being essential for creating theoretical constructs, which tend to be dominated by causal relationships (*see* Hjørland, 2015: 124–125). An illustrative example is provided by the hypothesis that a given national language used for communication in a professional domain in a specified period may be the most productive source of borrowings into the national language for whose diagnosis a corpus has been developed, with such a hypothetical statement based not on a pure guess, but, for instance, on data about the intensity of business relationships among trade professionals representing different national language cultures. While factual data supporting the creation of a (causal) hypothesis may as well be sourced from related knowledge domains that have not been included in the corpus, extended corpora representing encyclopaedic knowledge of a particular domain may still be of use as an empirical background for the study, thus making it corpus-driven rather than (merely) corpus-based (Tognini-Bonelli, 2001: 84–100).

Providing viable solutions to research problems, especially when a formulated hypothesis presents a particular intellectual challenge, requires that an approach be adopted enabling terminologists to build reliable models of knowledge in a targeted domain. When a suitable knowledge model recognised in a community of specialists as a valuable work of reference – whether developed

documents of the corpus that was still being created regularities that made it possible to form research questions and scientifically useful hypotheses, the basis for which was the significant presence in the corpus of English built for the diagnosis of communication in wine communities of unassimilated borrowings from the leading languages of the fortified wine sector, Portuguese and Spanish. This observation may, for instance, have given rise to the following qualitative research question: 'Does this professional discourse deliver in English other foreign language forms, *id est* forms whose origin can be found in discourses delivered in languages other than Portuguese or Spanish?'. Based on the knowledge of facts and figures, which can be offered by the same corpus, notably the knowledge on the history of business relationships between Iberian (wine) producers and British traders, terminologists could attempt to advance one of the following hypothetical statements: a) 'Professional discourse in Spanish is the most productive source of (unassimilated) borrowings into English in the fortified wine trade'; b) 'Portuguese and Spanish are equally productive sources of borrowings into English in the fortified wine sector'; c) 'Portuguese, rather than Spanish, will be the most productive as a source of (unassimilated) loanwords into English in the fortified wine industry'.

to provide answers to research questions in a separate (but related) study or created to facilitate communication between members of the discourse community (*see* Swales, 1990: 24–27) – antedates terminological research in the relevant domain, the (existing) model may only need to be modified to meet the requirements of a research task. In cases such as this a top-down approach may be advisable as a starting point, as when field experts are invited to contribute to the model, a view of the top layers can be of use in placing their guidance in the framework of the superstructure being developed (ISO, 2011: 13.3.2), even if that (high-level) structure proves only temporary as a result of anomalies revealed at the more specific sections. When creating a suitable model from scratch, one may benefit much from proceeding from the bottom upwards, as work on sections characterised by high specificity tends to show new concepts, thus informing development of a robust model. Researchers agree that terminology work is efficient when the top-down approach and the bottom-up approach (with elements of abductive reasoning) are employed in combination (ANSI/NISO Z39.19, 2005: 11.1.3.2–3).

An inquiry into communication in fields monitored by life and technical sciences, including viticultural research and oenology, may present terminologists with challenges different from those associated with the study of communication in domains falling within human, social, and dogmatic sciences. This may be the case if only because the rate of obsolescence of scientific knowledge depends to some extent on adherence to the rigours of thought set for a particular field. Representatives of life sciences, such as wine science, typically supported by technical disciplines, tend to communicate using a single paradigm, a dominant pattern of research in an area, determining paths of inquiry, providing a benchmark for the development of a code of research practices, and offering a usable framework for raising key questions and finding solutions (Szczęsny, 2005: 76; Hacking, 2012: XV–XXII; Kuhn, [1962] 2012: 43–51). By contrast, authors of reference works covering fields such as linguistics, sociology, and ethics point to coexistence of various intellectual traditions within each of the named disciplines. A noteworthy example is provided by the term ‘sociology’, treated consistently as referring to a heterogeneous concept, thus indicating that the field’s representatives utilise (at least) three paradigms (Scott & Marshall, [1994] 2009: 732–734; Faris & Form, [1998] 2015; Macionis, 2017). In relative terms, the most dialogical are communities associated with disciplines characterised by principled reasoning, such as ethics, whose representatives are immersed in perpetual discourse, hence the knowledge obsolescence rate within this field being relatively slow. When modelling knowledge through the prism of acts of professional communication

in fields of life and technical sciences, in which knowledge shows a tendency to age rapidly,⁹ it appears reasonable to rely mainly on synchronic corpora, unless

⁹ Between 12 November and 2 December 2022 an attempt was made to examine the historical scope of discourse across scientific disciplines using SciVal, a research performance assessment tool enabling analysis of data from Scopus, covering more than 60 mln records, the aim being to determine which group of sciences is characterised by the greatest degree of (diachronic) dialogicity, with the answer to this question having implications for the planning and execution of terminology work. A SciVal > Trends search for publications in the area of Business, Management, and Accounting was conducted for the period 2019–2021 to identify top ten authors by Scholarly Output representing the United Kingdom and the United States. Vahid Jafari-Sadeghi, affiliated at Aston University, and Mohammad Kabir Hassan, affiliated at the University of New Orleans, had the highest Views Count. For this reason, their publications were selected as representative of this bloc of social sciences. All of their articles were published in co-authorship with other researchers. The overall count showed that 16% (115 per 709) sources consulted in Vahid Jafari-Sadeghi's research had been published before the year 2000, with over 11% (69 per 598) sources cited in Mohammad Kabir Hassan's research. Notably, the oldest three sources consulted by Jafari-Sadeghi date from the first two decades of the second half of the 20th century, with the oldest six sources consulted by Hassan also issued in that period. A similar SciVal > Trends search was performed for publications issued in the period 2019–2021 in the area Agriculture, Food, and Veterinary Sciences, with the aim being to identify top ten authors based on Scholarly Output representing the United Kingdom and the United States. Robert Martin Rees, a scientist affiliated at Scotland's Rural College, and John Bruce Cole from the US Department of Agriculture were selected as representative of this macrofield of life sciences, as their performances, with all their papers being co-authored by other researchers, were rated highest in terms of the Views Count criterion. The overall count illustrates that less than 8% (59 per 770) sources consulted in R.M. Rees's research were published before the year 2000, the oldest being two publications from the first two decades of the second half of the 20th century. Similarly, publications issued before 2000 accounted for less than 6% (19 per 320) sources consulted in J.B. Cole's research, with the oldest publication dating from 1963, being the only one published in the first two decades of the second half of the 20th century. An analogical SciVal > Trends search for publications from the period 2019–2021 in the United Kingdom and the United States was conducted in the broad category Issues, Ethics, and Legal Aspects. Julian Savulescu, holding the Uehiro Chair in Practical Ethics at the University of Oxford at the time, and Nancy S. Jecker, a professor of bioethics and humanities at the University of Washington, were identified as the top authors in terms of Scholarly Output and Views Count. Publications of each of these two authors were mostly the result of collaborations with other researchers. The overall results show that about 10% (158 per 1,579) sources consulted by Julian Savulescu in the three-year period were published before 2000. The oldest of these include six publications from the 19th century, ten publications from the first half of the 20th century, and eight publications from the first two decades of the second half of the 20th century. In a similar vein, publications issued before the year 2000 accounted for over 10% (31 per 312) sources used by Nancy S. Jecker in her research, the oldest being Aristotle's *Nicomachean Ethics* (~350 BC), one publication dating to the 17th century, two publications from the 19th century, one source from the first half of the 20th century, and five sources issued in the first two decades of the second half of the 20th century. Some tentative conclusions could be drawn from these observations

research questions require the construction of models that are encyclopaedic in nature, and, therefore, composed of designations including not only terms, but also appellations¹⁰ and other signifiers of individual concepts.

In both diachronic research, which seems preferable when diagnosing properties of vocational communication in social domains and fields marked by principled reasoning, and research based on a synchronic corpus, which appears to be significantly adequate when diagnosing aspects of professional discourse in life sciences and technical domains, terminologists ought to take account of communications in all their creative variants. Noteworthy in terminology science, with concept analysis being regarded as its primary concern (Skuce & Meyer, 1990: 56), is the possibility of including both verbal and non-verbal documents in a defined corpus, since all these information objects (*id est* documents) are regarded as potential carriers of conceptual entities. Notably, non-standard documents, such

for terminology. Firstly, authors representing social sciences, such as business and management, and disciplines marked by principled reasoning, such as ethics, tend to consult upward of 10% works older than 20 years. By contrast, natural scientists show a significantly lower tendency to consult such works, with only between 6% and 8% references to these sources identified in their publications. With the revealed differences between professional discourses, related to their historical scope, dependent on the nature of the (scientific) domains that their participants consult, a relatively greater amount of work seems necessary when preparing corpora to make models of knowledge in fields monitored by dialogical sciences, such as ethics, and a smaller amount of work may be required for models in fields of life sciences, where scientific knowledge appears to age relatively rapidly. Most notably, the results of a detailed analysis of the old works consulted by the authors across scholarly disciplines confirms that building corpora with the aim to create models in the field of Issues, Ethics, and Legal Aspects may prove much more challenging in view of the historical range of sources to be covered than building corpora for modelling knowledge in life (and technical) sciences, as exemplified by the metrics for citations in the area Agriculture, Food, and Veterinary Sciences.

¹⁰ Appellations, understood as names designating individual concepts in a specific subject field, are usually time-bound. This means that appellations, including names of public institutions and companies, may be replaced by other appellations. As a consequence, terminologists tasked with building an encyclopaedic model may need to record a sequence of appellations referring to entities that have evolved over time. A notable example of a change in the name of an institution is provided by the history of the European Union (EU). The European Economic Community (EEC), established under the Treaty of Rome signed in 1957, changed its name to the European Community (EC) by the Treaty on European Union (also known as the Maastricht Treaty), brought into effect in November 1993. Special attention must be paid to name changes among companies, notably those operating in dynamic markets. An example is offered by the merger of Moët-Hennessy S.A. and Louis Vuitton, two of the largest companies operating in France's wine, fragrance and luggage industries. Ever since 1987, the year that the merger came into effect, the new holding company offering luxury goods has operated as Moët Hennessy – Louis Vuitton, and is commonly referred to as LVMH.

as images, can prove useful as substitute objects of observation that aid understanding of special concepts. For instance, the expression ‘slow heating’ has been illustrated by Photo 4 in the encyclopaedic knowledge model on fortified wines (Nagórka, 2021a: 21). Both the article accompanying this term and the term’s illustration can be considered as presenting a microhierarchy of concepts, with the term in question symbolising an important part of the process (of making quality madeira wines) referred to as the ‘canteiro method’. Crucially, images associated with the subject matter do not need to serve as physical components of the corpus; it is sufficient that they are linked to a specific (web) address where they can be found. An example is Jean François de Troy’s painting *Le Déjeuner d’Huîtres*, depicting one of the first cork-stoppered bottles of champagne as sparkling wine. The painting is in the collection of Musée Condé (the Condé Museum) in Château de Chantilly, and its photograph is available online – it can be viewed on the museum’s website.

As terminologists tend to create socially useful outputs, an ever-growing dynamic monitor corpus is usually employed in the course of terminology work, especially when this work concerns subject domains informed by life and technical sciences. Nonetheless, even in the case of synchronic research, terminologists must rely on effective methods to know when to stop the data search process. While monitor corpora are commonly defined as datasets that continually expand, with more and more new documents accepted (Sinclair, 1991: 24–26), decisions on terminating the compilation process need not be viewed as arbitrary, and this can be achieved even without putting temporal or numerical constraints on the identification of concepts or terminological extraction of language forms. Two signals can be used to indicate to terminologists when the acceptance of new documents into the corpus starts to become unproductive. The first signal is associated with the growth in the number of new concepts marked in the corpus. The near completion of the compilation process can be visualised by a line chart in which the curve indicating growth in the number of new concepts over time begins to form a straight line (Leski, 1978: 58). The second signal can be observed when percentage differences between the numbers of occurrences of the target concepts identified using a language corpus begin to stabilise, regardless of the number of new sources accepted. When structural inconsistencies in the professional discourses analysed are observed through the prism of the knowledge model (concept system), the decision to complete the compilation procedures may be postponed. In cases such as this, structured or semi-structured interviews with professionals could be employed to clarify these inconsistencies, with the interviews being adopted into the corpus for its useful enrichment (*see* Nagórka, 2021a: 307–317).

The current study has been informed both by the framework and the main tenets of the Polish (predominantly Varsovian) School of Terminology (Mazur, 1961; Nowicki, 1979, 1986; Grucza, [1991] 2017, 2017a: 238–240, 2019: 2–10; Lukszyn, 2005c; Lukszyn & Zmarzer, 2001; Łukasik, 2017a; Małachowicz, 2017; Pawłowski, 2017; Nagórka & Pawłowski, 2018),¹¹ with Jurij Lukszyn and Wanda Zmarzer considered among its most influential representatives, and by theoretical achievements in the remit of information science (*see inter alia* Dahlberg, 1978, 1992, 2011; Leski, 1978; Hjørland, 2002, 2009, 2011a, 2015; Zeng, 2008, 2019; Gilchrist, [2009] 2018), especially in building structured models of professional knowledge. There seems to be a tentative consensus among representatives of these disciplines to adopt within their remits a realist view of concepts (*see* Mammen, 1994, 2008; Hjørland, 2009; Pawłowski, 2021: 97), with these being understood as socially negotiated units of knowledge, identifiable by studying discourse (communities) rather than (merely) individuals (Nagórka & Pawłowski, 2018) or *a priori* principles (*see* Hjørland, 2009: 1530). Moreover, the disciplines seem to recognise the polysemous character of specialised expressions as well as the presence of near-synonyms in professional discourses, a natural consequence of the dynamic and, indeed, creative nature of human systems of communication (Temmerman, 1997: 67–80; Hjørland, 2009). Lastly, representatives of both disciplines place an emphasis on representing in their models not only concepts, but also concept relationships underlying professional discourses, using stable sets of semantic linkages treated as tools for systemising collections of specialist expressions (Lukszyn & Zmarzer, 2001: 42).

While recognising the importance of building structured models and appreciating the use of such sets of semantic linkages, the current study must, however, reject the use of *a priori* sets of (universal) relationships (*cf.* Lukszyn & Zmarzer, 2001, 42–43) as an instrument of diagnosis, regardless of the fact that these sets do include a much larger number of conceptual links than those employed in information sciences, or those prescribed (*id est* standardised) by ISO (2011: 57–67). This study does not deny that these (universal) sets are legitimate means of communication (and understanding), as they may take their origin in semantic primes (Wierzbicka, [1996] 2004: 56–147). This study adopts such sets only at the initial stage of analysing documents as part and parcel of terminology work aimed

¹¹ Research at the Varsovian School has much in common with that at Université Bourgogne Europe (*see also Author's Preface*). The French School (Gautier *et al.*, 2025: 117–128) combines post-Wüsterian approaches found in: socioterminology (Gaudin, 2003), communicative theory (Cabr  Castellv , 2003), sociocognitive school (Temmerman, 2000), pragmatist stance (De Vecchi, 2016), and cultural approach (Diki-Kidiri, 2007).

at constructing semantically structured models. To ensure that these models are reliable and useful in responding to research questions and testing hypotheses, their design ought to derive from the identification of semantic links during the analysis of professional discourse. By paying attention to capturing field-specific relations (e.g. Nagórka, 2021a), this research implements the early postulates of the Cambridge Language Research Unit (see Masterman *et al.*, 1959; Roberts, 1984), especially the postulate of imposing no restrictions on conceptual diagnosis, and follows the current well-established principles of the Varsovian School, notably its idiocentric (Grucza, 2013) and (more recently) increasingly realist views of scientific evidence (*i.a.* Nagórka & Pawłowski, 2018; Pawłowski, 2021: 120–123, 132–142, 147–150). Indeed, a leaning towards (if not adoption of) the classical understanding of truth as predicated from the relationship of being to intellect (see Aquinas, [1256–1259] 1970: q.1, a.1–3; Dzierżak, 2023: 34–40), and, as a consequence, as intelligible (apprehensible), if only in its various aspects (and to the extent one is intellectually equipped for its exploration), seems to be essential for explaining the phenomenon of effective communication between professionals.



Figure 4. Corpus-forming documents by type (see Nagórka, 2021a: 288–317), distinguished on the basis of the current socially recognised organisation of work, linked to their attributed credibility and impact. On the need for reference works see Hjørland (2003); for the discussion of the role of science in society and the dissemination of results of scientific research see, *inter alia*, Russell (1953), Avery (2005), Yang *et al.* (2024).¹²

¹² These types of documents bear some resemblance to the corpus-organising discourse and document categories used in terminology work by Laurent Gautier, head of Université Bourgogne Europe's Centre Interlangues TIL (Texte, Image, Langage). At this research centre, documents representing legal and institutional discourses, viewed as official sources of definitions, are at the objective end of the spectrum, with *performative*, *directive*, and *commissive* often listed among their primary functions. High credibility (also) tends to be ascribed to what Laurent Gautier refers to

The research model outlined in this book encourages researchers to treat both coherence and correspondence with reality as important factors in determining whether a proposition is true or false, albeit at different stages of the knowledge modelling process. Coherence checks allow the scholar to find out if propositions identified in subject discourse fit logically and consistently with one another and within an existing system of concept markers in a domain (see Rescher, 1973). Internal consistency is viewed as an indicator, justification, or a prerequisite for acceptance of relevant candidate terms extracted from a corpus to represent its content in the target model. The obligation on the part of the researcher to follow truth – understood as the essential objective of cognitive inquiry (Bonjour, 1985: 157–158) – entails a genuine effort to seek deep understanding of the subject matter being investigated. If a lack of consistency is detected in the use of a word or expression, a more in-depth investigation will be needed to determine credibility of evidence, which requires of the researcher inquisitiveness and descriptive precision. As professional knowledge is heavily influenced by individual experiences, specific circumstances, and ongoing professional development, all of which introduces various levels of variation and dynamic changes, some inconsistencies might turn out to be only apparent, as further inquiry often shows that the seemingly incompatible views in question do coexist in occupational practice, each leading to a desirable outcome, which can then be presented as a functional microhierarchy.¹³ In the correspondence-oriented work, which typi-

as prescriptive discourse (*i.e.* one that promotes what ought to be thought or done in a professional field). The main documents in this category are works of reference, such as guides, handbooks, companions, and other authoritative and professionally recognised publications serving educational and evaluative purposes, especially those offered by well-known specialists. The third category of discourse recognised at Centre Interlangues TIL is one based on non-authoritative sources (such as articles in semi-specialised journals or blogs) focused on descriptions, opinions, and recommendations. At the subjective end of the range are documents for marketing and promotional purposes, a category viewed as the most likely source of neology. Information on the practice of differentiating corpus-building documents at Centre Interlangues TIL has been sourced from Laurent Gautier's presentation at the second ENEOLI meeting of WG 3.7 Food & Drink on the theme 'Identifying neology in discourses on food and wine', given on 9 July 2025 (Gautier, 2025).

¹³ Terminology work as presented in this book favours a proactive approach to searching for sources and data analysis, encouraging researchers not to take facts of reality as conceptualised and expressed in various sources at surface value, especially when communications about these facts seem to differ significantly. A notable example is provided by the results of my studies on communication in the sherry trade, conducted in the period 2017–2019. Coherence checks revealed discrepancies in the way the concept *vintage sherry* was covered in documents comprising the subject corpus, with many of these sources, including widely cited reference works, such as Halliday and Johnson's *The Art and Science of Wine* (Halliday & Johnson, [1992] 2013: 176–177),

cally takes place at a later stage of research, the researcher wants to ensure that candidate terms and definitions accurately reflect the reality to which they refer (see Plato, [~360 BC] 1997: 263b).¹⁴

Part of the realist view of data (which may serve as evidence) relates to the acknowledgement of the need for differential treatment of the information objects under study. While all documents on the subject are accepted as potentially valuable, it may be that their contents are contradictory. In such a case, with logic being granted precedence over other forms of mental activity in scientific research (Aristotle, [~350 BC] 2015a: 1011a–b; Dzierżak, 2023: 16–20), where the fundamental objective is the search for truth, greater credibility will be attributed to sources providing the greatest degree of justification for the judgements they present. Accordingly, reference works, such as subject encyclopaedias, handbooks, and terminologies, which tend to offer exhaustive coverage, or papers published in scientific journals, where explanations and predictions tend to be based on solid (and coherent) evidence, are generally preferred to semi-professional or business sources, such as blogs or trade magazines, in which explanations and spontaneous predictions may be given with little evidence. The usefulness of this rule has been tested against a similar problem encountered during the research enterprise on communication in the sparkling wine trade, conducted since 2019 at the University of Warsaw. In an effort to provide comprehensive coverage of the concept of *ageing of sparkling wine underwater*, it was necessary to explain the intended destination of the cargo of the 47 bottles containing ca 170-year-old champagnes made by Veuve Clicquot discovered in a shipwreck near the Finnish Åland archipelago in July 2010. Two different explanations to the question of the cargo's destination were found in the microcorpus. One of them came from an

and Grainger and Tattersall's *Wine Production and Quality* (Grainger & Tattersall, 2016: 131–133) not even mentioning this rare type of sherry. The tendency to overlook this rare (but significant) type of sherry can easily lead to a misrepresentation of the classification of sherry wines. One solution is to consult reliable sources that report about the industry's trends and dynamics, such as publications (including newsfeeds) offered by the industry's authoritative bodies (e.g. El Consejo Regulador in the case of the sherry industry).

¹⁴ Unintentional errors and inaccuracies in descriptions in professional sources have long been a serious problem for terminologists undertaking the task of modelling subject knowledge. The claim of sherry educator Anne Manson that only oloroso sherry can be offered as a vintage sherry (see Manson, 2018) can be easily refuted by means of referent checks and deemed to be an overgeneralisation. The claim seems to have overlooked the presence in the market of vintage-dated Bodegas Tradición's Palo Cortado Sherry 1975, bottled in 2014, and finos and amontillados offered by Williams & Humbert (notably: Williams & Humbert Fino 'En Rama' Sherry 2006, released in 2014; Williams & Humbert Fino 'En Rama' Sherry 2009, bottled in February 2016; and Williams & Humbert Amontillado 'En Rama' Sherry 2003, released in 2016).

author of a newspaper article and was based on popular notions. The other one, found in an article published by a group of researchers in a scientific journal, was based on the results of advanced archeochemical analyses of wine samples.¹⁵ The researchers have showed that the popular explanations may be difficult to defend in the light of the evidence collected.

Finally, the realist outlook acknowledges the imperfect nature of human cognition (Dzierżak, 2023: 39). As a consequence of the imperfection of human cognition, the researcher, despite sincere efforts to improve their subject knowledge, does not have access to the whole truth inherent in the fragment of reality (*i.e.* communication between professionals) they are studying. The assistance of subject experts will be desirable not only in the course of terminology work oriented towards modelling specialised knowledge, but also when the work on preparing the model of subject knowledge is nearing completion, as one can read in the recently published standard on the creation of subject thesauri (ISO, 2011: 13.3.4). The suggestion in the standard that the involvement of specialists in all the languages covered by the multilingual model may enhance its quality, and hence the prospects of acceptance by the communities in which these languages are used, should (so it seems) be complemented by the observation that this may as well apply to languages considered to be the primary languages of the field: English considered the international language of trade, French viewed as the language of diplomacy and fashion, and Italian customarily associated with arts, especially music, painting, and sculpture. Notably, consulting terminological systems with subject experts speaking their field's primary language(s) increases the chances that the target knowledge of the subject will be up to date.

Development of a structured knowledge model viewed as useful to achieve the goal of finding answers to research questions and helpful in testing hypotheses relies on the subject matter represented in quality documents (from reference

¹⁵ The newspaper article, written by John Tagliabue in 2010, was published by *The New York Times* on 14 December that year (see Tagliabue, 2010). The journal article was produced by a team of researchers led by Professor Philippe Jeandet of the Université de Reims Champagne-Ardenne (Jeandet *et al.*, 2015). The work was published on 20 April 2015 in the *Proceedings of the National Academy of Sciences* (PNAS), a peer-reviewed journal of the National Academy of Sciences (NAS). Given the site of the shipwreck's discovery, the popular suggestion would be that the cargo of bottles with sparkling wine was en route to the Russian Empire. This notwithstanding, the researchers pointed to the sugar content in the shipwrecked wines being two times lower than that requested by the customers of Madame Clicquot's agent in St. Petersburg. The results of chemical analyses and investigations of sources found in the champagne producer's archives suggest that the bottlings discovered in the shipwreck might have been intended for the customers in the German Confederation.

sources – including *inter alia* historical documents – to scientific sources to various professional documents). The basis of the target knowledge (both in terms of the number of concepts identified for the coverage of the concept field in question, and relationships of several types that hold these concepts together) is to be found in the professional reality concerned, diagnosed in its entirety (see Łoniewski, 1984), which sets (ultimate) measure for the terminologist's cognitive work. Importantly, in cases where the result of an in-depth terminological analysis of a corpus of documents shows systemic gaps, the terminologist must be prepared to fill these lacunae by their field studies, supplementing the corpus with personal interviews with subject experts, or experiencing relevant artefacts to which the terminological description (in either the standard form or the form extended by markers of individual concepts) refers. Collating designations using an established set of concept relations, achieved by means of background reading and scanning of documents (Cole, 1987: 79–83; ISO, 2019: 3.1–8), is key to building models of structured knowledge. Application of sets of concept relations acting as 'semantic glue' ensures coherence, which – in the case of terminologies using appellations and proper names (markers of individual concepts) – allows terminologists to craft rich networks of interlinked designations representing concepts of persons, places, events, *etc.* A harmonious distribution of concept relations over a collection of data ensures that no relevant subject theme is left uncovered. In caring about an even distribution of subject-specific relations over an entire system of concepts labelled using descriptors, terminologists are not unlike painters who seek balance and harmony between characters and elements represented in their works.¹⁶

¹⁶ This analogy between terminology work and the work of an artist can be found in the attitude to work showed by Raphael, an Italian painter and architect of the High Renaissance. His relentless search for adequate balance between figures and appropriate relationships between them can be understood by examining the painter's piece *Madonna del Prato* (Madonna of the Meadow), crafted in the period 1505–1506, now housed in Kunsthistorisches Museum in Vienna, against his sketches for this painting, currently stored in the Albertina Museum in Vienna. Raphael's efforts, mirroring those of a scientist modelling aspects of the (natural) world through observations, have resulted in a pyramidal arrangement of three figures: Madonna with Jesus and Saint John the Baptist, both depicted as children, with all the figures linked by their gazes. In the field of terminological research, distribution of relations between subject concepts should reflect the reality of communication in a domain. Sets of relations regarded as terminologically useful and typical of a domain tend to contain from several to around a dozen types of concept links each (see Lukszyn & Zmarzer, 2001: 41–43). These relations assume various configurations depending on a domain. A metalinguistic study of concept relations conducted by Jurij Lukszyn and Wanda Zmarzer between the late 1990s and the early 2000s has resulted in classifying them as vertical, horizontal, and diagonal. These system-forming links are represented as a 'terminological square', its information value determined by four semantic axes that intersect the square, meeting in its centre.

1.5. Role of knowledge models

Terminological models are understood as representations of professional knowledge created by researchers as a result of studying areas of professional discourse. Notably, these models are created using a set of parameters whose choice depends largely on a question being posed by the researcher. The main aim behind a knowledge model is to provide intelligible insights, offering a structured database that can be displayed using various presentation modules, with graphic displays being of particular value in view of their informative clarity. Graphic (*id est* network) displays are typically composed of nodes indicating field-specific concepts and links representing conceptual associations (Stella & Kenett, 2022). By contrast, alphabetic displays tend to be viewed as more capacious, enabling its designers to capture relatively more data than in the case of graphic displays, unless the latter are used in electronic environments, in which case descriptor articles may be hidden in a graphic display under interactive tabs and accessed by hovering the cursor over the fields corresponding to relevant descriptors. Notably, regardless of display types selected, the level of accuracy in determining types of associative links when building knowledge models is contingent on both the specificity of a subject field and the level of informative detail of the research question(s).

The primary function of knowledge models (Mazzocchi, 2018), often differentiated on the basis of the semantic richness of the underlying structures of an appropriate metalanguage (of their author), ranging from relatively flat (as in the case of glossaries, pick lists, or synonym rings) to multidimensional (as in the case of relationship-based models, such as specialised thesauri, semantic networks, or ontologies) (see Hodge, 2000; Zeng, 2008: 161; Souza *et al.*, 2012), is to represent (professional) knowledge. From a pragmatic terminological perspective, relationship-based models, notably advanced field thesauri, can be used in order to capture professional knowledge accumulated in a given period for its adequate presentation in the form of usable ‘algorithms of professional conduct in the fulfilment of work-related tasks’ (Zmarzer, 2005c: 141). The role of structured models as tools for concise presentation of subject knowledge provides the basis from which other functions can be considered to have taken their origin. Fields in which derivative functions of knowledge models have emerged include primarily those in which scientific and professional communication has been, and continues to be, an object of particular interest.

One of the fundamental functions of knowledge models, as exploited in areas supported by information science (and, to a certain extent, also terminology), has been that of informing on the content of documents accessible in a prepared database, a subject corpus, or a (scientific) library. As the communication

process investigated by library and information scientists tends to be considered as a process of specific mediation between authors whose names appear in a documentary database and potential searchers, this type of communication requires constant comparisons between the indexing formulas and the search query formulas, which pertain to information requests. In this view, the role of knowledge models as informative tools can be further divided into the function of facilitating data storage, that of supporting the process of knowledge organisation for the purpose of accurate indexing, and that of ensuring efficient retrieval of (relevant) information objects (*id est* documents) (Maniez, 1988: 135; Aitchison *et al.*, [1972] 1997: 1–3). The latter assumes that for communication to be effective, attention needs to be paid to two factors widely recognised in the library and information science literature. These include precision, meaning that only relevant documents are retrieved in the search process, and exhaustivity, meaning that all the relevant documents are retrieved (*see* Maniez, 1988: 135–136; Aitchison *et al.*, [1972] 1997: 36–39; Hjørland, 2021).



Figure 5. A terminological model of professional knowledge in a subject domain as based on an in-depth study of professionals using a wide variety of manifestations of their subject knowledge.

Considering the principles underlying the popular Google search engine, one must observe that its work relies on a combination of high precision-oriented criteria, such as ‘exact match’, ‘best match’, ‘popularity measure’, and ‘personalised search’, with the best match techniques being now dominant (Hjørland, 2021), which marks an era of query transformation. Not only are the principles behind mainstream search engines problematic for practical reasons (Hjørland, 2021), including those related to producing irrelevant results; they are also incommensurable with scholarly criteria. Hjørland’s desideratum for retrieval systems guided by the principle of scientific trustworthiness rather than arbitrary criteria of relevance, such as those based on the searcher’s conjectures or those reliant on purely statistical grounds, lead to the conclusion that serious searches, notably those conducted for research-related purposes, require the use of knowledge

models, especially those with a large number of semantic relationships. Advanced models, such as specialised thesauri or ontologies, could provide searchers, including those with limited subject knowledge, with conceptual structures, assisting them in navigating and thus identifying relevant expressions or symbols, and consequently facilitating their learning process. Such structures, providing cross-walks between concept markers, could also benefit qualified professionals, especially as concepts underlying their search queries, as well as those reflected in the search results, are typically embedded in theories, the latter sometimes representing various schools of thought or (competing) paradigms, which, apparently, in opposition to the view presented by Thomas Kuhn ([1962] 2012), can exist in parallel not only, so it appears, in research fields of human and social sciences and dogmatic fields, but also – albeit extremely rarely and (most probably) for a rather short period (see Mayr & Bock, 2002: 189–191) – in disciplines of natural sciences.¹⁷

A structured knowledge model, understood as a rigorous (terminological) summary of the intellectual development of a subject field (research fields included) (Lukszyn, 2001: 106), can be of use as a reliable instrument of professional education in a broad sense (Nagórka, 2014: 473–480). As a point of reference, (highly) structured models enable their users a substantive assessment of the state of knowledge in a given area. Jurij Lukszyn, representing the Varsovian School, views models with high diagnostic accuracy as allowing the user to confirm or negate theses of the relative independence of a particular discipline (Lukszyn, [1993] 1998: 10, 1998), while assisting in the process of identification of notable systemic gaps in the targeted domain that need to be filled to ensure an effective and symmetrical progression of disciplinary knowledge. Importantly, highly structured models can play a major role in facilitating didactic processes in domain-based educational systems, with their effectiveness determined by a number of factors. These include (among others): scope of knowledge (represented);

¹⁷ An illustrative example has been provided by representatives of a biological science, namely ornithology, who have recently observed that they may be working in competing paradigms, a circumstance making professional and scientific discourse in this field challenging. These biological paradigms, concerning classifications of birds, are: 1. phenetic taxonomy, using overall similarity of organisms as the basis of classification, and 2. genealogical classification, using common ancestry as a classification criterion. Evidence of some fundamental changes in the avian classification, found by comparing the contents of two volumes of *Handbook of the Birds of the World*, the first one published in 1992 (Del Hoyo *et al.*, 1992), and a recent one, published in 2013 (Fjeldså, 2013), with comments on these observed differences in bird classifications offered by specialists in avian systematics (see Mayr & Bock, 1994, 2002: 171–91) is viewed by Birger Hjörland as an indication of a possible (Kuhnian) paradigm shift taking place in this particular field of biological sciences (Hjörland, 2021).

descriptive accuracy; data arrangement; and media aesthetics. Ensuring a sufficiently broad scope of knowledge represented in the model increases the probability that users identify familiar words or expressions (functioning as signals) corresponding to specific elements of their current knowledge. The accuracy of description can be illustrated by the number of associative links adopted, with the current tendency in terminology being to adjust their number to educational needs (see Lukszyn & Zmarzer, 2001: 42; Lukszyn, 2005d; Lukszyn *et al.*, 2009).

Furthermore, progressive arrangement of domain terminology is an established method to stimulate human cognitive processes (see Piotrowski, 1994: 117–118), since the semantic relationship markers lead the user from the signals that they already know to the associated new data, a process corresponding to the process of learning, initiated by the reconstruction of a portion of the user's previous knowledge, followed by its refinement, and resulting in the assimilation of new (specialised) concepts. As mapping of the semantic functions during terminology work is aimed at presenting the user with structural patterns (prevailing in a given domain of intellectual activity), encouraging them to make new (personal) discoveries, discreteness of modules comprising terminological displays, as well as their attractiveness, deserve particular attention at the design stage. Neglected though they tend to be in scientific circles, these aspects appear to be crucial as they can influence the cognitive activity of the user, *id est* their basic orienting attitude (their desire or unwillingness to explore) (Kępiński, [1972] 2012: 46–47) and thus have an impact on the level of expertise achieved through the didactic process in which knowledge models play a significant part. Highly structured models are also viewed as effective in monitoring the quality of emerging documents, including curricula and syllabi, and predicting directions of development in a specific field (Lukszyn, [1993] 1998: 7, 1998; Nagórka, 2014: 479). As such, models of knowledge can be named catalysts for learning processes taking place in educational systems of a particular field.

Although there will be little doubt that knowledge models applied in all the roles mentioned here are socially useful, it is highly unlikely that the mere exploitation of these functions, which can be understood as a (mechanical) response to society's practical needs, will enable formulating genuine theories grounded in observable data (Cabré Castellví, 2003: 182). Understanding theory as a body of attested knowledge developed primarily for the purpose of describing and explaining (and sometimes also predicting) phenomena, with this knowledge expressed using coherent statements, refined in response to new evidence (see *Introduction* for details), implies basing disciplinary research in the field of terminology on stating (research) questions (not yet objectives), transforming them into hypotheses on the basis of initial explorations, and then creating models of

knowledge to test these hypotheses. A research programme based on harnessing terminology's potential for advancing and validating hypotheses using corpora and structured knowledge models may be a route to ensuring the rigour of theory building, something that the discipline seems to have sought since its earliest days (see Temmerman, 2007: 29–31). From this vantage point, partially structured models based on a microcorpus may be viewed as instruments for providing substance to research in the Darwinian (as well as Deweyan) sense (Darwin, [1859] 1998: 3–7; Dewey, [1911–1913] 2008: 218–220), with questions and hypotheses being preceded by observations.¹⁸ Exploring a microcorpus of documents to perform an initial search for content knowledge on a subject matter could result in a knowledge base enabling researchers to transform their research questions into usable hypotheses – tentative statements offering guidelines for terminological research. Consequently, the ultimate role assigned to a fully developed structural model, based on a fully developed corpus, will be to provide valuable answers to research questions by providing the knowledge needed for testing hypotheses.

1.6. Conceivable outcomes

Terminological models, crafted on the basis of identified concepts and concept relations (ISO, 2009: 0.0.1), with the content in some cases reflected (and expanded upon) in scope notes or definitions, are treated as quality representations of professional knowledge. Notably, as such, these models use a set of conceptual links identified in target professional discourse, which ought to be understood as the main tool of organising knowledge (Mazzocchi, 2018). When partially structured, a model can be of use as an instrument for inspiring research in corpus-driven studies, assisting the researcher in posing relevant subject-related questions, and leading them to forming hypothetical statements. When fully developed, structured models will help the researcher answer research questions and test their hypotheses.

When modelling professional knowledge on a given subject in two (or more) narrower areas or scopes, with the research questions asking about the differences between them in aspects of professional communication, it becomes mandatory to distribute concept relationships in each of these areas in a proportional

¹⁸ Charles Darwin's theory of evolution by natural selection was formulated by the author in private in the period 1837–1839 after he had returned from the voyage aboard HMS Beagle, lasting from December 1831 to October 1836. The theory found its public expression in the book *On the Origins of Species*, published much later (1859).

manner. This rule refers to both the use of the same set of conceptual relationship types and the use of analogy in creating compound descriptors, differentiating between professional concepts by highlighting (or pointing to) the same aspect in which the relevant concept markers differ, as in the case of contrasting expressions ‘urban agriculture’, ‘peri-urban agriculture’, and ‘rural agriculture’ (FAO *et al.*, 2022: 1.1.3) or ‘vinification of port wines’, ‘vinification of sherry wines’, and ‘vinification of wines for madeira’ (Nagórka 2021).

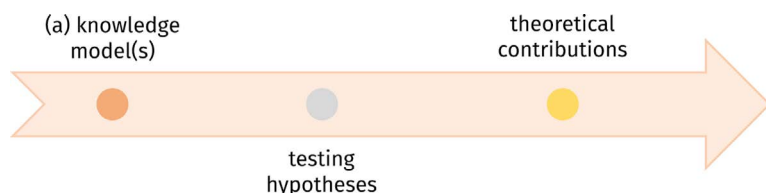


Figure 6. Final stages of work in the research cycle of terminological sciences as proposed in this work (*cf.* Nagórka, 2024b: 131–141).

Three potential areas for forming hypothetical statements that structured knowledge models can help to test are derived from the three traditional areas of investigation in terminology research (concepts, their interrelations, and forms used for communicating about the subject content). As a consequence, knowledge models can be used to test hypotheses concerning both concept systems and (language) forms. Inquiries into concepts can inform not only about their character and the relations they form with other concepts, but also about their numerical significance in a particular concept system underlying communication in an industrial area, making it possible to measure potential intellectual challenges associated with tasks performed by representatives of a particular trade. Examinations of the presence of foreign language elements in a terminological system can in turn reflect foreign influences in a particular profession.

Created in the course of a scientific process, knowledge models could themselves be of value to a professional community under study, especially when they offer an adequate summary of the state of knowledge achieved by that community, while also indicating paths for further growth of the relevant domain. When published terminological models – whether in the form of subject-field dictionaries or encyclopaedias – have been accepted and recognised by leading representatives of a targeted domain, researchers who have authored such models become participants in the discourse they have been studying, a rare circumstance that ought to be seen as increasing their responsibility to the community of professionals to whom an important part of their work has been dedicated.

A systemic presentation of meanings using knowledge models, characterised by transparency, can have a positive impact on the implementation of the idea of a terminographic series, whereby a new model in a series ought to be a modified and completed version of the previous one. The way in which specialised content is presented in the form of knowledge maps promotes its systematic stabilisation geared towards the clarification of meanings. Thus, the thematic discourse within a terminographic series takes on the character of a rigorous procedure stretched over time or scientific reasoning in which the process of justification never ends (Lukszyn, 2004: 59–63). From a purely scientific viewpoint, structured models of professional knowledge, which are subjected to regular updates, can not only inform the theory building process by making it possible to test hypotheses derived from research questions, but also lead to modifications in the theory's statements.

PART II:

RESEARCH ON DISCOURSE IN
THE FIELD OF SPECIAL WINES

Part II: An overview

Part II expounds on the ideational framework for studying professional communication outlined in *Part I*, providing substantive content relating to inquiry into discourse on special wines. This part aims to demonstrate how the communication researcher can gain attested knowledge on discourse in the special wines industry, and thereby contribute to the theory of professional communication, particularly in domains monitored and aided by life and technical sciences, with wine discourse often seen as a reference point for other agri-food discourses. Changes in the wine industry tend to reflect shifts in the broader agri-food sector (Ferrer *et al.*, 2026). The wine trade bridges traditional agriculture with modern luxury marketing, embodies the concept of *terroir* (*i.e.* place-based identity), pioneers traceability and sustainability standards, and hence it is often cited as a model for creating high-value culturally rooted products.

The book in *Part II* advocates for making efforts to develop at least some interactional expertise in a field of interest before embarking on the task of modelling knowledge in the agri-food sector, especially as the professional knowledge underpinning discourse in each of this sector's subject fields, such as the field of wine, can be expected to show complex hierarchical structures. Given the complexity of the subject matter of special wines, it is advisable for the researcher to have (at least some) stable and unambiguous prior knowledge on the subject of their inquiry, which means that they must make an effort to acquire this knowledge. Paraphrasing the words of David Ausubel, clear and stable broad subject categories, called subsumers, can provide the researcher with strong anchorage for the reception of new material to be learned (*cf.* Ausubel, 1963: 28–29) and be subsequently presented as usable models of structured knowledge.

Part II introduces three sets of key questions guiding terminological research into professional communication in the special wines industry. These research questions relate to A. varying degrees of intellectual challenge faced by the makers of

special wines depending on categories that their products represent; B. conceptual bases for wine professionals' thinking processes; and C. formal and interactional aspects of communication in the special wines industry, including the scale of the use of foreign elements and eponymic words and expressions in the English-language discourse on the subject. The section devoted to questions is followed by that on hypotheses into which these questions have been transformed, with each hypothesis justified by preliminary data and observed patterns, providing a rationale for the study.

The study on how wine professionals communicate encountered several types of issues, all of which seem to have resulted from human factors. These mainly concerned inconsistencies and insufficient precision in the use of words or expressions and contradictory messages. Crucially, solutions are presented for each problem discussed. The reader is offered insight on how to effectively model subject knowledge, with the task divided into 1. preliminary studies (in which broad concepts and key concept relation types are identified) and 2. model construction. In the model-building section, various aspects of knowledge mapping are presented. These include (among others): intellectual and automated methods of analyses, selection of sources, levels of pre-coordination in controlled vocabularies, consultation with subject specialists, control over synonyms, and inclusion of encyclopaedic components.

Subsequently, two knowledge models on special wines (sparkling and fortified) are presented and discussed in terms of their composition, structure, properties, and their use as tools for testing previously advanced hypotheses. *Part II* concludes with a list of findings on both the nature of concepts underlying industrial discourse on special wines and interactional aspects of communication in this industry, notably the aspect of (unassimilated) borrowings from the wine trade's leading languages as well as eponymic elements that are deeply rooted in the English-language discourse on the subject and serve as historical reminders of persons, places, and events that have shaped the special wines industry into what it is today.

II.1. Experience and expertise

The present terminological research, its scope narrowed down to communication in the wine industry, merits the name of cultural terminology. Although the conceptual field of wine is largely shaped by representatives of life sciences that aid in its development, their reflections on natural phenomena through intellectual efforts, and hence also their communications on these reflections and findings,

must be viewed by terminologists as (fundamental) cultural acts (*see* Fleck, [1935] 1980; Krąpiec, 1991: 5–14). Thus understood, this research is deeply rooted in the Polish (mainly Varsovian) School of Terminology, with the School accepting most of the standard approaches, notably pointing to the collection of subject concepts as the basis of terminology work, and to the need for precision in the choice of words when defining relevant concepts. Nonetheless, most importantly perhaps, the research adopts and reinforces the School's focus on field-specific relations, placing them at the heart of terminological research.

Scientific disciplines, hence also wine science (also referred to as oenology), whose (collective) endeavour underlies the wine industry's (sustained) growth, depends on the quality of its representatives' reasoning and the soundness of their arguments (Hanauer, 2006: 21–24), with an argument, in its basic sense, being typically understood as a movement from one idea to another brought about in a regulated manner by means of logical connections. The task of identifying concepts and their interrelationships using a valid subject corpus based on standard as well as non-standard information objects – an activity that seems inscribed in the *savoir faire* of terminologists in general, and those representing the Varsovian School in particular – requires attention to the fact that professional discourses develop with human creativity, dependent on the underlying (dynamic) conceptual linkages (Nagórka, 2017b: 26–33).

Notably, marked differences can be observed between professionals in terms of their ways of conceptualisation. Preliminary research results show that these differences may depend (to a greater or lesser degree) on the researcher's scientific (and most probably also disciplinary) provenance, with illustrative examples provided by moderately flat structures observed in the field of ethical values, and highly complex hierarchical structures underpinning communication in the wine-making field (*see* Nagórka, 2021a, 2021b). Moreover, the framework of the Varsovian School, with its use of the thesaurus concept as a method for creating precise subject-specific (terminological) knowledge (*see* Zmarzer, 2005c: 141) informed by corpus-derived evidence, enables the creation of models in a way that is sensitive to the primary (professional communication-related) questions guiding the research.

For instance, questions about the possibility of correlations between differences in the number of borrowings into English from an industry's primary (national) languages and the histories of international trade contacts between trade professionals representing communities in which these languages are spoken could require a particular focus on encyclopaedic knowledge, expressed not only by markers of general concepts, but also by non-verbal manifestations of industrial knowledge, and names of individual concepts (Sjöblom, 2014: 92–96).

The latter include, *inter alia*, company names, geographic place names, names of historic events accompanied by dates, personal names, names of international trade agreements, and/or product names (see Nagórka, 2021a: 318–332). The concept of thesaurus implemented in terminological research enables a comprehensive coverage of the subject field in question, leaving no relevant theme untouched.

Terminological research into communication in the wine industry, as in any other field, will benefit from a researcher possessing a certain amount of subject knowledge derived from their previous experience in the target field. For the sake of the present research, I gained the necessary background knowledge through my experience at the wine industry's educational levels in the period 2002–2012, teaching courses in professional communication at the School of Tourism, Hospitality and Gastronomy in Warsaw, an active member of the AEHT (European Association of Hotel and Tourism) since 1993. These courses included English for restaurant staff and English for waiters and sommeliers. As a member of school staff, from the end of June to the beginning of July 2006, during the AEHT-organised research stay in the United Kingdom, I visited the Accor Group's hotels in Coventry and Birmingham with the aim to compile a glossary on wine and food terms, subsequently deposited at the school's library as a teaching aid for internal use.¹

In the framework of my doctoral studies at the University of Warsaw, conducted in the period from 2006 to 2011 under the guidance of Professor Jurij Lukszyn, I worked on developing an advanced terminological model of knowledge on wine production using the computer-assisted intellectual method (consisting of both desk research and field studies). This method required time and a considerable amount of energy, but has resulted in near-expert knowledge in the subject domain (Collins & Evans, [2007] 2009: 28–29, 77–88; Kotzee, 2014: 61–70).

¹ In the late 2000s, I also served as an interpreter at wine tastings and international events, such as banquets and awards ceremonies, organised by the School or the AEHT. Subsequently, I began to organise wine courses, often combined with workshops. These activities may have led to enhancing my knowledge of the subject, and – by the same token – to improving the quality of the target model of communication in the special wines industry. It has been confirmed that studying a subject matter in order to later disseminate the acquired knowledge in various forms leads to a better understanding of the subject. Educational psychologists Logan Fiorella and Richard E. Mayer, who explored the hypothesis that the effect of learning can be enhanced through teaching others, which is also an old popular claim, made famous by an excerpt from one of Seneca's letters addressed to Licilius (Seneca, [–65] 1916/2016: VII), have found out that when a student teaches the content of a lesson, they tend to develop a deeper and more persistent understanding of the material to which they were exposed (Fiorella & Mayer, 2013: 281–287).

Arguably, dedicated researchers studying concepts in a professional field can be numbered among individuals with novel forms of expertise (referred to by some as interactional expertise), as they have come to possess an insider's knowledge of the field as a result of regular social contact with professionals, including credentialed scientists.

The approach adopted in this research assumes a realist stance in pursuing truth, where the researcher must be ready to hone their knowledge on the subject matter that they have decided to examine so that they become capable of seeking adequate correspondence between their state of subject knowledge (along with knowledge of language forms needed for its capturing) and the reality to which professional communications they have committed to investigate refer (Aristotle, [~350 BC] 2015a: 1011b, 1051b; Aquinas, [1256–1259] 1970: q.1, a.1, co.; Dzierżak, 2023: 10). A terminologist's dedication to gaining industrial knowledge, including nuanced knowledge in fields aided by life and technical sciences, such as oenology, could enable them to reduce the number of cases that need consulting with specialists.

During terminology work on the model of professional knowledge in the field of fortified wines, my in-depth knowledge of the industry proved to be of assistance in the choice of the most transparent and accurate expressions to mark professional concepts for the description of the subject area of madeira wines. For instance, while there are several alternative forms in use for the concept of *reception of Madeira grapes*, including words such as 'reception', 'arrive', and 'delivered', which could give rise to sanctioning either of them as an element of the target descriptor (preferred term), e.g. 'arrival of grapes' or 'delivery of grapes', the expression 'reception of grapes' seems the only variant suggestive of the rather limited influence that the madeira producers have on the production of grapes, with the major part played in that respect by more than a thousand of individual grape growers.

Conducting terminology work over a long period of time in close contact with an industry whose communications the researcher explores affords them a certain status in that industry, and thus, inevitably, they can become part of the community of discourse they have been studying, especially when their work is increasingly recognised by the community's representatives.² The level of recognition that terminologists receive for the knowledge models provided to the industry

² The encyclopaedia *Madeira, Port, Sherry: The Equinox Companion to Fortified Wines* was nominated for the Gourmand World Cookbook Awards in December 2021. In September 2022, this book received Prix de l'OIV 2022, one of the most prestigious awards in the wine industry, granted by the OIV (Organisation Internationale de la Vigne et du Vin) since the 1930s.

(whether in the form of a subject thesaurus, an encyclopaedia, or an advanced dictionary of terms) should be commensurate with their responsibility to continue doing their job with utmost precision. Terminological models of subject knowledge have the potential to support the development of the industry in two dimensions: educational (as they provide effective representations of industrial knowledge)³ and linguistic (as they offer answers to research questions on professional communication, thus increasing the industry's awareness of both the nature (and scope) of its accumulated knowledge and the way its representatives communicate).

II.2. Questions on communication

Research questions

Identification of a research problem (whether practical or theoretical) (Popper, [1982] 2014: 11–13), enabled by the researcher's willingness to admit their ignorance (Harari, 2014: 279), is typically followed by articulation of empirical questions. Problems that underly research questions have different sources, and these can be found either in the practice of a particular profession or in the research practice of sciences exploring communication in professional fields. These steps (*i.e.* identifying problems and formulating questions) are currently used to begin research across many academic communities, making science not only dynamic, but also supple and inquisitive. This applies in various degrees to research areas such as evidence-based medicine, psychology, information science and language-related disciplines, among others. Research questions that guided research in the area of special wines, conducted (intermittently) from the latter part of 2011 until mid-October 2024, have centred around two fundamental aspects of language, namely its content and its forms.

Prior to the onset of this long-term research, the field of communication on special wines presented many unknowns. On the language content side, research

³ Selected parts of each of the knowledge models, notably classifications and fact sheets, were of use when running practical courses related to the wine business. These included subject-related courses, such as a series of workshops co-organised and run with the wine educator Marta Ręgowska (2018–2025), and language courses, such as Business English with Case Studies from Wine Trade, an elective course for the students of English for Business Purposes at the University of Warsaw, conducted in the summer semester of 2025.

on (professional) communication has so far contributed little knowledge about differences in the scale of intellectual challenges between industrial areas of special wines. As a consequence, little scientific (*i.e.* theoretical) knowledge has so far been accumulated on the complexity and divisibility of this particular field of professional activity. Likewise, inquiry into borrowings from leading languages into English in this industrial domain has – as yet – enjoyed little attention among linguists, where John Algeo's historical account can be viewed as a notable exception (*see* Algeo, 1996). Apart from offering answers to questions on language loans in the field of special wines, which may be of interest to heads of wine schools, results of this study may also enhance the body of attested (theoretical) knowledge on how borrowings from leading languages can be viewed as reliant on the intensity of (verbal) contact between professionals representing different language cultures.

The present research began with several questions, each of them being of paramount interest to wine professionals. The first of these questions was: 'In which of the relevant winemaking sectors does the production of special wines present the greatest (intellectual) challenge?', which assumes conceptual differences between trade areas of the domain of special wines. When attempting to provide an answer to this question, the terminologist must answer (at least some of) the following questions, which seem more precise, namely: 'What concepts can be regarded as typifying (or unique to) communication in each of the areas comprising each of the trade areas under study?', 'What conceptual characteristics comprise wine professionals' understandings in the special wine area that they represent?', 'Do trade professionals, who represent different areas of the special wines domain, apply analogical concepts?'. Finally, the following quantitative questions were asked: 'How many concepts do representatives of each of the relevant trade areas use for its coverage?' or 'Do representatives of a speciality area recognised as part of the domain of special wines need a larger number of concepts to describe their own province of expertise than representatives of the other areas comprising that domain?', and 'Which concept field underlying communication in each of the pertinent sectors is the largest in scope?'.

Relevant here is also the question: 'What is the conceptual basis for the way wine professionals representing the special wines domain think?', which entails qualitative questions about conceptual relationships. These may take the following forms: 'What types of relations hold between concepts underpinning communication in each area of the special wines domain?', and 'Are the concept links (identified) in professionals representing different areas of the domain of special wines analogical or different?'. These were followed by questions on quantitative measurements: 'Which types of concept relationship dominate in communication

among professionals in each of the trade areas of the special wines business?’ and ‘Which sector of special wines is typified by the largest number of concept relations (by both type and number)?’. These questions led up to the final questions on the conceptual structure of industrial areas of the domain of special wines, namely: ‘Which of the subject areas under study is characterised by the greatest depth?’ (*id est* the greatest number of levels in the hierarchy of meanings) and ‘In which sector of the domain of special wines (both fortified and sparkling) is communication between winemakers and other wine professionals marked by the greatest relative complexity?’.

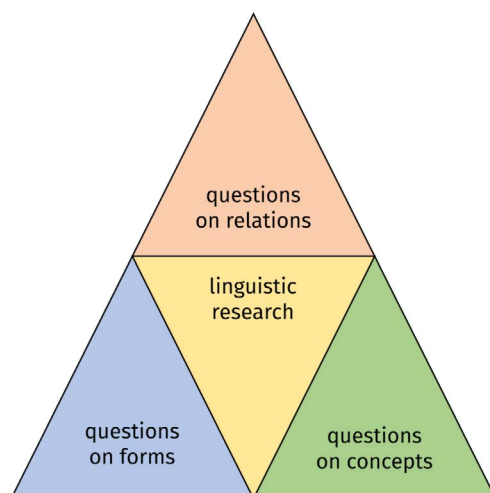


Figure 7. A linguistic triangle symbolising three aspects of language: conceptual, relational, and formal (*cf.* Lukszyn & Zmarzer, 2009: 11). Each of these aspects can be considered a natural basis for raising research questions in studies on (professional) communication.

Equally important for the special wine trades, especially in the field of professional education in the relevant subject areas, is the question: ‘To what extent does knowledge of a particular (national) language suffice for effective communication in a selected trade?’. This question presupposes the discovery of language forms used in a relevant wine community to express conceptual content, with some of these forms likely to include foreign elements. When taking account of borrowings from source languages, questions on formal qualities found to be used in professional communication on special wines can develop into the following: ‘Do members of the wine community under consideration use foreign language elements when communicating in English?’ and ‘Which officially recognised languages have been the greatest sources of borrowings into English in the special

wines communities in question?'. Exploration of the quantitative aspects of the subject matter required answers to the following question: 'To what extent are representatives of particular areas of the special wines industry reliant on direct borrowings (*i.e.* unassimilated terms) from languages widely regarded as crucial to the development of their professional field when communicating in English?'.

Lastly, among the questions relating to communication in the special wines industry are those concerning its history, and eponyms – concept markers with (traces of) proper names – are treated as unique testimonies to various stages of a trade's history, preserved in language. The key question is: 'To what extent do wine professionals use these enduring historical reminders in discourse on special wines, thereby contributing to the preservation of their industry's heritage?'. Terminological research in this area can be guided by the following questions: 'What instances of eponymy are there in the discourse on special wines?' and 'What types of eponymy can be found in the discourse under study?'. These were followed by questions of a quantitative nature, prompting a search for trends and patterns: 'What is the size of the eponymic component in the industrial discourse on the subject of special wines?', 'What percentage of designations (*i.e.* descriptors proper as well as non-preferred terms, the latter also known as ascriptors) contain eponymic elements in discourse relating to the special wines category, broken down into specific segments (*i.e.* the sparkling wines sector and the fortified wines sector)?', and 'In which of the major trade areas subsumed under the special wines category is the relevant discourse most saturated with designations containing eponymic elements?'.⁴

Hypotheses

On the language content side, an assumption was made that the subject areas of the microfield of classic fortified wines may differ markedly in terms of both their size and depth, with preliminary studies using a microcorpus of several dozen

⁴ The choice of only two questions concerning the interactional aspect of communication in the wine industry serves merely to illustrate how the research programme outlined in *Part I* operates. No implication has been intended that only these two interactional aspects, namely borrowing from the industry's leading languages and the use of eponyms in the subject discourse, are suitable areas of investigation. As a matter of fact, this research programme is already being tested as potentially useful for identifying neologisms in professional discourses in the food and drink domain, as part of research activities of the ENEOLI (European Network on Lexical Innovation) task group WG 3: Diachronic and Synchronic Comparative Studies of Neology, of which I am a member.

documents (mainly handbooks and companions)⁵ indicating that the subject area of madeira may be the most complex. Hence, the questions: 'Is the conceptualisation of madeira wines characterised by a greater size (as represented by the number of concept markers) and a greater semantic depth (as represented by the levels of subordination in a hierarchy of meanings) than the conceptualisations of other fortified wines?' and 'How many concepts are needed for a full (lossless) coverage of each subject area of classic fortified wines?' could be turned into usable hypotheses based on the knowledge of the general structure of the conceptual microfields gained during the previous research, of which partial results have been published ever since 2013 (see *i.a.* Nagórka, 2013, 2017). Importantly, madeira makers fortify their base wines either early or late, depending on the style of madeira wine they want to obtain, and this process is followed by the unique practice of madeirisation. By contrast, the concept of 'early fortification' is typical of port winemaking, and the concept of 'late fortification' is characteristic of the production of sherry. For this reason alone, it seemed likely that investigation of professional communication in the madeira industry could bring the largest number of concepts for a lossless description of that subject field, while possibly also showing its greatest structural depth.

Moreover, the analysis of preliminary data also led to the hypothesis that the productivity of concept fields (at least those underlying communication in the wine trade, and probably also others monitored by life and technical sciences) might be determined by their generic divisibility, with the number of concepts in the homogenous microfield of sparkling wines predicted to be markedly lower than the number of concepts in the generically divisible microfield of fortified wines.⁶

⁵ For a complete bibliography on fortified wines, published as part of the book on the subject of fortified wines in 2021, see *The Equinox Companion to Fortified Wines*, pages 288–306.

⁶ This prediction, made in the year 2022, was based partly on the results of previous research into concept areas of the wine industry published as *Thesaurus of Oenology* (see Nagórka, 2013). In the year 2013, the microfield of fortified wines was covered by 132 terms, and the area of sparkling wines was represented by 81 terms. Originally, around the year 2017, it was estimated that an update of the subject field of sparkling wines could bring up to 20 new terms (Nagórka, 2017c). However, subsequently, it became clear that the number of new descriptors in this area would be markedly greater, especially due to the need to cover concepts related to methods of producing single fermentation wines. The subject of fortified wines, whose original coverage failed to include concepts on madeira wines, seemed the most promising, likely to bring more than 120 new descriptors. The need for a significantly larger number of concept markers for the lossless coverage of the area of fortified wines when compared to the description of the concept area of sparkling wines was confirmed by the results published as *Madeira, Port, Sherry: The Equinox Companion to Fortified Wines* (see Nagórka, 2021a) and *Sparkling Wines: The Equinox Guide for Wine Professionals and Connoisseurs* (Nagórka & Ręgowska, 2026). For exact data showing numerical differences

Even if the ultimate coverage of the microfield of sparkling wines is found to require upwards of 150 descriptors, making it the largest subject area in the field of special wines (*i.e.* characterised by a greater complexity than the subject area of madeira, estimated to be the largest conceptual area in the microfield of fortified wines), this microfield was unlikely to be found more productive than the generically divisible microfield of fortified wines (taken as a whole). Notably, the estimated number of concept markers for the full coverage of the microfield of fortified wines prior to the onset of in-depth research for an update (which began around 2014) was around or in excess of 300 descriptors. The link between generic divisibility of a subject field and the ultimate number of concept markers needed for its description may be considered a valid indicator for linguists planning terminology work in view of its scope.

Both the results of terminology work conducted in the wine field prior to 2013 (see Nagórka, 2013) and the results of preliminary studies on communication in the special wines industry performed for the current research have led to the observation that in each of the subject areas subsumed under the general category of *wine(making)* it is the generic relationship that is the most represented. This had been the case with two classes of special wines: the class of *fortified wines* (including *port* and *sherry*, with communication in the *madeira* trade excluded from that particular study (published in 2013) for its relatively low production rates) and the homogenous class of *sparkling wines*. The reciprocal generic (*genus* to *species* and *species* to *genus*) relationship has long been recognised as responsible for the organisation of scientific thought, regardless of scientific discipline (Hazelwood, [2018] 2021), of which the most prominent examples are biological classifications of living organisms (Linné, [1735] 1758).⁷ It has been assumed that if this current (in-depth) research into communication in the special wines industry bears out the preliminary finding that each subject area of special wines is dominated by generic relationships, the status of oenology as a scientific discipline will also be partially (albeit tentatively) confirmed, as a statistically significant distribution

between the concept areas of special wines see Part III. *Theoretical insights on professional communication*, most notably Chapter III.1. *Productivity of concept fields as determined by their generic divisibility*.

⁷ One of the most fundamental characteristics of scientific thought are the incessant attempts on the part of the scientist to justify their newly gained knowledge (Grucza, 2017a: 77–79). One of the standard methods of achieving this goal is to adopt a strategy of taxonomic reduction based on cases viewed as exemplifications. Whether the representatives of biological sciences use a purely classical (Linnean) taxonomy (based on morphological considerations), a modern DNA-based taxonomy, or a Linnean taxonomy reinforced by DNA (Godfray & Knapp, 2004; Paterlini, 2007), thinking based on systemising knowledge using taxonomies leads to increasingly detailed (and accurate) descriptions, which constitute one of the aspirations (and tenets) of any science.

of generic relations underlying communication within an industrial area may be viewed as a valid indicator of that subject area's intellectual advancement.

Thus, the results of preliminary studies conducted prior to the current research also indicate that partitive relationships (and hence also the horizontal prequel–sequel relationships often found to link the concepts of parts) in each subject area of special wines are less represented than generic relationships (and hence also the inherent child–child relationships, where two or more concepts of *child* – *i.e.* species – belong to one class of *parent* – *i.e.* genus). If confirmed, this might be interpreted as a sign that the shape of the semantic field in question may be more the result of the influence of oenologists than the influence exerted by practitioners and technicians, with technical thinking understood as an inclination towards offering theoretical solutions to problems motivated by practical needs (Hansen, 2008). Fewer hierarchical relationships can be taken as an additional distinguishing feature of technical thinking as compared to scientific thinking. In technical thinking, the reduction in hierarchical relations might be viewed as a result of eliminating from before the cognitive apparatus those conceptual features of objects of professional activities present in the framework of scientific thinking (*i.e.* systemic thinking based on heuristics and taxonomy) that are considered in practice-driven approaches to problem solving as hypothetical and hence less productive.⁸

At the stage of pilot studies, supported by the results of previous research (see Nagórka, 2012: 38–39, 2013: 10–13), minority relationships underlying communication in the special wines industry have been found to include the following types of linkage: concomitant (companion–companion) relationship, causative (cause–effect) relationship, and performative (performer–activity) relationship. Manifestations of associative relationships with a flattened hierarchy of concepts serve as exponents of pragmatic thinking. If the insignificant presence of diagonal (associative) relationships in the terminological system prepared for the field of *special wines* is verified, one will be able to conclude that, while marked by certain pragmatic features, the intellectual work in the domain of (special) wines is dominated by hierarchical thinking, either scientific or technical. *Nota bene*, apart from being a powerful tool while solving practical problems, causal knowledge in the realm of science is also important. As a matter of fact, it is either critical or useful, depending largely on discipline and research goals (Danks & Davis, 2023). David Danks and Isaac Davies distinguish between disciplines in which statistical knowledge tends to be sufficient, their main aims being diagnosis and simple

⁸ For a more in-depth treatment of the distinction between scientific thinking, technical thinking, and pragmatic thinking see Nagórka (2011).

prediction, and applied disciplines that require causal knowledge for action and intervention (Bender, 2020). Given that discoveries made during research carried out by oenologists (also known as wine scientists) have a great impact on practical winemaking decisions taken in both the vineyard and the winery, it can be assumed that cause–effect relations manifesting themselves in communication between field specialists will be (at least marginally) represented in the target system of winemaking terms.

As regards the research questions related to language forms used repeatedly in professional communication on special wines (for the expression of language content), these were found to include unassimilated words and expressions from the wine industry’s primary languages, namely French, Spanish, and Portuguese. According to preliminary research, these borrowed forms appear to differ in proportion. Preliminary data showed that Portuguese might be the least exploited donor of unassimilated borrowings into English in the fortified wines business when their proportions are measured separately for each trade area (madeira, port, and sherry). With these measurement criteria in mind, Spanish might be the greatest contributor of unassimilated borrowings into English in the fortified wines business. Initial explorations of professional discourse on special (fortified and sparkling) wines showed that French, the leading language in the sparkling wine trade, may be at least as large a donor of direct borrowings into English as Spanish appears to be in the fortified wines industry.

An interesting pattern emerges from these preliminary studies. Languages that appear to be the largest donors of unassimilated forms into English are spoken on a national level in wine-producing countries with long histories of hostility in commercial ties with English-speaking communities. In many cases this cultural distance has been influenced by political decisions and sometimes followed by long-standing disputes and military conflicts (for more detail *see* Nagórka, 2024b). Granted, cultural distance appears to increase the need for interlanguage borrowing, but it must be noted that for this need to become recognised by the borrower at least some contact with speakers of an industry’s leading language(s) seems necessary. Two causes of borrowing known to linguists are: necessity, which can result from cultural differences between representatives of language communities concerned, and prestige, which is usually understood as an external pressure on borrowing expressions from a language enjoying a higher (*i.e.* more dominant) status in a given domain (Hockett, 1958: 404–406; Pratt, 1986: 361–364; Pratt, 1992: 516). In some industries (and this seems to be the case in the sparkling wine trade) prestige is attributed to French words and expressions by extension, as they tend to be associated with high-quality products (such as champagnes). The final results of this study will reinforce or weaken the tentative hypothesis

that differences and conflicts, which leave their marks on commercial relations between professional communities concerned (united by the fact of operating in one industry but divided by language), resulting in either damaging, straining, disrupting, or (at the very least) reducing the intensity of these relations,⁹ contribute to an increase in the percentage of unassimilated loans from this industry's leading language(s).¹⁰

Unlike the hypothesis concerning the presence in the target descriptor system of unassimilated borrowings from the special wines industry's leading languages, the assumption concerning the presence of eponyms in the language description of professional concepts in the industry will be more interesting to linguists than

⁹ The history of Europe is replete with armed conflicts and trade wars between Britain and France. These conflicts often disrupted regular business relations between these nations. One example is the war with Louis XIV that began in 1689, which led to disruption of regular trade between Britain and France – not least as a result of prohibitively high tariffs on French imports, notably wine – until the mid-1710s. In the meantime, trade relations between Portuguese winemakers and English merchants were reinforced by the Methuen Treaty. Signed in 1703, this agreement granted admission of Portuguese wines into England on preferential terms, with duty on these wines being lower by a third than that levied on French wines.

¹⁰ If confirmed, this hypothesis would fit in with the findings of researchers representing the Centre for Languages and Literature in Lund, Sweden (Carling *et al.*, 2019), about directionality of borrowing, namely that more prestigious languages (regarded as such in terms of both their socio-economic ranks and cultural aspects) are significantly more frequent as source languages compared to languages with a relatively lower (socio-economic and cultural) status. The factor of prestige could help explain the presence of unassimilated loans from French in professional discourse on sparkling wine in cases where both French descriptors and their English equivalents are well-established in the domain, making the use of a word or expression of French origin in the English language discourse a matter of choice rather than necessity. Results of preliminary studies of English language discourse on sparkling wines show numerous cases in which unassimilated French descriptors and their English equivalents co-occur within a single document (Nagórka, 2024b). In her chapter 'The Méthode Champenoise', part of the book *On Champagne*, published in 2022, Margaret Rand uses both the French word *assemblage* [FR] and 'blending' [EN]; both *prise de mousse* [FR] and its English equivalent 'second fermentation' [EN]; not only the French word *dégorgement* [FR], but also 'disgorging' [EN] (Rand, 2022: 18–20). In a similar vein, in the book *Champagne: The Wine, the Land and the People*, Patrick Forbes uses interchangeably the descriptor *remuage* [FR] and its equivalent 'riddling' [EN]; and also *habillage* [FR] and its equivalent 'dressing of bottles' [EN] (Forbes, [1967] 1989: 322–337). Another example is an English-language article written by wine scientists Gérard Liger-Belair and Clara Cilindre. Published in 2021, the article contains French expressions *méthode traditionnelle* and *prise de mousse* (Liger-Belair & Cilindre, 2021: 21–23). The authors use these interchangeably with the English expressions 'traditional method' and 'second in-bottle fermentation', respectively. Crucially, the factor of prestige may be decisive in explaining the presumed dominance of French as a donor language in not only the sparkling wine industry, but also the entire trade of special wines, of which the sparkling wine business constitutes the most significant part.

to the industry's practitioners. While information on the dominance of Spanish and French as donor languages in the respective fields of fortified wines and sparkling wines might serve heads of wine schools as a valuable indication as to which foreign language course ought to be considered as part of the curriculum (see Nagórka, 2023), information on the industrial area with most eponymous expressions, *i.e.* descriptors with (traces of) proper names (Levin, 1997: 46, 50–52), might be of interest mainly to scholars, most notably (perhaps) language scholars, historians of language, and culturologists. Eponymous expressions can be viewed as exponents of the lexicon of a particular speciality providing insights into real events relevant to the subject field in question. It appears that reliance on the factual component of language that manifests itself in eponymous descriptors (*e.g.* chaptalisation, *Charmat* method, *Italian* method, fining of *sherry* with *Spanish* earth) in the special wines domain differs from one subject area to another (Nagórka, 2017c). Indeed, based on the most recent data one can assume that this reliance could be specific to each of the subject areas and language cultures concerned. The complete set of data resulting from this research should enable drawing a comparison between subject areas of sparkling wines and fortified wines to learn in which of the areas the degree of thinking embedded in facts and grounded on individual concepts is the highest (Nagórka, 2017c: 77–88).

II.3. Wine field professionals

Terminological research on communication in the domain of special wines has focused on wine professionals, with their knowledge of the subject matter manifesting itself in documents of various types. These professionals included (mainly): wine writers, wine journalists and bloggers, wine scientists (*id est* oenologists) and historians, winemakers, managers of wine-producing companies, and wine waiters (*id est* sommeliers). Among the documents subjected to analyses were: reference sources (dictionaries, encyclopaedias, companions, history books, handbooks, documents published by authoritative institutions [*e.g.* Comité Interprofessionnel du vin de Champagne, also called CIVC, or Instituto do Vinho, do Bordado e do Artesanato da Madeira, also known as IVBAM], *etc.*); scientific publications (dissertations, scientific journal articles, chapters in scientific books, scientific reports, publications by research institutions, *etc.*); and professional documents (articles, reports and interviews published in professional magazines and wine blogs, *etc.*). These documents have been supplemented by several personal interviews with wine professionals, conducted as an attempt to fill a number of systemic gaps identified in professional knowledge as covered by documents comprising the

subject corpus. Two such interviews with English-speaking sparkling wine makers (one in Poland – Adoria Vineyards, and one in France – Leclerc Briant) were conducted in the period between May 2022 and June 2023. These interviews enabled finding narrower terms (*'tirage in closed tanks'* and *'tirage in bottles'*) for the general concept of *tirage*, an activity considered crucial for the production of sparkling wines, which results in making base wines effervescent.

A number of inconsistencies were encountered across documents on wine-making selected for the coverage of the concept field of special (*id est* fortified and sparkling) wines. Problems observed concerned differences in the understanding of not only individual concepts, as in the case of two conflicting reports on dates and events related to the history of Paul Chandon-Moët, a representative of the Moët & Chandon champagne house described in *Chapter 1.3*, but also general professional concepts, whose role is to form the field's conceptual system. Studying articles on Canada's sparkling ice wines one can learn that the *Charmat* method is used for their production, thus implying both the use of a closed tank and a double fermentation.¹¹ Nonetheless, a video by the winemaker Marco Zamuner of Magnotta Winery making these wines shows that a single fermentation is used in the process of their production (Zamuner, 2021), a method long recognised by VQA Ontario. Hence, the designation 'modified Charmat method', as put forward by Rod Phillips of Carleton University in his monograph *The Wines of Canada*, in which he reports on the production of these wines (Phillips, 2017: 75), seems much more appropriate than the expression adopted by some authors and spread through media.

When creating models of professional knowledge, terminologists are expected to neither mislead the user of a reference work nor perpetuate errors. When confronted with the problem of conflicting reports in subject-related sources, one solution is to adopt a stance not unlike that of an investigative reporter. However, seeking truth by examining objects of reference signalled in verbal communications through field research may prove difficult (in cases where considerable geographical distance separates the researcher from the artefacts of professional activity to which ambiguous words and expressions refer and that the researcher would like to examine) or practically impossible (as in the case

¹¹ There are few reports on sparkling icewines offered by professional authors who use the expression '*Charmat* method' without a modifier, thus – given both the regulations of VQA Ontario (see VQA Ontario, [1999] 2023) and the understanding of the term adopted by authors of highly regarded reference works, such as *The Oxford Companion to Wine* (Robinson & Harding, [1994] 2015) – implying the use of a secondary (not single) fermentation in the sparkling icewine production process. These include articles by Sarah Goddard (2012) and Tom Jarvis (2017).

of historical events). In cases such as these, in line with the (realist) view that people differ in the quality of their knowledge (*see i.a.* Grucza, 2017b: 11.1), one solution adopted in this work is to prioritise sources comprising the subject corpus, putting the greatest trust in those information objects (including videos) that present the highest (relative) proximity to an event described. In the case of reports showing conflicts in identifying individual concepts, typically marked by proper names, prioritisation of sources enables the researcher to avoid errors of implying the existence of parallel realities in a professional environment (*see Chapter I.3*). In the case where ambiguities are detected in the use of markers of general concepts in a given domain, as in the lack of clarity in the use of the expression ‘*Charmat method*’ in discussing the production of sparkling icewines (*see above* for details), prioritising interviews with the makers of these wines over reports by wine journalists enables the builder of knowledge models to avoid formulating misleading definitions.

Finding solutions to problems associated with truth value of the statements encountered when analysing the corpus of relevant documents requires that researchers – apart from having prioritised documents based (*inter alia*) on their assigned level of social recognition (as in the case of one published as an article in a scientific journal and the other published in the popular press) – engage in microresearch, and do so every time they encounter conflicting messages in reliable sources. For the sake of example, conflicting messages have been found in two reports on the performance of the champagne industry, both of them published in 2023 by CIVC. One of these documents (CIVC, 2023a: 10) covers detailed information on champagne shipments for 2022, and the other one presents selected data on the industry’s performance, showing its strengths (CIVC, 2023b). The latter publication forms part of a series in which annual shipments have so far been presented only by value and never by volume, as evident from previous reports published for the period 2020–2021 (CIVC, 2021b, 2022b). Interestingly, a consistency check on the share of rosé champagnes in the total champagne exports by value in 2022, information that is normally published annually in either of these reports, has revealed that the document with selected statistics shows a breakdown of champagnes exports under a caption informing the readership that these statistics refer to champagnes exports by value. However, these statistics mirror the data that the detailed report on shipments presented under a caption informing the reader that these refer to champagne shipments by volume. The detailed report on shipments seems much more credible, as it presents data using infographics while offering a verbal commentary of the evolution of champagne sales by various criteria, including *inter alia* value and volume – something that was not the case in the document presenting only selected content.

The detailed report also shows statistics that are consistent with those published for the previous years (CIVC, 2021a, 2022a), in that comparisons between scales of shipment for different years are made and sales figures are not presented in isolation, which makes relatively less space for errors than in the case of selective listing of the champagne industry's annual performance, notably when prepared for promotional purposes.

When adopting a realist view of evidence, terminologists must also take note of the fact that a single person can act in a number of different social roles, with these roles requiring of them various levels of expertise, which entails different degrees of precision ascribed to their communications. When evaluating documents in terms of their capacity to serve as reliable sources of evidence, a person's communications can (and – so it seems – ought to) be considered not merely according to the person's renown as an expert in the field, but also according to the function they perform through communications in a given circumstance. As a consequence, the greatest relative reliability will (usually) be ensured by documents whose formats require the highest structural density, especially those whose concept structures are presented in an explicit manner (Nagórka, 2010: 123–125; Zwierzchoń-Grabowska *et al.*, 2010: 172).¹² In other words, when aligning document types based on increased requirements on their (conceptual) structures (Nagórka, 2012: 23–50), one ought to take into account (among other notable factors) degrees of control over reactivity that can manifest itself in documents. Reactive responses are most likely to occur in (live) interviews. By contrast, reactive responses in scientific journals are rather rare. Reference works, especially those that tend to be highly structured (encyclopaedias, subject thesauri, companions, handbooks, *etc.*), seem to be the least likely to contain information formulated in an ambiguous manner, not least as they are typically multi-authored works.

A primary example is provided by Jancis Robinson – one of the world's most esteemed wine writers and critics. The least precise of her communications appear to be those offered during tastings, with many expressions creating uncertainty, such as 'I think', 'perhaps', 'I guess', *etc.* (The Finest Bubble Ltd., 2017). By contrast,

¹² It is in accordance with this understanding of social division of work and the resultant reliability and recognition typically ascribed to documents that subject literature was organised in *Madeira, Port, Sherry: The Equinox Companion to Fortified Wines* (Nagórka, 2021a: 288–306). The part of the book comprised three subsections: (structured) reference sources (encyclopaedias, companions, handbooks, thesauri, *etc.*), scientific publications (scholarly books, scientific reports, scientific journal articles, *etc.*), and professional documents (subject-related books, technical reports, trade press articles, interviews, blog articles, *etc.*).

much more precise data can be found in publications designed for educational purposes. This notwithstanding, reactive responses may occur not only as caused by other participants of an interactive meeting, such as a tasting or an interview, but also as a result of the speaker's thoughts (and emotions) that accompany their own prepared monologues. For instance, in the video *3 Minute Wine School – Champagne*, originally published by WSET (Wine and Spirit Education Trust) in 2009, Jancis Robinson says that 'only three grape varieties', namely Pinot Noir, Meunier, and Chardonnay, are authorised for the making of sparkling wine in Champagne (Robinson, 2009: 0:53–1:01).¹³ As a matter of fact, there are seven grape varieties authorised in the Champagne region for the purpose of producing champagne, including four little-known grapes: Arbane, Petit Meslier, Pinot Blanc, and Pinot Gris. One reason for which professional sources, notably those produced during public events, tend to be regarded as less reliable than scientific articles and books is that in the creation of the former professionals may have insufficient time for self-reflection, a factor being a *conditio sine qua non* for the cognitive act of a scientist (Pawlowski, 2021: 48). Suffice it to mention that the complete list of grapes for the production of champagne is provided in the descriptor article 'Champagne', authored by Jancis Robinson and Nicholas Faith (see Robinson & Faith, [1994] 2015: 220), part of the esteemed reference book *The Oxford Companion to Wine*, co-edited by Jancis Robinson and Julia Harding.

II.4. Knowledge modelling methods

Preliminary studies

Terminological research on communication within the special wines industries, which lasted more than a decade, has encountered numerous challenges. The first of these challenges was related to the fact that terminological research into professional communication in the wine industry as undertaken in this study seems unprecedented in attempting to test hypotheses on concepts, conceptual relationships, and language forms against research products known as systematic terminologies (such as subject thesauri), resulting from thorough terminological work (see ISO, 2011). Given that not many sources show typologies or classifications of

¹³ Jancis Robinson says the following in the episode *3 Minute Wine School – Champagne*: 'Only three grape varieties are allowed in the production of champagne: Pinot Noir and Meunier – which are both dark-skinned grape varieties – and Chardonnay' (Robinson, 2009: 0:53–1:01).

concepts and their interrelationships,¹⁴ identification of professional concepts and semantic linkages that group them together in the special wines domain required conducting preliminary studies using a limited (but substantial) number of English language documents on the subject. The preliminary results demonstrated that target concepts can range from simple to complex (the latter represented by compound terms). Present in all the categories of special wines, these concepts have been found to be derived from or associated with the triad *producers – wine-making – wines*, with the majority of them considered as belonging to the category ‘activities and processes’ (see ISO, 2011: 5.1; Faber & Cabezas-García, 2019: 205), classified among semantic primitives (see Wierzbicka, [1996] 2004: 50, 122–123) and determining the organisation of professional concepts in the subject field.

A set of conceptual relationships has been identified as representative of the domain of special (*i.e.* sparkling and fortified) wines. Semantic pathways leading from the triad of key concept markers (easily understandable to professionals and nonprofessionals) to descriptors representing concepts that can be described as relatively more complex and increasingly specific are grounded on semantic primitives identified by Anna Wierzbicka ([1996] 2004), sometimes also referred to as primes. This is of great importance for understanding words and expressions in semantic descriptions. Paraphrasing the words of the author of *Semantics: Primes and Universals* (see Wierzbicka [1996] 2004: 11), if we accept that semantics is a search for understanding, and to facilitate understanding a given set of expressions one must reduce the unknowns to the knowns and the obscure or convoluted to the clear and self-explanatory, the most valuable semantic descriptions are (indeed) worth only as much as the set of primes used for their construction.¹⁵ The objective was to identify a representative set of paradigmatic relations, *i.e.* relations viewed as inherent in the concepts that descriptors represent and as valid in a variety of contexts within a given domain (ISO, 2011: 4.3). The types of relationship found to be the most representative in professional discourse

¹⁴ Works written or inspired and edited by terminologists Jurij Lukszyn and Wanda Zmarzer, representing the University of Warsaw, can be numbered among notable exceptions. These include, for example: *Teoretyczne podstawy terminologii* (Lukszyn & Zmarzer, 2001) and *Słownik terminologii przedmiotowej* (Lukszyn, 2005d).

¹⁵ This aligns with the principle of semantic analysis put forward by Aristotle ([~340 BC] 2015: 141a–142a), who claimed that the purpose of definitions is to make known the word stated (*definiendum*), and to make things known we ought to use words and expressions that are prior and inherently more intelligible (*i.e.* semantically more basic) (see also Wierzbicka, [1996] 2004: 10–11). Similarly, Antoine Arnauld and Pierre Nicole warn their readers against defining too many words in descriptions, as this might as well lead to lack of clarity and great confusion, which an author of definitions would rather wish to avoid (Arnauld & Nicole, [1662] 1992: 83–84).

on fortified and sparkling wines include the following: A. vertical: 1. *parent–child* (i.e. *genus–species*), 2. *whole–part*; B. horizontal: 1. *child–child* (i.e. *species–species*), 2. *prequel–sequel* (or *co-dependence*); C. diagonal (associative): 1. *performer–activity*, 2. *cause–effect*, 3. *companion–companion*; D. semantic proximity (synonymy): 1. *equivalence*.

The components of vertical *parent–child* links, sometimes also called *generic* or *genus–species* relationships, and *whole–part*, also known as *partitive* relationships (Nuopponen, 2014: 3.2), are qualified as semantic primitives (see Wierzbicka, [1996] 2004: 60–64; see also Berlin, 1992, and Chappell & McGregor, 1995; Wierzbicka, 2021: 322–324, 329–332), with both the concept of *kind* and the concept of *part* attested as appearing in children’s speech relatively early (Clancy, 1985; French & Nelson, 1985). The hierarchical *parent–child* relationships and *whole–part* linkages are easily identifiable in discourse on special wines.

A1. Identification of a generic relationship

The Madeira Wine Company now heats wines up to a maximum of 45 degrees (and not in one push) to obtain a better result, with less cooked or burned flavours. These wines are then aged in wooden vats for two years to stabilise (Ahmed, 2012).

Following the cool-down, the wines are usually transferred to neutral casks of varying sizes to rest for the next 2–3 years (Stamp, 2012).

Bottled with evocative names like Charleston Sercial, Savannah Verdelho and Boston Bual, these wines have done much to revive the market for madeira in the US. Mr Madison’s Madeira and Baltimore Rainwater are attempts at imitating the style of madeira shipped to North America in the eighteenth century, with short ageing in wood and limited oxidation (Mayson, 2016: 110).

- ⇒ short ageing of madeira wines in wood
 - short ageing of madeira wine in wooden vats
 - short ageing of madeira wine in casks

The preliminary analysis of documents on madeira wines resulted in a generic microhierarchy of concepts, where the descriptor ‘short ageing of madeira wines in wood’ is assigned to the superordinate (*hypernymic*) concept of parent (*genus*), its role in this conceptual system defined by its linkage with a pair of subordinate (*hyponymic*) concepts of children (*species*), namely ‘short ageing of madeira wine in wooden vats’ and ‘short ageing of madeira wine in casks’, which form a sibling relationship (see also Nagórka, 2021a: 315).

A2. Identification of a partitive relationship

The next two stages in the Champagne process are first to work all the sediment lying in the side of the stored bottle into its neck, a process called remuage. This is followed by dégorgement; the removal of the sediment. Remuage is achieved, over a period of time, by altering the position of the bottle, from the horizontal plane, on which it has lain for some time, to the upside-down vertical. (...) The traditional method of achieving this is by riddling. (...) [B]ottles which have completed the process and are being stored vertically upside down are referred to as sur pointes. The wine may receive a further period of ageing sur pointe depending upon house style before dégorgement (Fielden, [1994] 1998: 289–291).

Champagne professionals use the term mise sur pointes (...) to describe the position in which the top of an upside-down bottle is lodged into the hollowed-out bottom of another bottle placed beneath it. (...) The cork is subsequently frozen, to be expelled by disgorging, at a time decided on by the cellar master (Pessey, 2002: 76).

In the traditional method, once the aging time is brought to an end, riddling (remuage) takes place by manually turning the bottle around one-eighth of a turn every day for around 15 days. The purpose is to produce sediment facilitating the lees removal (Welke *et al.*, 2022: 5.4).

Dépointage is the stacking of the bottles neck down after riddling, in readiness for disgorgement, with the neck of one bottle resting in the hollow base of the bottle below. (...) Remuage completed, with the deposit no longer in suspension, the bottles are placed neck-down and either taken away for disgorgement or kept sur pointe (UMC, 2024).

⇒ traditional method

- 1. riddling (or *remuage*)
- 2. stacking *sur pointes* (or *dépointage*)
- 3. disgorgement (or *dégorgement*)

A partitive relationship was identified using documents on sparkling winemaking, with the descriptor ‘traditional method’ representing the superordinate concept of whole (*holonym*). The preliminary semantic analysis has enabled the identification of three subordinate concepts of parts (*meronyms*), represented by the following descriptors: ‘riddling’ (or *remuage*), ‘stacking *sur pointes*’ (or *dépointage*) and ‘disgorgement’ (or *dégorgement*).

B1. Identification of a *species–species* relationship¹⁶

Base wine production. Most madeiras are produced from white grapes. (...) The duration of fermentation depends on the style intended. Very sweet madeiras, commonly

¹⁶ Following the finding presented in the book *Thesaurus of Oenology* (Nagórka, 2013: 9–11), the *species–species* relationship in the domain of special wines is understood as a linkage between alternative concepts.

called malmsey, are fortified shortly after the onset of fermentation. They are designed to retain a high residual sugar content (~120 g/l) (Jackson, [1994] 2014: 736).

According to the sugar content, four basic types of Madeira wines can be distinguished: sweet, medium sweet, medium dry, and dry. They are named after the principal grape variety from which they were obtained. Malvazia is fortified early in order to produce a distinctly sweet wine with a residual sugar content of ~110 g/L (Câmara *et al.*, 2004: 6765).

The sweet and medium sweet Madeira wines are fortified first, in order to preserve a high level of residual sugar. Depending on the speed of fermentation, fortification is usually within a maximum of five days from the start. Fermentation of dry or medium dry Madeira wines is allowed to continue until more of the sugars have been converted into alcohol. This can take up to seven or eight days (...) (Elliott, [2010] 2019: 54).

- ⇒ fortification of base wine for madeira
 - early fortification of base wine for madeira
 - late fortification of base wine for madeira

The stage of preliminary research has enabled the identification of two sibling notions: ‘early fortification of base wine for madeira’ and ‘late fortification of base wine for madeira’,¹⁷ with the processes to which these designations refer differing in the time at which alcohol is added to the fermenting juice (or wine). These expressions imply alternative options that the winemaker can pursue in choosing a procedure that they consider to be the most appropriate. Importantly, in this generic hierarchy, the descriptor ‘fortification of base wine for madeira’ designates the superordinate concept of parent (*genus*).

B2. Identification of a *part–part* relationship

In Champagne, (...) during pressing, the cuvée is the first 2,050 liters of juice from a 4,000-kilogram press, which represents the finest portion of the press. (...) Rebêche. The final pressing of the grapes, following the cuvée (the first 2,050 liters) and the taille (the next 500 liters). By law, the rébeche cannot be used in champagne production, and is generally sent to be distilled (Liem, [2019] 2022).

The juice should be pressed carefully too, in whole bunches, so that the juice drains away quickly via the stems and stalks which act as conduits. Pressing the grapes too heavily results in the release of bitter tannins. By law, only the first 2,550 litres of juice from 4,000 kilograms of grapes are allowed for champagne production (Rand, 2022: 18).

¹⁷ Sibling notions (*i.e.* notions with a common reference to the notion of parent in a generic relationship) as considered in this research seems to imply the concept of otherness (or distinctiveness), with the latter discussed by Anna Wierzbicka, considering the possibility of qualifying this concept as an element of universal grammar (Wierzbicka, 1994: 349–361; [1996] 2004: 127–128).

Designed to keep pace with the Champagne quality improvement policy, the pressing technique meets strict requirements based on tried and tested experience. These include: whole-cluster pressing (and loading); gradual juice extraction using a slow increase in pressure; the gentle handling of each cluster to avoid bruising the fruit (...) (UMC, 2024).

The freshly picked grapes are taken to the pressing centre as quickly as possible. Pressing is done separately by grape variety and by growth to maintain this traceability. The whole clusters are pressed as carefully and gently as possible so as not to colour the juice through excessive contact time with the skins – unless, of course, the aim is to make a *rosé* wine using the maceration or *saignée* (...) method (CIVC, 2024).

⇒ whole cluster pressing

- 1. first pressing of grapes for white must
- 2. second pressing of grapes for white must
- 3. final pressing of whole clusters

The analysis of a limited number of documents resulted in determination of a partitive micro-hierarchy composed of the broader concept of *whole* (represented by the descriptor ‘whole cluster pressing’) and three narrower concepts of *parts* marked as ‘first pressing of grapes for white must’, ‘second pressing of grapes for white must’ and ‘final pressing of whole clusters’. Interestingly, as in the case of the partitive relationship presented above (compare B2 with A2), also in this hierarchical relation the concepts of parts (*meronyms*) were found to form a sequence.¹⁸ Importantly, the presence of conceptual relationship of co-dependence was also determined. This type of linkage, which occurs between notions of *parts* that do not form a sequence, but are mutually dependent, was found to be very rare. It was identified only when analysing the professional discourse on port wines.¹⁹

Notably, as with the vertical and horizontal relations outlined above, components of all the diagonal (*i.e.* non-hierarchical) relations identified in the preliminary research as shaping professional discourse in the special wines industry bear resemblance to categories listed as (irreducible) semantic primitives proposed

¹⁸ Despite (sometimes considerable) differences observed between people representing various language cultures in their experience of time, their attitude to this experience, and their linguistic encoding of temporal concepts, the results of cross-linguistic investigations indicate that the fundamental concepts of *prequel* and *sequel* are present in all languages studied (Goddard & Wierzbicka, 1994; Wierzbicka, [1996] 2004: 56–58). Moreover, these concepts tend to be easily acquired by children, with expressions for concepts such as *before* and *after* emerging in child language relatively early (*see i.a.* Bruner, 1990: 79).

¹⁹ The co-dependence relationship was found between concepts represented by descriptors ‘intense skin maceration with Douro grapes’ and ‘partial alcoholic fermentation’. These two concepts correspond to overlapping stages in the winemaking process known as ‘vinification of port wines’ (for more details *see also* Nagórka, 2013: 10; 2021: 116).

by Anna Wierzbicka. The concepts of *performer* and *activity*, on which the performative relationship is based, resemble Wierzbicka's category of *human actions*, understood in terms of 'agentivity' (Wierzbicka, [1996] 2004: 51), *i.e.* as performed by human agents to achieve goals. In a similar vein, the causative relationship evokes the category of *causation*, one of the basic qualities of human cognition (Wierzbicka [1996] 2004: 70–71), which begins to take shape in infancy with the emergence of an understanding of regularities between the actions of oneself or others and change, brought about by these actions (*see also* Bloom, 1991). Finally, the *companion–companion* relationship appears to be based on the concept of *togetherness* or *co-occurrence*, the former often represented in English by the preposition 'with', and the latter commonly expressed in English as 'and' (*see* Wierzbicka, [1996] 2004: 187). Children acquire the linkage *togetherness* (*see* Ribbens McCarthy, 2012) relatively early in life (earlier than they fully understand hierarchical relations experienced in their family, which are more than simple *co-occurrence*) (Wierzbicka, 2016: 418–427).

C1. Identification of a performative relationship

The first champagne producer to become certified biodynamic was Fleury, in 1992. Along with Fleury, some of the most vocal proponents of biodynamics in Champagne today include Françoise Bedel, Larmandier-Bernier, David Léclapart, Leclerc-Briant, and Vouette & Sorbée (Liem, 2017: 91).

In the village of Trépail, on the eastern side of the Montagne de Reims, David Léclapart crafts pure, uncompromisingly individual champagnes made from biodynamically grown grapes (Liem, 2017: 256).

A recent study investigated the evolution of polysaccharides and their molecular weights during sparkling winemaking (Kemp *et al.*, 2014: 28).

France makes many other sparkling wines besides champagne, especially in the Loire Valley, around Saumur, and in the regions of Alsace and Burgundy (McCarthy & Ewing-Mulligan, 2016: 281).

- ⇒ sparkling wine producers
 - sparkling winemaking

A performative linkage (*activity–performer*) has been identified among paradigmatic relations underlying communication in the special wines industry. A preliminary analysis of documents on sparkling wines from various wine-producing regions resulted in discovering a semantic relationship between the general concept of *sparkling wine producers* (not only those in the region of Champagne) and the concept of *sparkling winemaking*. The general character of the concepts thus linked seems to situate them at the heart of the conceptual system, a preliminary finding

that needs further investigation to be reviewed at a later stage of the terminological process.

C2. Identification of a causative relationship

...even microclimates of individual bodegas will influence the styles of the maturing sherry. (...) The way of achieving (...) consistency is by a form of fractional blending that was first developed in Jerez, known as the *solera* system. (...) The solera system is a method of fractional blending in which old wine is constantly refreshed with younger wine (Fielden, [1994] 1998: 306–307).

A solera is not the end of the blending process. (...) It is rare for straight solera wines to be sold without at least some further blending (...). Most commercial sherries are well-trying blends from more than one *solera*, adjusted to customers' tastes by a little sweetening with sweet wine (Halliday & Johnson, [1992] 2013: 189).

After maturation is complete, wine removed from one solera is usually blended with wines from other soleras. (...) When drawn from the *solera*, *amontillado* sherries may be sweetened and fortified to meet particular market demands (Jackson, [1994] 2008: 557).

⇒ *solera system*

➤ *solera wine*

Preliminary research into professional discourse on special wines also revealed the presence of causative relationships. One example comes from the subject area of sherry. The descriptor 'solera system' (which functions as cause) refers to a process resulting in a semi-product in the production of sherry wines referred to as 'solera wine' (which functions as effect).

C3. Identification of a concomitance relationship

The cork is squeezed into the neck of the bottle, covered with a protective metal cap (capsule), then held in place with a wire cage ('muselet'). The bottle is then shaken vigorously (a process known as 'poignettage') so that the dosage liqueur marries perfectly with the wine (CIVC, 2013: 35).

The sugar in the *liqueur d'expédition* reacts with compounds formed during yeast autolysis in a process called the *Maillard* reaction. This encourages the development of roasted, toasted vanilla aromas, and the cork-sealed sparkling wines may be stored for an extra few months to allow the development of these aromas before release onto the market (WSET, 2020: 10).

The bottle is then topped up with a solution of the same wine and an amount of sugar. The bottle is sealed with a cork, which is inserted and secured with a wire muzzle (Watkins, 2022).

⇒ sealing of bottles of sparkling wine with corks

➤ securing of final corks

➤ *poignettage* for distribution of expedition liqueur

In the preliminary studies, the conceptual system underlying professional communication in the sparkling wine trade was also found to be reliant on concomitance (*companion–companion*) relationship. This linkage is sometimes also referred to as one of partnership or co-occurrence, as it occurs between the concepts of *companions*. The concept expressed as ‘sealing of bottles of sparkling wine with corks’ was found to create semantic links with two concepts designated using descriptors ‘securing of final corks’ and ‘*poignettage* for distribution of expedition liqueur’. Both descriptors are typically used to refer to activities that sometimes, often, or nearly always accompany the activity signalled by the former expression.

The equivalence relationship in the paradigmatic concept system underlying professional discourse in the special wines industry is one of preference, with the group of relevant concepts comprising those expressed by preferred terms and those designated as non-preferred terms. The status of a non-preferred term is accorded either to synonymous expressions applied in professional discourse with relatively lower frequency or to quasi-synonyms (Aitchison *et al.*, [1972] 2005: 15), which – in this publication – are understood as expressions whose meanings have failed to meet the requirements of the subject field’s conceptual network, as in cases where a broad concept marker (*i.e.* term or descriptor) serves as an access site pointing to narrower terms that are on separate branches of a hierarchical tree (for examples and more details see Nagórka, 2021a; Nagórka & Ręgowska, 2026).

D1. Identification of an equivalence relationship

Agrafe entails the second, bubble-making fermentation, taking place under cork, a metal clasp (the *agrafe*) ensuring it is held firm. After disgorgement and the addition of dosage, a new cork and clasp are attached. Apart from the usual appearance, the major difference from wines which undergo their second fermentation on crown cap, lies in the texture. In Le Lude MCCs, the *agrafe* method results in a softer bubble, a richer and slightly more evolved wine (Lloyd, [2017] 2024).

Agrafe – (...) in Champagne this is a large metal clip used to secure the cork before capsules were invented, typically during the second fermentation and ageing in bottle. A bottle secured with this clip is said to be agrafé (Liem, [2019] 2022).

The use of a crown cap closure during the second fermentation of bottle-fermented sparkling wine is a standard practice worldwide. This is due to the ease of automation on the bottling and disgorgement line. Prior to the use of crown caps, bottles were closed with a cork held in place with a metal staple (agrafe) (Jolly *et al.*, 2021: 136).

⇒ *agrafe* method

- securing of temporary corks with *agrafes*
- securing of final corks with *agrafes*

It was found that non-descriptors operating as quasi-synonyms identified in the discourse on sparkling wines tend to be semantically broader than preferred terms to which they refer, with the preferred terms often belonging to different microhierarchies of the target terminological system under construction. In such a circumstance, each of the non-preferred markers of a *parent* concept was identified as having more than one reference. This was the case with the French word ‘*agrafage*’, with the relevant concept also sometimes expressed by the descriptor ‘*agrafe* method’. This non-preferred descriptor has been found to have references to ‘securing of temporary corks with *agrafes*’ (an activity that can accompany sealing bottles of *cuvée* with corks) and ‘securing of final corks with *agrafes*’ (an activity used when that can accompany sealing bottles of finished sparkling wine using corks). Thus, this knowledge model brings together similar concepts that are on two distinct branches of a hierarchy of meanings (for details see Nagórka & Ręgowska, 2026).

Model construction

For various theoretical aspects, this research has drawn on conceptualist theories (Goddard, [1998] 2011: 8–12). These are deeply rooted in both the empiricist tradition (e.g. John Locke’s emphasis on the importance of generating knowledge using the senses along with his conviction that structured knowledge can be captured and represented accurately by means of words and expressions) (Locke, [1690] 1999: IV.21 4–5) and the rationalist tradition (notably Gottfried Wilhelm Leibniz’s intuition about the necessity of the existence of the alphabet of human thoughts, a hypothesis taken up and developed in modern times by Anna Wierzbicka) (see *i.a.* Arnauld & Nicole, [1662] 1992: 84; Leibniz, [1679] 1973; Wierzbicka, [1996] 2004; Wierzbicka, 2011: 17–18; Wierzbicka, 2021: 333–337). When it comes to the method behind the construction of an optimal model of knowledge for the subject field of special wines, much of it has been adopted from representatives of the Varsovian School of Terminology (Grucza, [1991] 2017, 2017: 238–240, 2019; Lukszyn & Zmarzer, 2001; Lukszyn, 2005d; Łukasik, 2017a; Pawłowski, 2017; Nagórka & Pawłowski, 2018; Michta, 2022), a school of research informed by theoretical achievements of both library and information sciences and epistemology (*i.a.* Dahlberg, 1978, 1992, 2011; Leski, 1978; Gilchrist, [2009] 2018; Hjørland, 2009, 2011a, 2011b, 2015; Zeng, 2019).

In this enterprise, intellectual processing of (language) data dominated over automated methods of analysis. Still, automated methods were of use at several stages of terminology work, notably during the identification of relevant documents (supported by Sketch Engine’s function of corpus creation, applied mainly

[as a guide] when standard [manual] searches had resulted in an insufficient number of quality sources to build a descriptive paradigm around a concept²⁰) and during the labelling of concepts (aided by the use of Sketch Engine's data extraction tool known as Keywords). The Keywords tool was used chiefly as a screening instrument to see if there are more single words or multi-word expressions that can be considered as candidate terms. One reason for which Sketch Engine was assigned (merely) a supportive role in this endeavour is that only intellectual methods (and not those based on frequency) enable terminological systems to be made in a way that allows researchers to identify candidate terms that best reflect the relevant semantic spaces in the system of concepts underlying professional discourse, with these concepts grouped in various ways using paradigmatic linkages.

One problem with compiling corpora on the Sketch Engine platform using Internet resources was that there was no option of manual pre-structuring of the target database using an established set of concept relationships. The structure of the subject field of special wines was determined during preliminary research by differences observed in production methods. The Sketch Engine platform, which – when instructed to compile a corpus on sparkling wine (based on expressions 'sparkling wines', 'franciaccorta', 'prosecco', 'crémant', 'champagne', 'cava', 'corpinnat', 'sekt' and 'cap classique') – produced 419 documents (including 590,106 tokens and 501,462 words), not only failed to match the semantic functions previously identified in professional discourse in the wine industry, but it also did not reveal the semantic functions that hold together the concepts it identified. As a result, many of the multi-word expressions on the list produced using the Keywords tool turned out either to be of little relevance to the subject matter (as pre-determined by the method of production) or to mismatch the scope required, with some candidate terms being too narrow or too broad. For instance, along with descriptors that proved a perfect (or nearly perfect) match in terms of the structural design of the subject field, such as 'disgorgement', 'remuage', 'tirage', 'traditional method', 'ancestral method', 'sparkling wine', or 'sparkling wine production', the list contained many incongruous descriptors: 'sparkler', 'crémant de Loire', 'green apple', 'Pinot Gris', 'South African sparkling wine', 'vibrant acidity', *etc.*²¹

²⁰ Descriptive paradigms ought to be understood as conceptual families, the members of which are linked using semantic relationships identified in the preliminary research. Numerous examples will be found in the book *Madeira, Port, Sherry: The Equinox Companion to Fortified Wines* (Nagórka, 2021: 311).

²¹ Obvious misidentifications will not be discussed here. Nonetheless, it must also be mentioned that the list of multi-word (*i.e.* compound) descriptors produced by Sketch Engine's Keywords tool included the following two expressions: 'user consent for the cookies' and 'cookies in the category'.

Table 1. A selection of incongruous descriptors extracted from the Sketch Engine-generated corpus on sparkling wines (compiled in January 2024) using the Keywords tool. The operation of automated extraction of candidate terms was performed in February 2024. The last access to the database was on 12 March 2025.

problem(s) encountered	single words	multi-word descriptors	problem(s) encountered
This descriptor implies a concept corresponding to a stage in the making of quality sparkling wines, usually designated as ‘bottle method’. When applied to refer to wine as the end product of this process, this word should be considered incomplete, with the full variant being ‘bottle-fermented sparkling (white) wine’.	bottle-fermented	crémant de Loire	Given the way that the domain of special wines has been pre-structured (i.e. by linking general concepts representing production methods), this descriptor, which indicates the place of origin of a wine, seems too narrow. The model’s design enables inclusion of such an expression as an exemplifier in added notes and definitions. ²²
This is a wine-tasting descriptor referring to a flavour note found in some Chardonnay-based sparkling wines after their maturation on lees. As such, it designates a concept that is beyond the core of the subject matter, which is the coverage of sparkling wine production.	brioche	green apple	This is another tasting descriptor, referring to fresh notes detected <i>inter alia</i> in proseccos and some young cava wines. As such, this expression represents a concept beyond the core of the subject matter, with the latter organised by winemaking methods and practices.
This name is part of the expression ‘Charmat method’, used to refer to one of the methods of transforming <i>cuvée</i> into effervescent wine. The name is applied only in combination when a reference to this wine-making method is made.	Charmat	Pinot Gris	The name refers to a grape variety used for making sparkling wines in some regions, i.a. Champagne, Moselle, and Alsace. The designated concept does not form links with other concepts in the system, dominated by notions of <i>processes</i> and <i>activities</i> .

²² Descriptor ‘crémant de Loire’ can be used as an exemplifier for the concept *traditional-method sparkling wine*.

problem(s) encountered	single words	multi-word descriptors	problem(s) encountered
Again, the structure of the domain is largely determined by wine-making methods, not by references to regions. Moreover, the name of this region – known for making prosecco – does not represent a unique winemaking technique, which eliminates the need for an eponym.	Conegliano-Valdobbiadene	South African sparkling wine	As with other descriptors with a place name, the design for this domain, defined by production methods, disqualifies this one as a candidate term. As South Africans make sparkling wines using various methods, ²³ it can feature in definitions of terms referring to very different wines.
This is an informal word for sparkling wine. As the model assumes an in-depth coverage of the subject matter including scientific findings, such informal words will generally be avoided.	sparkler	vibrant acidity	This descriptor refers to a wine's acidity, which is very high, typically much higher than 7 g/l, with a pH of around 3.1 or lower. The expression seems more appropriate as a tasting descriptor.

Given the complex hierarchical structure of communication in the domain of special wines, not uncommon for developed fields of professional knowledge with long traditions, the marked presence of compound descriptors (*i.e.* expressions containing more than one word) among candidate terms at an early stage of the knowledge modelling process was hardly surprising. This preliminary finding aligns with the well-established claim that in a compound term of optimal length, each element (such as a word or stem) corresponds to one level in the hierarchy of concepts (Górnitz, 2005b: 65). A typical example is provided by the generic microhierarchy prepared for the coverage of a fragment of the conceptual field of *sparkling wines*: 'ageing of sparkling wine' > 'ageing of sparkling wine in cellars' > 'extended ageing of sparkling wine in cellars'. As it turned out, this pattern was, however, not a hard and fast rule for the descriptor system constructed as a result of the terminological analysis of the professional discourse on special

²³ Best known for cap classiques (made using the traditional method), sparkling wine producers in RSA also make wines using the Charmat process. One example is provided by the South African producer Stellenrust Wine Estate. Made in the prosecco style by the winemaker Tertius Boshoff, Stellenrust Chenin Blanc Sparkling Brut has been produced using the Charmat method (see www.stellenrust.co.za or <https://wine.co.za/wine>).

wines. Results of the preliminary research showed numerous expressions that were shorter than those designating directly broader concepts. Examples included fixed expressions (with lower semantic transparency²⁴) identified in the discourse, such as those with eponymic elements (e.g. 'single fermentation method' > 'Asti method'), a case in which natural compression (Górnicz 2005a: 50) was achieved by highlighting secondary features of a concept.

The decision to terminate the process of compiling concept markers in the domain of special wines was based on the measurement of growth in the number of new concepts over time and percentage differences between the number of occurrences of the concepts designated (*see Chapter I.4*), an idea borrowed from Kazimierz Leski, a representative of information and library sciences (Leski, 1978: 58). The entire process from start to completion took around seven years in the case of the subdomain of fortified wines (the period from 2013 to 2020) and around three years for the coverage of the subject area of sparkling wines (the period from 2021 to 2024). The thesaurus method was used to solve the problem of irrelevant expressions and the number of terms in the target model (Burkhanov, 1998: 244; Marchwiński, 2001: 153). A total of 539 documents (104 reference works, 124 scientific publications, and 311 professional sources) were used for building the collective model of communication in the fortified wines industry. This compares with 618 documents (96 works of reference, 139 scientific sources, and 383 professional documents) consulted to cover the domain of sparkling wines. In the majority of cases, the most recent sources were used for each subject area concerned, with less than 10% of all the sources consulted published before 2000. Importantly, in cases where articles and chapters in reference works were signed with the name of their author, reference has been made to that author and not to the editor (Nagórka, 2021a: 316). A large proportion of research publications (including scholarly books, reports, and journal articles) were accessed *via* the Web of Science.

Wine professionals were consulted with varying frequency throughout the project, depending on the need. These consultations began once the first working version of a graphic representation of concepts and their interrelations had been prepared (*see also Chapter II.3*). Regular contact with subject experts was utilised for research purposes. For the project on classic fortified wines, numerous visits in the course of my field studies (November 2014 – September 2020) included – among others – those at fortified wine producers' houses: Madeira Wine Company (MWC), Vinhos Barbeito, C.N. Kopke, Calém, and Graham's. An additional visit was

²⁴ Semantic transparency is understood as a set of features of a concept's designation that allow one or more characteristics of the concept to be clearly expressed (*see also* ISO, 2019: 3.4.40).

also made to the Dublin distillery of Jameson (August 2019), its purpose being to explore the most recent commercial ties between the fortified winemaking business and whiskey producers. Among many producers visited during the first part of my field research on communication in the sparkling wines industry (June 2022 – September 2023) were Adoria Vineyards, Winnice Kojder, Winnica Turnau, and champagne producers: Lanson and Champagne Charles de Cazanove. A full-length interview with Leclerc Briant's *chef de cave* Hervé Jestin was conducted in June 2023. The second part of these field studies (March 2024 – August 2024) enabled me to visit Ridgeview, a sparkling wine producer in Sussex, England; as well as renowned champagne producers: Ruinart, Veuve Clicquot, Moët & Chandon, G.H. Mumm, Maison Boizel, and Champagne Augustin (among others); and also two sparkling wine producers in western Poland: Gostchorze and Winnica Miłosz.

The same set of semantic relationships determined during preliminary studies was used for building both the model of communication in the fortified wines industry and the model of communication in the sparkling wine business. This was important in view of the need to use the models for testing hypotheses. Indeed, in order to test the assumption that professional concepts identified in the discourse on fortified wines are more numerous than those identified in the discourse on sparkling wine (which would strengthen the view that productivity of a concept field is determined by its generic divisibility), or the assumption that French expressions are statistically more represented in the English model of knowledge on sparkling wines than Spanish is in the English model of knowledge in the sherry trade (which could – in turn – be used to corroborate the view that the number of unassimilated borrowings into English from an industry's primary languages is reliant on the quality of cultural contact and its intensity) requires that both of these models demonstrate a similar degree of accuracy. To offer quality descriptions of conceptual content, a task essential to providing reliable knowledge models, terminologists must rely on the basic assumption of the existence of reality (with professional artefacts included) independently from human minds and interests, a reality capable of being discovered and investigated (Yngve & Wąsik, [2004] 2006: 329) and offering the researcher (optimal) reference points, which in some cases could enable them to overcome the problem of contradictions and inconsistencies that they may have encountered when studying discourse (for details *see Chapter II.3*). This attitude seems consistent with the notion that scholars have a social responsibility to continue to add to the ways in which their own language can respond to reality (Putnam, 1999: 6–9), if only to make their models increasingly accurate.

Given the need to focus on all the aspects of professional discourse: concepts, semantic relations, and language forms, and the limited use of automated search for relevant language data, attention was paid to shaping each element of

the task-specific metalanguage underlying the modelling process. By taking into account various indicators of cognitive, formal (sometimes also referred to as 'linguistic'), and systemic nature, the method of analysis employed in this research was akin to terminological modelling adopted and developed by Jurij Lukszyn and his research team (Lukszyn, 2005d: 71). The present research expanded on this method by the inclusion of the facts and figures component. One of the main aims of this step, which could be seen as inspiring the search for eponyms, was to enhance the final model's interpretative potential (see *Chapter II.2*). Importantly, a comprehensive approach to the collection of (language) data was applied, including numerous visits at production sites (to examine winemaking processes in cases where a greater understanding of the subject was needed) and interviews with trade professionals (with the purpose being to complete conceptual gaps in cases where documents in subject corpora were insufficient, and also to clarify the scope of some candidate terms). In view of the research questions about language forms, particular attention was paid to the presence of unassimilated borrowings (notably from the industry's leading languages) and eponymic expressions (*i.e.* those with traces of proper names) among the subject descriptors identified. At an early stage of terminology work it became evident that the share of unassimilated borrowings into English among descriptors needed for the coverage of the subject matter of special wines would be significant, and that proportions of these words could vary depending on the particular subject area considered as a component of the target domain of special wines (Nagórka, 2013: 12–13), with French, Spanish, and Portuguese expected to play the dominant roles as donor languages (see also Campbell & Mixco, 2007: 138). Eponymic expressions were also found to be numerous (Nagórka, 2013: 17–120, 2017c: 79–84),²⁵ with place names and personal names identified early as typical sources for these expressions.

The design of the models of professional communication on the subject of special wines (the model of communication in the fortified wine industries, namely those of port, sherry, and madeira, and the model of communication in the sparkling wine industry) required the target model to be subjected to a set of standardisation procedures (Małachowicz, 2005: 107). The aim was *inter alia* to form terms by

²⁵ As the formation of eponymic terms can be language-specific, it is strongly advised to consult the two documents together. One of them focuses on the number of eponymic descriptors needed for the coverage of the concept field of special wines in the Polish-language model (Nagórka, 2017c). The other document, which presents the English-language model and the Polish-language model in the form of a bilingual thesaurus, enables the reader to observe that while differences between these models in the aspect of content description (using traces of proper names) exist, they are rather insignificant.

finding correspondence between specialised designations identified in professional discourse and the relevant prototype. As far as the grammatical class of terms is concerned (*see i.a.* Górnicz, 2005a: 50), nouns were adopted as a norm (as seems to be the case with the majority of reference works). Among these, denominal nouns and especially deverbal nouns – also sometimes referred to as deverbals – were observed to have a significant presence (*e.g.* ‘wirehooding’, ‘maceration of red berry skins’, ‘sparkling wine producers’, ‘sealing of bottles of sparkling wine with corks’). Notably, for the purpose of building the models, all the methods of term formation used in the process were consistent with those published in pertinent documents by ISO (for details *see i.a.* ISO, 2019: 3.4.31). Typically, where a loan translation representing a concept (*e.g.* ‘disgorgement’) was found in the discourse, instances of unassimilated loans expressing the same concept were also found (*e.g.* ‘*dégorgement*’), with the latter usually occurring less frequently. In such a case, an unassimilated borrowing (that occurs less frequently) will be admitted to the system with the status of a non-preferred term (*see* ISO, 2019: 3.4.18–22).

Importantly, although the design of the target system of winemaking terms does not envisage using proper names as markers of individual concepts in the strictly terminological section of each model, proper names (as well as appellations)²⁶ will have their (honoured) place in the system. Each model was designed to contain a factual guide. Some facts and figures were also presented in definitions and information boxes enriched with additional content, while all proper names used in each model were also listed in the subject index. All subject concepts except for individual concepts were conceptually associated to such an extent that relations between them were made explicit (ISO, 2011: 10.3.1). By contrast, individual concepts (represented by place names, company names, names of historic events, *etc.*) were linked to the network of concepts using the instance relationship, a linkage connecting a general concept, such as a class of objects (*e.g.* sparkling wine producers) with an individual instance of that class (*e.g.* G.H. Mumm, House of Arras, Pol Roger, Spier Wine Farm, *etc.*). When building the structured model, the instance relationships were used implicitly. They came in many different types, including relationships between: the general class of winemaking regions and instances of this class (*e.g.* Champagne, Napa Valley, Penedès, *etc.*), the general class of events important for the industry and their examples (*e.g.* introduction of first riddling racks [around 1816], champagne house Pol Roger & Co. receiving its first Royal Warrant from Queen Victoria [1877], first deliveries of Maison Boizel champagne to New York [1908], or the launch of the premier edition

²⁶ An appellation is understood as an expression applied to a set of objects whose relevant properties are viewed as identical (*cf.* ISO, 2019: 3.4.3).

of Fleur de Miraval's 'Exclusivement Rosé' range [October 2020]); and the class of wine professionals and individual concepts represented by their corresponding personal names (e.g. Italian oenologist and inventor Federico Martinotti, Taylor's head winemaker David Guimaraens, Churchill's founder John Graham, Lanson's cellar master Hervé Dantan, *etc.*). In a similar vein, one can find in the relevant sections of each model instances of a class of objects (such as grape varieties, wine brands, ranges of wines, *etc.*) implicitly linked with concepts represented by their corresponding appellations (e.g. grape varieties Pinot Noir, Meunier, and Chardonnay; sparkling wines Champagne Salon 1947, Winnice Kojder – Johanniter Extrabrut; and Maison Boizel's ranges 'Joyau' and 'Sous Bois').

II.5. Models of knowledge in the wine trade

Summarising achievements in a given area of research is the domain of every scientist, regardless of discipline. The thesaurus terminology has the potential to assist each discipline externally in this respect. Most importantly, however, at least from the point of view of all the sciences that focus on specialised communication, terminological modelling, by structuring various domains of knowledge, makes it possible to answer research questions (and confirm or reject hypotheses) about the nature of professional communication in a given industry, both as regards its content and as regards its many different forms of expression. Although inherent qualities of structured knowledge models which promote both information retrieval (in library and web-based systems) and didactic processes in educational systems have been receiving attention since (at least) the late 1940s (*i.a.* Bernier & Heumann, 1957: 212–213; Austin & Dale, 1981: 43–45; Roberts, 1984: 271–272; Garfield, 1997) and the late 1980s (Lukszyn, [1993] 1998: 7–8; Hudon, 2003: 115), respectively, the main focus of this book is primarily on these models' use in the scientific process. The primary aim is to build a body of attested knowledge on professional communication in the wine trade.

Two models of knowledge dedicated to special wines have so far been published, namely: *Madeira, Port, Sherry: The Equinox Companion to Fortified Wines* (Nagórka, 2021a) and *Sparkling Wines: The Equinox Guide for Wine Professionals and Connoisseurs* (Nagórka & Ręgowska, 2026).²⁷ These complementary models

²⁷ Maps of terms used as a base for organising data in these two encyclopaedic models, and showing conceptual structures for each subject area concerned, have also been made available via URL links. Maps covering the conceptual field of fortified wines and the ideogram mapping the conceptual structure of the area of sparkling wines can be found using the following web address: <https://ukraina.uw.edu.pl/maps-of-knowledge/>.

designed for the description of the domain of special wines have been constructed with two objectives in mind, both of which have contributed to shaping their structures. The first of these objectives was to check the validity of existing general claims – such as the one that a single domain can be supported by more than one leading language – by observing the consistency of the results provided through each modelling process. The second of these objectives was to test new (more specific) claims or hypotheses (resulting from preliminary research) – including the one that the productivity of conceptual fields in professional discourse in the wine trade might be determined by their generic divisibility at the basic level – by contrasting the resultant models to see in which aspects they differ. Careful attention was paid to the composition of each model, with care taken to ensure that the models were analogous in terms of their components.

Each model has the following components, each of which is tailored to presenting specific content: factual guide, serving as an introduction to the subject matter; map of descriptors as a lead-in to subject terms; alphabetic display of terms with definitions, including additional information boxes and tables with numerical data; wine and food pairing guide with boxes presenting added factual content and tables with relevant statistical data; and chronology of events. For answering research questions and testing hypotheses relevant to these studies, subject terms (found mainly in maps of terms and alphabetic displays) seem to be of primary value. However, individual concepts and concepts abstracted from objects whose relevant properties are viewed as identical, manifesting themselves in the subject discourse respectively as proper names and appellations, are also important for this research. Found in each of the models (chiefly in factual guides and chronologies of events, but also in selected parts of alphabetic displays and pairing guides, especially in the boxes with factual information), proper names and appellations can be of use at one of the last stages of this research, namely when attempting to identify reasons for various differences observed between the structured models (see *i.a.* Nagórka, 2024b: 140–144).

In terms of the conceptual underpinnings of the professional discourse on special wines, each model has showed its distinct character, reflecting both similarities and differences between the areas of communication examined. Made using strict terminological methods, the model of knowledge in the fortified wines business, published as an encyclopaedia around November 2021, has revealed 319 concept markers needed for the coverage of the subject matter (see Nagórka, 2021a: 307, 2023: 99–104). Accompanied by a triad of top descriptors ('fortified wine', 'fortified wine producers', and 'fortified winemaking'), all 319 concept markers were distributed across three subject areas: madeira, port, and sherry. In the case of the microfield of madeira, 130 descriptors were needed for a lossless

description of the subject. Much fewer concept markers were considered necessary for lossless coverage of the subject areas of sherry (95 descriptors) and port (94 descriptors), a fact that could be explained by the differing levels of complexity of the relevant winemaking processes in each of the areas represented (see *Chapters II.2 and II.6* for details). The heterogeneous character of the microfield of fortified wines means that in addition to a proportion of similar concepts identified across its three subject areas (e.g. *prolonged ageing, classification, etc.*), concepts specific to each of them (e.g. *maderisation, canteiro method, biological ageing, soleo process, etc.*) can also be found there (see *Chapter II.6* for more illustrative examples).

As for the terminological research into professional communication in the sparkling wine business, the resultant model has been built around 170 concept markers identified in the discourse (Nagórka, 2024: 131–143; Nagórka & Ręgowska, 2026), including three top descriptors, viz. ‘sparkling wine producers’, ‘sparkling winemaking’, and ‘sparkling wine’. The complete model of knowledge in the microfield of sparkling wine has been confirmed to be homogenous, which means that the broadest concept (captured using the descriptor ‘sparkling winemaking’) is indivisible generically, while being divisible into parts. The technical character of the division of the class of *sparkling winemaking* into parts can be visualised by the microhierarchy of concepts linked by two reciprocal types of relationship: partitive (*whole–part, part–whole*) and sequential (*prequel–sequel, sequel–prequel*). This partitive microhierarchy, which is key for ordering concepts in the terminological system, has been expressed by the following descriptors: ‘sparkling winemaking’ > ‘preparation of base wines and partially fermented musts’ – ‘preparation of sparkling wines’. In this way, concepts that are considered unique to the microfield of sparkling wines seem to be scattered throughout the conceptual system rather than grouped into (broad) generic categories. Still, there seems to be a tendency for unique concepts, which make the microfield of sparkling wines distinct from other categories of wine, to appear in the latter segment of the sparkling winemaking process, represented by the descriptor ‘preparation of sparkling wines’. These include (*inter alia*): *remise en cercles, Asti method, tirage, disgorgement, wirehooding, etc.* (see *Chapter II.6* for more illustrative examples).

Given the reciprocal character of some semantic relationships identified in subject discourses, the concept systems underlying communication in the special wines industries, and captured in each complete model, have been found to be reliant on 12 types of conceptual linkage (see Table 2),²⁸ plus the equivalence rela-

²⁸ The increased precision in identifying semantic relationships in view of the reciprocal nature of some of them can be justified by people’s ability to see objects from various perspectives. For instance, temporal concepts manifesting themselves as ‘before’ and ‘after’ have been shown to be

tionship, which has been treated separately. Each model reflects the same types of relationships found in the corresponding discourses, albeit with one exception. In all but one of the cases, the relationship between two or more concepts of *part* (meronymy) in a partitive microhierarchy has been found to take the form of a sequence, where each of the relevant concepts plays the role of either *prequel* or *sequel*. A different situation is encountered only with two pairs of concepts in the microfield of *port wines*. In each of these pairs, these concepts, expressed respectively as ‘intense skin maceration with Douro grapes’ – ‘partial alcoholic fermentation’ and ‘classification of port wines’ – ‘maturation of port wines’, form the relationship of *interdependence* (Nagórka, 2021a: 116–117). This particular relationship can be understood as a linkage between partonomic concepts (*i.e.* concepts of *part*) in which the sequential relationship has been impossible to ascertain.

Table 2. Indicators of the semantic links operating between concepts used in the models of professional knowledge on fortified wines and sparkling wine (sourced from Nagórka, 2021a: 310).

⌈ performer – activity	↓ whole – part	↔ sequel – prequel
⌋ activity – performer	↑ part – whole	↘ cause – effect
↓ parent – child	↔ child – child	↖ effect – cause
↑ child – parent	↗ prequel – sequel	/ companion – companion

The key elements of the microcomposition of the models’ graphic displays include colour-coded linkages between descriptors signalling to the reader the corresponding concept’s specific place in the conceptual system of a given (sub)domain, allowing users to navigate easily through the vocabulary. The terminological microcomponents of each model have been designed for both educational and research purposes, with the form of each entry standardised to ensure consistency (following recommendations found in many guidelines for thesaurus construction, including the guide by Vanda Broughton (see Broughton, [2006] 2018). The alphabetic display is the most capacious, providing not only all terms with their extended definitions and numerous examples of objects to which these

irreducible to one another (see Wierzbicka, [1996] 2004: 57). In other words, the two statements: ‘X happened before Y’ and ‘Y happened after X’ can be taken to mean different things. Another example is provided by Marie-Odile Junker’s studies of the Algonquian language East Cree, some results of which were subsequently reported by Wierzbicka. It has been demonstrated that in this language people tend to conceptualise the hierarchical partitive relations as *whole–part* linkages rather than *part–whole* relationships (Wierzbicka, 2021: 331; Junker, 2008), meaning that any given object is usually perceived first as a whole and then as broken (or divided) into parts.

terms refer, but also tables with numerical data and boxes with detailed information, including geographical data and descriptions of relevant historical facts. The descriptor article has the following components (*cf.* Nagórka, 2021a: 309–310):

1. Title descriptor
2. Definition of term
3. Descriptive paradigm²⁹
4. Key literature (and web links)
5. Table with data (optional)
6. Box with added information (optional)
7. Photograph (optional).

Both models (*viz.* one on fortified wines and one on sparkling wines) have been designed to include nouns only. The vast majority of these descriptors are compound deverbals (*see Chapter II.4*). Importantly, a proportion of the nouns are represented by (fully) unassimilated designations (or designations characterised by the presence of at least one unassimilated term element) of the French, Spanish, and Portuguese extractions (*e.g.* FR: ‘*ficelage*’, ‘*remise en cercles*’, ‘*tirage*’, *etc.* [on sparkling wines]; ES: ‘*cabeceo*’, ‘*mosto de prensa*’, ‘*saca*’, *etc.* [on sherry wines]; PT: ‘*colheita* tawny port’, ‘*garrafeira* port’, ‘*remontagem*’ [on port wines]; and ‘*canteiro* method’, ‘*vinho de canteiro*’, ‘*vinho estufado*’, *etc.* [on madeira wines]) (*see* Nagórka, 2021a; Nagórka & Ręgowska, 2026). The group of unassimilated borrowings from French appears to be the largest, with the most productive French suffixes – as might have been predicted (*see e.g.* Balvet *et al.*, [2011] 2014: 5.1) – being ‘-age’ and ‘-ment’. As the models are intended to serve research as a point of reference for testing hypotheses, including those concerning language forms, particular care has been taken to identify in relevant discourses on special wines all unassimilated borrowings as well as all eponymic words or expressions. Notably, the resultant models distinguish between the group of descriptors proper and the group of non-preferred terms, with both unassimilated elements (*e.g.* ‘*cuvée*’, ‘*dégorgement*’, *etc.*) and eponyms (*e.g.* ‘*Martinotti* method’, ‘*Charmat* method’, *etc.*) found in each of these groups.

²⁹ The descriptive paradigm is a feature of each of the descriptor articles in the model of knowledge on fortified wines. In the case of the model of communication in the sparkling wine industry, these paradigms were excluded from the alphabetic display in order to save space, as the relations between concepts represented by descriptors have been displayed in this model in the map of terms, serving as an introduction to the alphabetic component (*see* Nagórka, 2021a: 3–283; *see also* Nagórka & Ręgowska, 2026).

II.6. Language patterns in wine professionals

The complete models of knowledge have shed light on professional discourse in the domain of special wines (Nagórka, 2021a; Nagórka & Ręgowska, 2026). These models have been used as advanced diagnostic tools, constructed to test the previously advanced working hypotheses about each of the three fundamental aspects of human communication in this field: concepts, concept relations, and language forms. Among the key takeaways of this study are the following:

1. The subdomain of *fortified wines* (and not that of sparkling wines) has been found to require the greatest number of concepts for a lossless description of the subject matter (even if the single homogenous category of *sparkling wines* shows a greater complexity than the most complex of the subject areas in the subdomain of *fortified wines*).
2. In the subdomain of *fortified wines*, the subject area of *madeira* is the most complex (*i.e.* characterised by the largest number of concepts and the greatest semantic depth).
3. The domain of *special wines* as a whole, as each of its broad categories, is dominated by generic relations, testifying to the scientific nature of this field of knowledge, especially given that the special wines business is actively supported by wine scientists (*i.e.* oenologists), regardless of category or area of production.
4. Foreign elements in the English-language discourse on special wines, as demonstrated by the relevant models, come from French, Spanish, Portuguese, and Italian.
5. When speaking in English, wine professionals tend to use many unassimilated foreign elements, with most of these elements being of French extraction.
6. Numerous eponymic elements are found in the models, implying that discourses on the subject of special wines are rooted in fact-based reasoning.

Conceptual aspects

The concept microfield of *fortified wines*, generically divisible into categories of *madeira*, *port*, and *sherry*, is characterised by differences in the number of concepts required for the complete description of each category. The subject area of *madeira wines* has been identified as the largest in the subdomain of *fortified wines*, with 130 concepts identified for its full description. This finding owes much to the variety of unique methods used for crafting these wines. While the concept of *fortification* is common in the production of fortified wines of all types, only in the subject area of *madeira* is the winemaker free to choose whether they fortify their base wines early ('early fortification of base wine for madeira') or late ('late fortification of base wine for madeira'), thus producing madeira wines of different styles (Nagórka, 2021a: 30–31, 42). Hence, the concept of *fortification of base wine*

is much more productive when discussing the production of madeiras than when discussing port or sherry. Suffice it to say that in the discourse on madeira, this notion gives rise to a generic microhierarchy of seven concepts, with all the connectors between them forming either generic links (*parent–child*, *child–parent*) or sibling relationships (*child x–child y*):

- ⇒ fortification of base wine for madeira
 - early fortification of base wine for madeira
 - early fortification in tanks
 - early fortification in transfer pipes
 - late fortification of base wine for madeira
 - late fortification in tanks
 - late fortification in transfer pipes.

By contrast, in the discourse on sherry, three concepts referring to fortification (expressed as ‘late fortification of base wine for sherry’ > ‘high fortification’ and ‘moderate fortification’) have been found, with only two such concepts (expressed as ‘early fortification’ and ‘partial fortification’) identified within the category of *port wines*.

While there are many concepts that are similar to one another in all three categories of the subdomain of fortified wines, it is the notions that are unique to the subject of madeira that seem to decide about the number of concepts underlying the descriptive system on madeira production (130 terms) being markedly greater than the number of concepts in the remaining two subject areas, namely those of *port* (94 concept markers) and *sherry* (95 descriptors) (see Fig. 8). As for similarities, the micro-models of knowledge on madeira and port wines demonstrate that the two corresponding discourses are both reliant (*inter alia*) on the complex notion of *prolonged ageing of wine in wooden containers*. In both cases, the notion is expressed using generic microhierarchies, viz.: ‘prolonged ageing of madeira wines in wood’ > ‘prolonged ageing of madeira wine in casks’ / ‘prolonged ageing of madeira wine in wooden vats’ vs ‘prolonged ageing of port wines in wood’ > ‘prolonged ageing of port wine in casks’ / ‘prolonged ageing of port wine in wooden vats’ (Nagórka, 2021a: 59–61, 152–154). In a similar vein, the notion of *classification* is common to each of the three subject areas comprising the subdomain of *fortified wines*. However, in each case the relevant concept marker used in the discourse (and reflected in the descriptor system) refers to a slightly different stage of the winemaking process.³⁰ One concept that is utterly unique

³⁰ In professional discourse of the production of madeira wines, the concept of *classification* manifests itself in two compound descriptors referring to separate stages of the process of transforming base wine into madeira wine, namely ‘preliminary classification of wines for madeira’

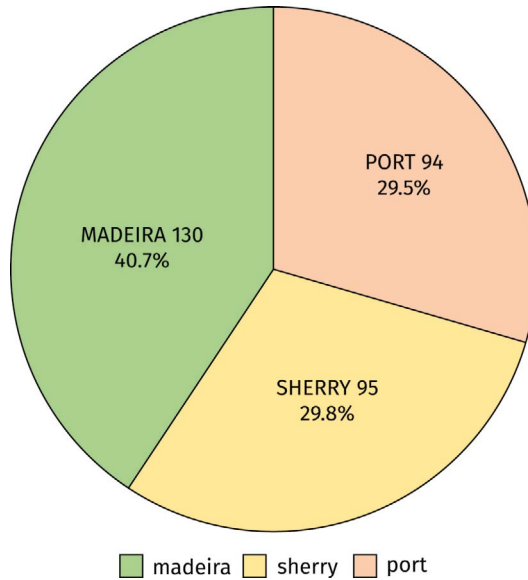


Figure 8. Distribution of descriptors for the coverage of the fortified wines component of the domain of special wines, with information on numbers of concept markers (*i.e.* terms) and percentages.

to the subject area of madeira is *maderisation*. Notably, the concept gives birth to two narrower notions, which are also specific to the field: *canteiro method* and *estufa method*.

The results of the study of professional discourse on special wines demonstrate conceptual differences in the domain of knowledge in question, indicating that the microfield of fortified wines as a whole is more productive than the homogenous microfield of sparkling wines. The knowledge model prepared for the former comprises 322 descriptors (including three top terms), while the

and 'classification of madeira wines', the former referring to a stage preceding the process of maturation of wines for madeira, and the latter used to refer to a winemaking process taking place during the maturation period (Nagórka, 2021a: 10, 22, 57). By contrast, in the discourse on making port, the concept is represented by only one descriptor, namely 'classification of port wines', referring to the sequence of decision-making processes taking part during or soon after the process of maturation of port wines (Nagórka 2021a: 116, 124). The system of descriptors on the subject of sherry wines includes two different terms containing the word 'classification'. These are 'classification of sherry grape juice' (referring to the initial stage in the preparation of the juice obtained from sherry grapes for alcoholic fermentation) and 'cask classification' (used to refer to a decision-making procedure viewed as key in the modelling of sherry wines subjected to ageing) (see Nagórka 2021a: 216, 225, 227).

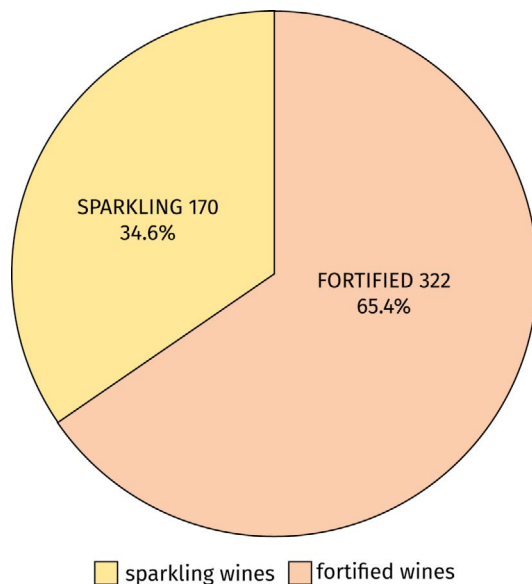


Figure 9. Distribution of concept markers for the coverage of the domain of special wines, with each of the two subdomains (*fortified wines* and *sparkling wines*) presented with information on the number of subject descriptors and their corresponding percentages.

presentation of knowledge in the sparkling wine industry required the use of 170 descriptors. This can be linked with the heterogeneity of the concept *fortified wines*, (directly) divisible into three categories: *madeira*, *port*, and *sherry*. It has been observed that the impact of generic divisibility of a microfield of knowledge at its basic level on the complexity of the concept field is greater than the impact of generic divisibility of narrower concepts. The microfield of sparkling wine includes a large number of alternative concepts operating in generic microhierarchies referring to critical winemaking methods, processes, and activities (in particular *fermentation*, *maturation*, and *ageing*), some of which have been found to be more numerous than those identified in each of the three subject areas of the subdomain of *fortified wines* considered separately. However, such concepts operate in conceptual spaces of greater specificity. Hence, the total number of concept markers in the subdomain of *sparkling wines* is effectively lower than in the combined areas of the microfield of *fortified wines*. This is despite the impressively high number of fermentation methods referred to in discourse on sparkling wine production, as presented in the following taxonomy of terms (Nagórka & Ręgowska, 2026):

- ⇒ ‘sparkling method’
 - single fermentation method
 - ◆ Asti method
 - ◆ ancestral method
 - secondary fermentation method
 - ◆ tank method
 - Charmat method
 - continuous method
 - ◆ bottle method
 - transfer method
 - traditional method.

Finally, the models of knowledge on special wines show that the majority of concept relations in the subject domain in question are taxonomic in character (see Nagórka, 2021a: 8–10, 114–116, 214–216; Nagórka & Ręgowska, 2026). This is the case both with each of the conceptual areas subsumed under the category of fortified wines and with the homogenous category of sparkling wines. The core structure of communication on the subject of *madeira* has been identified as reliant on 70 *parent–child* relationships, 42 *whole–part* relations, 12 *companion–companion* links, four *cause–effect* linkages, and one *performer–activity* connector. Similarly, the micro-model of knowledge in the port industry demonstrates 58 *parent–child* relations, 21 *whole–part* relationships, 12 *companion–companion* links, one *cause–effect* relation, and a single *performer–activity* connector. Likewise, it has been discovered that communication in the sherry trade is dependent on the network of 53 generic (*parent–child*) relationships, 31 partitive (*whole–part*) linkages, five *companion–companion* links, four *cause–effect* relations, and one *performer–activity* connector. In a similar vein, the model of knowledge on sparkling wines is built around 84 *parent–child* relationships, 51 hierarchical partitive relations, 27 *companion–companion* links, six *cause–effect* linkages, and (as with the other subject areas) one *performer–activity* connector.³¹

Formal aspects

Each of the two micromodels of knowledge on special wines, *i.e.* one on fortified wines (*madeira*, port, and sherry) and one on sparkling wines, constituting

³¹ Reciprocity of relations has been excluded from these calculations. For example, a causative link reflected in the model has been counted as one instance of such a link even though – in the original source included in the subject corpus – this relation type may have assumed the character of either *cause to effect* or *effect to cause*.

a snapshot of the most recent knowledge in the field represented in the English-language discourse, has been found to contain foreign (*i.e.* unassimilated) elements. Importantly, all these elements come from Romance languages, namely French, Italian, Spanish, and Portuguese. Examples revealed in the complete model of communication in the fortified wines trade include unassimilated words and expressions borrowed from Portuguese (for the subject of madeira and for the subject of port) and Spanish (for the subject of sherry), while the system of descriptors representing professional knowledge on the subject of sparkling wines includes a great number of unassimilated borrowings from the French language, with a rather insignificant proportion of unassimilated elements borrowed from Italian. Considering the English-language discourse in the entire domain of special wines, as captured in the structured terminological model, French appears to function as the strongest donor of unassimilated forms (*see* Nagórka, 2024b).

The dominant position of French as a contributor of unassimilated elements to English in the special wines trade finds confirmation in the distribution of English-language descriptors with unassimilated term elements from other European languages as captured in the structured model. Considering the distribution of unassimilated borrowings across the entire domain of special wines exclusively by language (*i.e.* with no consideration given to the micro-areas within which these borrowings have been found), unassimilated borrowings from Italian are the least prominent, with only four Italian borrowings found in the model of knowledge in this domain. This constitutes $\approx 0.8\%$ of all 492 descriptors (322 for the coverage of the subdomain of fortified wines and 170 for the coverage of the subdomain of sparkling wines). When non-preferred terms are also included, with six additional designations containing unassimilated elements from Italian, this proportion still seems very small. Ten direct Italian borrowings out of all 596 designations in the domain of special wines constitute approximately 1.7% of the total number of concept markers identified for its coverage. Spanish, the primary language in the sherry trade, has been identified as a source of 15 unassimilated borrowings among 492 descriptors proper and 17 designations with unassimilated elements out of all 596 concept markers (descriptors proper and non-preferred terms). This constitutes $\approx 3\%$ of all descriptors related to special wines and $\approx 2.9\%$ of all designations used to cover the subject matter, respectively.

Portuguese has been identified as a source of unassimilated forms among descriptors for the coverage of the subject areas of madeira and port. Among all 492 descriptors used for the coverage of the domain of special wines, the total number of terminological units with at least one unassimilated form of Portuguese origin is 20 (13 for the area of madeira and seven for the area of port), which stands for $\approx 4.1\%$. With all designations included, this number grows to 27

(19 for madeira and eight for port), which amounts to 4.5% of all 596 concept markers identified. French, the leading language in the sparkling wine industry, is the source of the greatest number of unassimilated loans in the domain of special wines, with 45 out of all 492 terms containing a French word or expression, which constitutes nearly 9.1% of all descriptors in this domain. With the total number of designations in the representation of knowledge on special wines being 596 (including both descriptors and non-preferred terms), as many as 75 of them contain an element of French extraction. These data suggest that almost 12.6% of the descriptive system representing industrial knowledge in the entire domain of special wines is based on direct borrowings from French. When focusing solely on borrowings, of all 84 terms with unassimilated elements presented in the structured English-language model, almost 53.6% (45 descriptors) are based on French. By comparison, the French language elements are found in as many as 75 ($\approx 58.1\%$) of all 129 designations with unassimilated forms (non-preferred terms included). The breakdown of descriptors with foreign language elements by language is shown in Figure 10 below. The distribution of all designations with foreign elements by language is presented in Figure 11.

As shown in Figure 10, French – the most prominent donor language in the domain of special wines – is followed by Portuguese, a donor language represented by 20 of all 84 terms containing borrowed elements identified, which constitutes 23.8% of these descriptors. Spanish also appears as an important donor language in the industry, with 15 terms with unassimilated loans, representing nearly 17.9% of all of these terms. With only four out of all 84 terms containing unassimilated elements found in the model, Italian seems the least prominent of donor languages in the domain, representing a mere 4.7% of all descriptors with borrowed elements. When all 129 designations with unassimilated elements (including terms proper and non-preferred terms) are taken into consideration, the dominance of French as the industry's leading donor language seems to be even more pronounced (see the above paragraph for details).³² As in the case of

³² The number of designations with French elements used in communication on special wines, and featuring in the model of communication in the sparkling wine trade (Nagórka & Ręgowska, 2026) as descriptors and non-preferred terms, may be even greater than that provided in the above paragraph. While not part of the system of terms in a strict sense, concept markers found in the index of the model, representing extensive content that has been covered by definitions accompanying descriptors, can be viewed as candidates for new terms considered for inclusion in subsequent editions of the present model. Some of these concept markers have been identified as containing unassimilated elements of French extraction. These designations are not numerous. Examples include among others: *rosé d'assemblage*, *rosé de macération*, *rosé de saignée*, *liqueur d'expédition*, etc.

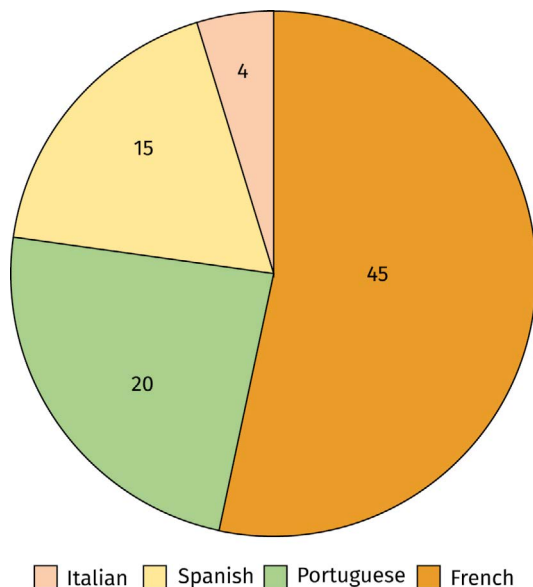


Figure 10. Distribution of terms (*i.e.* descriptors) with unassimilated loanwords selected for the coverage of the subject domain of special wines with information on the number of such terms in the model by language.

descriptors proper, second in prominence is Portuguese. As many as 27 terminological units with unassimilated forms from this language have been identified using the model of communication on special wines, which constitutes 20.9% of all designations containing unassimilated foreign language elements (*see* Fig. 11). When the domain is perceived solely through the prism of donor languages, Spanish can be named the third largest donor, with 17 designations with foreign elements included in the model, which constitutes nearly 13.2% of all designations of this type. Lastly, ten designations identified as containing unassimilated Italian elements have been found, representing around 7.8% of all concept markers with foreign elements present in the model.

The scale of the presence of unassimilated borrowings from each of the four Romance languages in question in the entire domain shows the overall impact of this phenomenon. Terms with foreign elements in the domain of special wines include both simple descriptors (e.g. '*cabeceo*', '*ficelage*', '*rebêche*', '*tirage*', '*transversage*', *etc.*) and compound terms (e.g. '*fermentation in autoclaves*', '*poignettage* for distribution of expedition liqueur', '*punching down with macacos*', '*remise en cercles*', *etc.*). Information on how many unassimilated loans have been identified in each of the two subdomains, *i.e.* the subdomain of sparkling wines and that of classic fortified wines, with separate calculations for each of the three subject areas

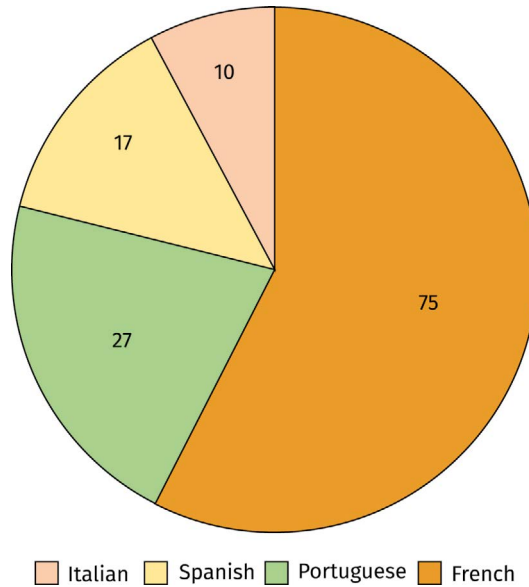


Figure 11. Distribution of all designations (*i.e.* descriptors and non-preferred terms) containing unassimilated loanwords selected for the coverage of the subject domain of special wines with information on the number of such terms in the model by language.

of the latter (*i.e.* madeira, port, sherry), may also be important, if only to compare the influence of each of the wine industry's leading languages on English as used for communication in each of the trade sectors concerned. Importantly, a breakdown into categories may be of significance to researchers interested in finding links between scales of language borrowing in each category and relevant historical records shedding light on both the intensity and character of trade relations between English-speaking (mainly British and American) traders and wine producers in France, Italy, Portugal, and Spain (*see* Nagórka, 2023, 2024b for details).

The results of the count of unassimilated forms among concept markers identified in the part of the model on madeira show that 13 out of the total of 130 (*i.e.* 10%) terms (proper) contain at least one unassimilated term element of Portuguese extraction. When non-preferred terms are included in this calculation, the corresponding percentage of unassimilated forms present in the descriptor system turns out to be higher. It has been demonstrated that 19 out of the total of 157 (*i.e.* 12.1%) entries (both descriptors and non-preferred terms) contain at least one unassimilated term element from Portuguese (Nagórka, 2023: 101–104). The subject area of port has been described using 94 terms, with seven ($\approx 7.5\%$) of these found to contain at least one term element of the Portuguese origin. It has been observed that the part of the model on port wines contains 104 designations in

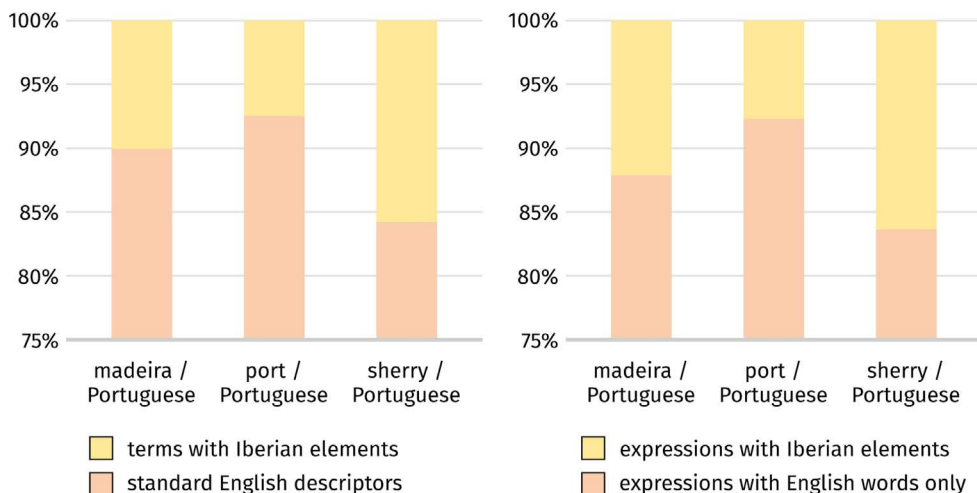


Figure 12. Distribution of foreign elements in the English language communication in the subdomain of *classic fortified wines*, with a breakdown into categories, donor languages in each category, and numbers of descriptors expressed as percentages. Figure on the left represents the percentages of unassimilated borrowings in each category among descriptors proper, while figure on the right shows the percentages of unassimilated borrowings within each category among all designations (terms proper and non-preferred terms) identified.

total (including both descriptors and non-preferred terms), of which eight ($\approx 7.7\%$) have been identified as containing unassimilated elements. The coverage of the subject area of sherry required the use of 95 descriptors, of which as many as 15 ($\approx 16\%$) have been identified as containing unassimilated elements borrowed from Spanish. The inclusion of non-preferred terms has caused this percentage to increase to $\approx 16.3\%$, with as many as 17 such expressions out of 104 designations singled out as necessary for capturing professional knowledge in the subject area of sherry.

Significantly, the results of analysis of the part of the model on sparkling wines (Nagórka & Ręgowska, 2026) show that 49 out of the total of 170 ($\approx 28.9\%$) descriptors contain at least one unassimilated element of French or Italian extraction. French elements are found in 45 terms, which constitutes $\approx 26.5\%$ of all descriptors in this subject area, with only four unassimilated forms borrowed from Italian, which stands for $\approx 2.4\%$ of descriptors in this subdomain. With as many as 36 out of the total of 58 non-preferred terms in the subject area identified as containing unassimilated elements added to the calculation, the final proportion of unassimilated borrowings from French and Italian in the relevant terminological system proves even greater. The identification of 85 unassimilated borrowings

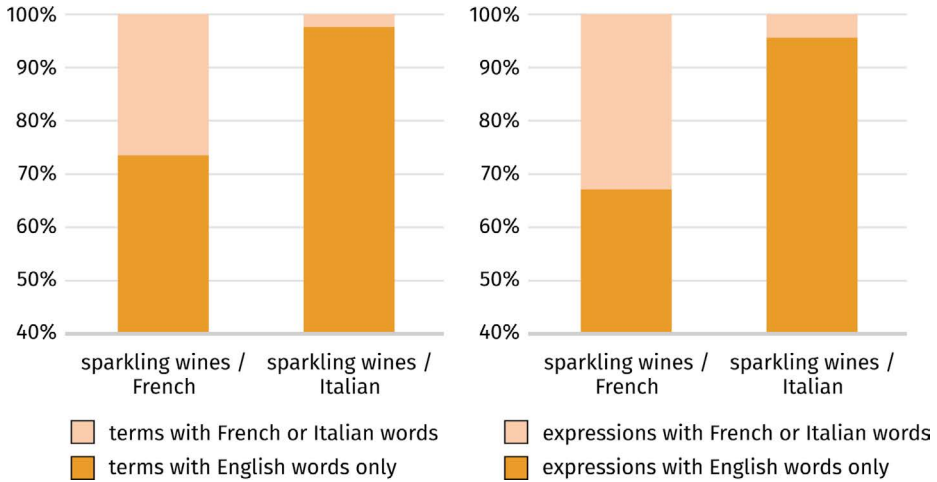


Figure 13. Distribution of foreign elements in the English language communication in the subdomain of *sparkling wines* presented by donor language, with numbers of descriptors expressed as percentages. Figure on the left represents the percentages of unassimilated borrowings among descriptors proper, while figure on the right shows the percentages of unassimilated borrowings among all designations (terms proper and non-preferred terms) identified.

in the terminological system composed of 228 designations (both descriptors proper and non-preferred terms) means that $\approx 37.3\%$ of these designations have unassimilated elements from either French or Italian. French elements have been identified in 75 designations, which constitutes $\approx 32.9\%$ of all designations featuring in the part of the model concerning sparkling wines. The corresponding Italian component numbers ten designations (four descriptors and six non-preferred terms), meaning that $\approx 4.4\%$ of all designations qualify as unassimilated borrowings of Italian extraction.

A number of eponymic elements found in the models of communication on special wines can be considered as a signal of the extent to which the relevant discourses are reliant on fact-based reasoning, as they refer to either persons (the case of the sparkling wine industry) or places (the case of both sparkling wine trade and fortified wine industries). Notably, designations containing eponymic elements are found in each of the subdomains of special wines among both descriptors proper (e.g. ‘Asti method’, ‘Charmat method’, ‘fining of sherry with Spanish earth’, ‘maderisation’, ‘submersion of Douro grape skins’, ‘selection of Madeira grapes’, *etc.*) and non-preferred terms (‘basic madeira’, ‘Cavazani method’, ‘chaptalisation’, ‘flor sherry’, ‘foot crushing of Madeira grapes’, ‘Italian method’, ‘Martinotti method’, ‘modified Charmat method’, ‘vintage

madeira', *etc.*). When taking into account terminological descriptions only (*i.e.* without words and expressions found in indexes), 20 designations (11 terms proper and nine non-descriptors) have been identified as containing anthroponymic or toponymic elements in the subdomain of sparkling wine, representing $\approx 8.8\%$ of all 228 relevant designations.³³ By contrast, the subject matter of (classic) fortified wines has been covered by 368 designations (*i.e.* 322 terms proper – when including three top descriptors – and 46 non-preferred terms). Of all these, as many as 256 designations (85 terms proper and 10 ascriptors on madeira, 79 terms proper and 10 non-preferred terms on port, and 68 terms proper and four non-descriptors on sherry) have been found to contain eponymic elements (*cf.* Nagórka, 2017c: 73–89), which accounts for just over 69%.

³³ For a full list of designations with eponymic elements on the subject of sparkling wine see the book *Sparkling Wines: The Equinox Guide for Wine Professionals and Connoisseurs* (Nagórka & Ręgowska, 2026), notably its three sections, namely Map of Terms, A-Z Display and Subject Index. For an analogical list of designations with eponymic elements on fortified wines see Nagórka 2021a.

PART III:

THEORETICAL INSIGHTS ON
PROFESSIONAL COMMUNICATION

Part III: An overview

Part III offers research findings that can be considered as expanding on existing knowledge regarding professional communication in fields aided by life and technical sciences, such as the wine industry. This section presents these findings based on a sequence of steps outlined in previous parts of the book. Contributions to the theory of professional communication, and in particular to the body of attested knowledge about the discourse in the special wines industry, are broken down into those relating to conceptual aspects and those concerning interactional aspects manifested in language forms. Each chapter of this part discusses contributions made and concludes with memorable insights derived from this research.

The first three chapters of this section discuss the organisational properties of generic, partitive, and associative relations within conceptual fields of the agri-food sector, using the field of special wines as an illustrative example. The data show whether or not the generic component – more than any other semantic relation – can lead to an increase in the number of concepts within a given subject area. Moreover, the findings indicate which type of relations dominates in subject areas subsumed under the domain of special wines, which could be seen as shedding light on the status of each of these areas in view of their advancement. From a more pragmatic viewpoint, the research results demonstrate clearly in which of these areas winemaking can pose the greatest (as well as the least) intellectual challenge.

In the remaining chapters of *Part III*, the main focus is on the results of research into the use of language forms. The first of these sections dispels any doubts as to whether a given industry representing the broad food and drink domain can have more than one leading language. The results of this study also serve to demonstrate to what extent the intensity of language contact and the prestige of a language influence the use of unassimilated loans in the English-language discourse on special wines. The findings on borrowings indicate which of the industry's

leading languages should feature in wine schools' curricula. The last section identifies discourse areas of the special wines domain in which the presence of eponyms is significant. When discussing why this may be the case, it is important to point out the role of linkages between concepts of wine production methods and those of geographical regions, as reflected in the use of designations of origin.

Part III reveals the significance of this study's outcomes for both the theories of concepts and conceptual fields in professional discourse as well as the theories (and perspectives) on the use of borrowings (see Weinreich, [1953] 1979: 2.43) and eponyms (Merton, 1957: 642–645). Insights on the nature of concepts and cognition advanced so far by many authors – such as those contained in the Conceptual Metaphor Theory, according to which the structure of a given statement tends to be organised by cross-domain mappings (see Evans, 2007: 33–35) – are based on a number of observed instances that validate them. The study programme using terminological models, bespoke and tailored to requirements, not only allows the researcher to capture correspondences between conceptual areas or domains, but also – by systematic modelling of entire subject areas (and not merely their selected fragments) – is capable of identifying trends.

III.1. Productivity of concept fields (as determined by their generic divisibility)

The results of the present research shed light on the case of productivity of concept fields, indicating that it depends on generic divisions more than it does on partitive divisions in the upper parts of the hierarchical systems on special wines in question. When considering the conceptual structure of the domain of special wines, the homogeneous subdomain of *sparkling wines* seems to have fewer concept markers than the heterogeneous subdomain of *fortified wines*, with the former covered by 170 terms and 58 non-preferred terms, and the coverage of the latter requiring 322 terms proper and 46 non-preferred terms (see *Chapter II.6* for a detailed breakdown of the subdomain *fortified wines*). Still, not much difference between these two subdomains has been observed in the aspect of their semantic depth, with each of these conceptual subdomains reaching the eighth level in the hierarchy of meanings:

fortified wines: 'fortified winemaking' > 'madeira winemaking' > 'preparation of madeira wines' > 'maturation of wines for madeira' > 'maderisation' > 'estufa method' > 'rapid heating' > 'direct heating method' > 'direct heating of wine in wooden vats';

sparkling wines: ‘sparkling winemaking’ > ‘preparation of sparkling wines’ > ‘sparkling method’ > ‘secondary fermentation method’ > ‘bottle method’ > ‘traditional method’ > ‘finishing of traditional method sparkling wines’ > ‘transversage’ > ‘transfer of disgorged bottle-fermented sparkling wine to non-standard-sized bottles’.¹

Supported by common sense, the finding on a relatively high conceptual productivity based on the generic diversity of concepts seems to mirror that about productivity in natural ecosystems, well-known in natural sciences, which suggests that biodiversity effects on community productivity increases over time (see Zheng *et al.*, 2024). Incidentally, the most productive in the subdomain of *fortified wines* is the area of madeira, covered by 130 descriptors and 27 non-preferred terms (Nagórka, 2021a: 8–11), with seven levels of semantic subordination; while the least productive in this subdomain is the area of port (Nagórka 2021a: 114–117), covered by 94 terms proper and ten non-preferred terms, and characterised by six levels of semantic subordination (‘port winemaking’ > ‘elaboration of port wines’ > ‘pre-bottling operations on port wines’ > ‘stabilization of port wines’ > ‘clarification of port’ > ‘filtration of port’ > ‘filtration of port with diatomaceous earth’).

Confirmation of the hypothesis that it is generic rather than partonomic hierarchical linkages in the basic parts of conceptual systems that determine these systems’ greater complexity seems to have two general implications: one for linguistic research and one for the wine trade at large. The implication for terminology work is that preliminary research using corpora of up to several dozen documents each can provide the terminologist with basic knowledge of the subject field useful in planning the work of semantic mapping and developing definitions. The number of categories discovered at the base of a hierarchical system subjected to analyses during initial research should help the researcher outline research needs, and – more specifically – enable them to find out whether or not the amount of work needed for complete terminological descriptions of the subject matter within a specified time can be undertaken by one researcher or will require forming a research team. In general, less time and work will be necessary for the coverage of a homogenous field, as represented by the subdomain of *sparkling wines*, and more work and time will be needed to cover a heterogeneous field, as exemplified by the subject field of *fortified wines*.

From a pragmatic viewpoint, identifying conceptual fields as relatively more productive on account of generic divisibility of their broadest concepts may have beneficial implications for vocational education providing intellectual support

¹ For the complete map of terms on sparkling wine production see the book *Sparkling Wines: The Equinox Guide for Wine Professionals and Connoisseurs* (Nagórka & Ręgowska, 2026).

KEY TAKEAWAY

Generic divisibility of top concepts in subject fields of the food and drink sector may impact the productivity of these fields. A large number of concepts can be expected in heterogeneous areas. In the homogenous fields, the number of such concepts may not be as high.

to industrial activity in a wide variety of industries. The results of terminological studies on concepts in the domain of *special wines* indicate that a wine professional can expect different intellectual challenges depending on the sector of the wine industry in which they will take up employment. A person employed in the fortified wines trade may expect a greater intellectual challenge than one representing the sparkling wine industry on account of a much more significant complexity of the relevant conceptual system underlying communication in this trade.

By the same token, when subject areas are considered separately, *i.e.* without their connection to the general domain, one can consider the area of *madeira* as more intellectually challenging than the area of *port* or the area of *sherry*, but less so than the area of *sparkling wines*.

III.2. Proliferation of generic relations as an indicator of a field's advancement

Commonly regarded as a hallmark of scientific thought (Hamilton & Wheeler, 2008: 331–340; Kendig & Witteveen, 2020: 2–9), generic (*parent–child*) relations have been found to dominate in all categories of the domain of *special wines*, albeit in different proportions. Graphic displays made for each category (see Nagórka, 2021a: 8–11, 114–116, 214–216; Nagórka & Ręgowska, 2026) demonstrate that the conceptual system of *port wines* relies on 58 *parent–child* relationships, 21 *whole–part* relationships, 12 *companion–companion* links, one causative relation, and one *performer–activity* linkage. This means that more than 62% of all relationships in this terminological system are represented by generic relations. Around 56% of the terminological system prepared to capture the subject matter of *sherry wines* is reliant on generic relations, with 53 *parent–child* relationships, 31 *whole–part* relations, five *companion–companion* links, four *cause–effect* linkages, and one *performer–activity* relation. With 70 generic (*parent–child*) relationships, 42 *whole–part* relations, 12 *companion–companion* links, four *cause–effect* relationships and one *performer–activity* linkage, the map of terms on the subject of *madeira* has an even lower proportion of the generic component, which reaches around 54%. Hence, for the subdomain of *fortified wines*, the average percentage of taxonomic relations is over 57%. By contrast, the structure of the homogeneous area of *sparkling wines* is reliant

on 84 *parent–child* relationships, 51 technical (*whole–part*) links, 27 *companion–companion* relations, six *cause–effect* relations, and one *performer–activity* linkage, with the generic component constituting 49.7% of linkages.²

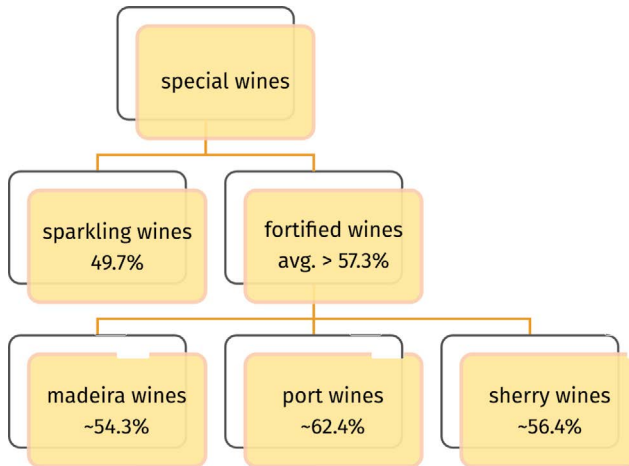


Figure 14. Proportions of generic components within the domain of special wines by category.

The dominance of the generic component in each category of the domain of special wines seems to confirm the scientific status of discourse in the industry in question. The presence of *genus–species* relationships in the subject domain has been shown to range from almost 50% in the case of the subdomain of sparkling wines to around 62.4% in the case of the area of port wines. This finding is in line with the claim made by Jurij Lukszyn and his research team in the 1990s about the efficacy of thesauri of field terminology as tools for measuring the productivity of cognitive work conducted on a given topic (Lukszyn, [1993] 1998: 10), with relevant factors revealed by means of these instruments including the number of terms and the relational complexity of the subject matter. Thus understood, these models of knowledge enable researchers to bear out or reject views

² When considering the relational components of the special wines domain, it is in the subdomain with a higher number of concepts (*i.e.* the subdomain of fortified wines) that the generic component is best represented. These data may imply that the generic relations (their proportion being relatively higher in the fortified wines field than in the sparkling wines area) can be considered more productive in creating semantic spaces than partonomic relations (*Chapter III.1*). While this proposition is only a tentative one and needs confirmation in further research into conceptual fields, it may make a significant contribution to the understanding of concepts (*i.a.* Hjørland, 2009: 1519–1528, 2013: 169–175).

KEY TAKEAWAY

The status of the domain of special wines as a highly advanced area of knowledge has been confirmed, as generic relationships are the most prolific in each of the general categories identified. A homogeneous category, the subject field of sparkling wines is characterised by a lower average percentage of generic relationships (and a markedly lower number of concepts) than the field of fortified wines, which is heterogeneous (*i.e.* generically divisible).

on the relative autonomy of a given discipline (for more details on the functions of knowledge models *see also Chapters 1.4–5*). Structural differences between discourses in the special wines industries that belong to the same general domain result from the fact that professional discourse in each of the subject areas concerned is shaped by a history of scientific and technical developments and practices that are specific to each trade. One needs only mention the descriptor ‘*estufa* method’. Identified in the discourse on madeira wines and representing a concept that is unique to the making of madeiras, the term continues to be used to refer to the artificial heating of fortified wine destined for madeira (and not for other fortified wines) during the period of maturation. It is highly probable that the history of the *estufa*

system began in 1794, the year in which the first *estufa* was introduced to the madeira wine industry by Panteleão Fernandes (*see* Nagórka, 2021a: 32–33).

III.3. Minority relationships in wine industries aided by (life and technical) science

While the lion’s share of systemic relationships underlying communication in the special wines industry (aided by oenology as a life and technical science) are hierarchical *parent–child* and *whole–part* relations, made complete with horizontal linkages (*alternative* in the case of generic relations and *sequential* in the case of partonomies), minority relations represented in the relevant terminological system include concomitant (*companion–companion*), causative (*cause–effect*), and performative (*performer–activity*) links. These links are present in the domain in various proportions depending on the category in question. The largest share of these minority relations can be observed in the discourse on sparkling wines, as the proportion of concomitant, causative, and performative linkages in this subdomain (viewed collectively) reaches ~20.1%, with 27 concomitant links, six causative relations, and a single performative linkage. By contrast, the terminological analysis of discourse on fortified wines has revealed that the minority relationships in this heterogeneous subdomain constitute nearly 13.4% of its relational

(i.e. semantic) component. The distribution of these linkages in this subdomain varies from subject to subject, with 12 concomitant links, one causative link, and one performative relation identified in the discourse on port wines. In the case of the discourse on sherry, one can observe five concomitant relationships, four causative links, and one performative relation. The results of analyses of professional discourse in the madeira trade show that the discourse is reliant on 12 *companion–companion* links, four *cause–effect* links, and one performative relationship. Importantly, two more minority links (one performative and one causative) and three generic linkages need to be added when top concepts in the subdomain of fortified wines are included.

Table 3. Participation of three types of minority relationship (*companion–companion*, *cause–effect*, *performer–activity*) in the domain of special wines with a breakdown by subject.

quantity of minority relations expressed as	minority relations in the subdomain of sparkling wines	minority relations in the subdomain of fortified wines	minority relations in the domain of special wines
percentages	~20.1%	~13.4%	~15.7%
numbers	34/169	(41+2)/321	77/490

All the minority relations identified in the domain of special wines are associative linkages, typically considered as exponents of pragmatic thinking. Based on the latest results obtained by means of terminological research, one can conclude that a significantly greater percentage of the minority relations are present in the subdomain of sparkling wines than in the domain of fortified wines, even though the number of such linkages in the model of discourse on the subject of sparkling wines may be relatively lower. The model has captured 27 *companion–companion* links, six *cause–effect* relations, and one *performer–activity* linkage (for a detailed display of these relations see Nagórka & Ręgowska, 2026). These results can be viewed as indicating that – compared to professionals representing other sectors of the special wines industry – it is the representatives of the sparkling wine trade that tend to think in a way that seems relatively more supportive of pragmatic solutions. The most prominent among the fortified wine industries in the aspect of their reliance (in professional communication) on associative links are the port wine business and the madeira wine trade. With 12 *companion–companion* relations, one causative linkage, and one performative link identified in the discourse on port, and 12 *companion–companion* relationships, four *cause–effect* links, and one *performer–activity* relation represented in the model of discourse on madeira production, the presence of associative relationships in these discourses

KEY TAKEAWAY

If the discourse on special wines can serve as a point of reference for other food and drink domains, one may assume that in those domains as well as their categories associative links will belong to the group of minority relations. It can be expected that in the relevant areas with the lowest proportion of associative relations, the weak representation of the associative component will be balanced by a marked presence of partonomic concepts, which tend to form sequential relationships.

can be expressed as ~15% and ~13.2%, respectively. By contrast, the associative component of the semantic paradigm underlying discourse in the sherry trade constitutes merely 10.6% of all concept relations identified in this discourse, with five *companion–companion* links, four causative relations, and one performative linkage. Notably, the insignificant presence of associative links in the professional discourse in the sherry industry can be seen as largely offset by a comparatively high proportion of technical (*whole–part*) relations, where all the partonomic concepts enter into sequential relationships (see for instance Felber & Budin, 1989: 3.121.3, 3.122; Nagórka, 2013: 15 ff., 2021: 214 ff.). Compared with proportions of *whole–part* relationships identified in all the other subject areas of the subdomain of fortified wines, the proportion of technical relations in the subject area of

sherry appears to be the largest, covering nearly 33% of its relational component.

III.4. Conceivability of fields typified by more than one leading (national) language

Authors of publications on terminology work tend to highlight the importance of primary terminological systems, *i.e.* systems of terms in which professional knowledge is represented to the highest degree of precision (see Lukszyn & Zmarzer, 2001: 60 ff.; Łukasik, 2017b: 3–4). The role of such descriptor systems is so fundamental that Marek Łukasik considers the set of features connected with each concept of the conceptual network operating behind the primary terminological system of a subject field as the *tertium comparationis* in terminological analyses (Łukasik, 2017b: 3). Corresponding to the notion of *primary terminological system* designed for a particular field is the concept of the field's *primary language*. Interestingly, literature on the subject implies that the primary terminological system³ is typically based on one language with a high status in a field under study

³ Primary terminological systems, developed in *lingua francas* of international professional communication in various fields, tend to act as sources of knowledge of the highest quality. Hence,

KEY TAKEAWAY

The special wines industry has been identified as having four leading languages. This fact demonstrates that – with a high precision applied in research – in fields monitored by life and technical sciences, notably in the food and drink domains, one can expect more than one leading language, each covering a narrow area of knowledge.

(see Łukaszyn & Zmarzer, 2001: 62), usually regarded as belonging to the group of (so-called) world languages (see *i.a.* Wright, 2012: 552–559; Ruggiero, 2022). Notwithstanding this and other similar claims or implications (see *i.a.* Łukasik, 2017b: 3–4; Górnicz, 2024: 21), the results of this study show that more than one language can dominate in a given domain, albeit in different areas of that domain. As shown in *Chapter II.6* of this book, a number of unassimilated borrowings of the French and Italian extractions can be observed in English-language communication in the sparkling wine industry. In a similar vein, many foreign language elements from

Spanish and Portuguese have been identified in the English-language discourse in the fortified wine trade.

The domain of special wines, an important part of the entire wine business (see OIV, 2025: 4.1),⁴ includes the sparkling wine industry (a homogeneous field) and the fortified wine trade (a heterogeneous field, further divisible into the subject areas of *madeira*, *port*, and *sherry*). Identified in the English-language discourse in the sparkling wine business, French words have been found to constitute ≈32.9% of all 228 designations covering the relevant subject area or nearly 12.6% of all designations representing industrial knowledge in the entire domain (see *Chapter II.6* of this book for a more detailed breakdown). With only around 4.4% of all designations qualified as unassimilated borrowings of the Italian extraction in the subdomain of sparkling wines (corresponding to a mere 1.7% of all concept markers used for the coverage of the entire domain), one can conclude that – when viewed through the prism of the presence of foreign elements in the English-language discourse on special wines – it is French that can (indeed) be named the sparkling wine industry's leading language.

A slightly different pattern has emerged from the body of research on professional discourse conducted in the subdomain of fortified wines (see *Chapter II.6*

such systems are also natural sources of borrowings into other languages, in which secondary terminological systems are developed as a result (Łukasik, 2018: 145).

⁴ As broadly defined in *International Code of Oenological Practices* – Issue 2025 (OIV, 2025: 4.1), special wines are to be understood as wines made from fresh grapes, musts, or wines which have undergone certain treatments during or after the process of their production, and whose characteristics come not only from the grapes, but also from the production methods applied.

for detailed results). While Portuguese borrowings in the English-language discourse in this subdomain dominate over those of the Spanish extraction, this is the case mainly due to the fact that Portuguese corresponds to two categories of fortified wine (as both madeira and port are considered territorial brands), and Spanish corresponds to only one of these categories, namely *sherry wines*. Identified in the English-language discourses on madeira and port, Portuguese words have been found in almost 7.4% of all 365 designations covering the subdomain of fortified wines, which stands for around 4.5% of all 596 designations representing professional knowledge in the entire special wines domain. By comparison, designations with elements of the Spanish extraction have been identified in 4.7% of all concept markers found to represent the subdomain of fortified wines (or around 2.9% of all designations representing professional knowledge in the special wines trade).

Table 4. Distribution of foreign language elements within the English-language discourse in the *special wines* domain, with numbers of designations (including terms proper and non-preferred terms) expressed as percentages.

foreign language	subdomain of <i>sparkling wines</i>	subdomain of <i>fortified wines</i>	<i>special wines</i> domain
French	~32.9%	–	~12.6%
Portuguese	–	~7.4%	~4.5%
Spanish	–	4.7%	~2.9%
Italian	~4.4%	–	1.7%

These data demonstrate that *leading languages* should not be viewed as domain-specific, but rather as specific to a given subject area (considered part of a domain). It has been found that French (the leading language in the sparkling wine trade), Portuguese (proven as dominant in the fortified wine industry), Spanish (the leading language in the sherry trade), and Italian (the least represented of all languages identified, which provides a framework of reference in certain aspects of sparkling winemaking) are all represented in the domain of special wines, albeit in different categories of this domain, and in different proportions. This finding bears out the view that communication in a professional field monitored by wine science – and most probably also in professional fields monitored (and supported) by a number of other life and technical sciences – can be typified by more than one leading (national) language.⁵

⁵ By analogy, one might also expect more than one leading language in the domain of tea production. With a number of tea-producing countries boasting unique tea-making practices, in some cases deeply rooted in long histories of their cultural traditions, and others being at the

III.5. Loans from primary language(s) as a result of
(the quality of) cultural contact

The percentage of French borrowings in the sparkling wine industry, an integral part of the domain of special wines, has been found to be greater than the percentage of loanwords from Portuguese and Spanish, leading languages in the fortified wine industries representing the same industrial domain (OIV, 2022: I.1.4-1). It has been discovered that words of the Italian extraction, found only in the discourse on sparkling wines, are the least represented. While Figure 10 in *Chapter II.6* of this book presents the distribution of foreign elements in the English-language discourse by domain and subdomains, the following table shows a more detailed breakdown, demonstrating the influence of foreign languages on the English-language discourse on special wines by trade areas identified within the special wines domain. Interestingly, outcomes of the study of encyclopaedic knowledge on sparkling wines, combined with the results of similar research into communication in the fortified wines sector (*see also* Nagórka, 2021a, 2023: 94–105), indicate that the history of commercial relations between pertinent communities (English-speaking community with French-, Portuguese-, Spanish-, and Italian-speaking communities) may be reflected in the extent of borrowing of foreign elements into English for professional (*i.e.* wine trade-related) purposes.

Table 5. Distribution of foreign language elements within the English-language discourse in the *special wines* domain broken down by subject area, with numbers of designations containing these elements (including terms proper and non-preferred terms) expressed as percentages.

foreign elements in English-language discourse on special wines by language	subdomain of <i>sparkling wines</i>	subdomain of <i>fortified wines</i>		
		madeira	port	sherry
French	~32.9%	–	–	–
Spanish	–	–	–	~16.3 %
Portuguese	–	~12.1%	~7.7%	–
Italian	~4.4%	–	–	–

forefront in terms of production volume (FAO, 2024), it seems reasonable to assume that at least Chinese, Japanese (Górnicz, 2024: 21), and Hindi will be among the dominant languages, each contributing to the coverage of various areas of the tea-making domain. Given the outcomes of preliminary research, it is conceivable that, as with special wines, this phenomenon might also be observed through the prism of borrowings in the English-language discourse on tea production.

Given that the main objective of this research task has been to explore the links between the scales of borrowing captured in particular trade areas of the special wines domain and the histories of commercial ties between representatives of different language cultures that make up the industry, determining degrees of wine professionals' language proficiency has been regarded as unnecessary, as has the distinction between borrowing proper (the case of the recipient language being the speaker's dominant or native language) and imposition (the case of the source language being the speaker's dominant or native language).⁶ Notably, terminological models of knowledge, as understood in this study, are designed (*inter alia*) to recognise the roles of words (and expressions) in a target conceptual field, with these roles viewed as highly dependent on the space that a particular concept occupies in the target system. Hence, foreign elements may (indeed) repeat in some or many compound terms in different spaces of the same knowledge representation system (or its various categories), but this may be regarded as rather irrelevant to the task of drawing a comparison between descriptive systems crafted to represent industrial knowledge in a given field. This is because every single compound term within each system of descriptors plays a different role in the target representation system concerned.

The presence of unassimilated borrowings from the special wine industry's top three leading languages (*i.e.* French, Spanish, and Portuguese) seems inversely proportional to the intensity of (amicable) commercial ties between the communities concerned, a hypothesis that may contribute to explaining the observed differences in borrowability (*see* Table 5). The most recent research outcomes seem to confirm the tentative hypothesis advanced for the first time during the studies on language loans in the fortified wine industries (Nagórka, 2023), namely that differences and conflicts, both past and present, at the inter-state levels – which do leave their marks on trade relations between professional communities affected, and result in their reduced intensity – seem to contribute to a growth in the percentage of unassimilated borrowings from an industrial area's leading language(s) (*see also* Nagórka, 2024b). The dominance of French borrowings in the English-language discourse on sparkling wines, and – indeed – in the English-language discourse in the special wines industry in its entirety can be explained not only by the need for an extensive use of French loanwords caused by cultural distance (created by feuds between the French and the Anglo-Saxons), but also by the factor of *prestige*, with French words and expressions used even in cases where English equivalents in the discourse are well-established (and sufficiently

⁶ For a detailed account on the subject of *language contact* and on the distinction between *borrowing proper* and *imposition* see, for instance, van Coetsem (1988: 7–24) and Winford (2019: 57–58).

motivated).⁷ This factor can be viewed as based on associations commonly made between French expressions (or words) and quality of French wines (as well as other products from food and drink industries), an outcome for which producers of champagnes and crémants have worked over many generations (Nagórka, 2025).⁸

While the combination of the factor of *prestige* and that of the need for accurate designation of concepts resulting from a long history of conflicts seems decisive in positioning French as the top language in the special wines industry in general (and the sparkling wines trade in particular), the position of Spanish as the most significant donor language per subject area in the fortified wines business may have to do mainly (if not solely) with insufficient accuracy of English designations, a problem probably caused (*inter alia*) by cultural as well as social differences affecting communication in wine business between the countries (regarded as trading partners) concerned, with some of these divides having their roots in age-old disputes (Nagórka, 2023, 2024b). Sir Francis Drake's raid on Cadiz in 1587, a prelude to the defeat of the Spanish Armada during which he managed to seize and escape with 2,900 pipes of sherry, may have contributed much to popularising this wine in Britain. However, it was a large number of subsequent disputes and military conflicts, such as the War of the Spanish Succession (1701–1714) or the Second World War (1939–1945), to name a few, that can be viewed as

⁷ For prominent examples of such words and expressions see *Chapter II.2* in this book. For a full account, including stories and events that have shaped the commercial landscape of the sparkling wine trade between French producers and English-speaking merchants see Nagórka (2024b) and Nagórka and Ręgowska (2026: 12 ff.).

⁸ One needs only mention that in 2024 as many as nine of 28 holders of the Royal Warrant in the category of official suppliers of food and drink to the British court from outside the UK were producers of champagne, a highly protected designation of origin and one of the most recognisable territorial brands in the world (RWHA, 2024). Also exemplary are cases found in the long history of trade in champagne between its producers and the Anglo-Saxon merchants. Even before the Cobden-Chevalier Treaty (1860), which markedly reduced English tariffs on French wine and led to increased sales, the sales of champagne to Britain had already been on the rise for several decades (Harding, 2018: 15–16, 78), despite existing barriers to trade, and – clearly – due to the Anglo-Saxon traders' recognition of the wine's quality. Also notable was the year 2019, which saw a significant growth in champagne exports to the United States (from around 23.7 mln bottles in 2018 to more than 25.6 mln bottles in 2019). This is generally regarded as related to Donald Trump administration's threats to impose additional tariffs. Ultimately, however, these tariffs did not affect champagne. The official 2022 sales data (CIVC, 2023a: 10, 20–21) show that the US and the UK continue to consider champagne as a highly valuable commodity, as they remain Champagne's top export markets, with 33.72 mln bottles and 28.06 mln bottles purchased in these countries respectively.

responsible for difficulties in wine trade (and hence also communication problems within that domain) between Britain and Spain (see Nagórka, 2021a: 280–283).

KEY TAKEAWAY

Amicable trade relations in an industry can be expected to result in a lower percentage of direct borrowings from the leading language in the relevant industrial discourse. This is the case of Portuguese in the madeira industry and the port wine trade. By contrast, a long history of hostilities in an industry can be expected to produce a higher percentage of direct borrowings from the trade area's primary language, in particular when the use of words of that language is linked with prestige (the case of French in the food and drink industries).

When considered separately for each trade area, borrowings from Portuguese in professional discourse in the port industry and loans from this language in professional discourse on madeira are less represented than those from Spanish in the sherry trade. The position of Portuguese behind Spanish among the wine industry's leading languages in terms of unassimilated borrowings into English in the areas of madeira and port (viewed as separate) can be explained by no major conflicts or resultant barriers to trade identified between Portuguese producers and Anglo-Saxon traders (Ludington, 2013: 73–107, 155–173, 238–245; Nagórka, 2021a: 110–208, 2023). Lucrative trade and lasting ties between the English and the Portuguese in the wine field have been shaped by political agreements, the most crucial of which included (among others) the Treaty of Windsor (1386), which allowed the English merchants to

settle in Portugal, and the Methuen Treaty (1703), guaranteeing admission of Portuguese wines into England on preferential terms. British merchants, in particular in the 18th and 19th centuries, are viewed as instrumental in the development of the port trade and the building of its reputation. Notably, port producers of British ownership or extraction continue to hold significant influence in the industry. All of this may have contributed considerably to the extent to which the English language has been capable of responding to developments in the port wine industry, past and present, reducing the need for direct borrowings from Portuguese.

To recapitulate, evidence offered in the structured models of professional discourse on sparkling and fortified wines seems to strengthen the view that borrowability responds to the strength of sentiments in trade relations between language communities concerned. Hostility in international commerce, which in the case of professional communication on special wines has been confirmed by references to historical events (both past and present), can – indeed – amplify the need for unassimilated borrowings, especially from one of the languages having the primary status in the industry, and also when the use of words and expressions from that language is linked with *prestige*, as appears to be the case with French.

Unassimilated loanwords from this language dominate clearly not only over those from Italian in the English-language discourse on sparkling wines, but also over direct borrowings from Spanish and Portuguese, leading languages in the fortified wine industries. The lowest percentage of direct borrowings within the fortified wines industry (considered by trade areas) has been found in the discourse on port wines, where Portuguese is the leading language. The case of the port wine industry shows that amicable trade relations combined with intense cooperation and cultural contact between professional communities concerned will lead to fewer borrowings. The results of this part of the study can be viewed as supportive of claims that encounters, interactions, culture changes, and attitudes (especially those reinforced by events) leave their imprints on linguistic behaviour (e.g. Gleason, 1955: 127; Bonacchi, 2011: 18, 20–21 *ff.*).⁹

III.6. Eponymous expressions in wine industries as evidence of fact-based reasoning

Determining degrees of the presence of eponymous expressions in professional communication in each trade area of the domain of special wines and indicating differences between relevant discourses in terms of types of eponyms identified in them shed light on the extent to which these discourses are rooted in fact-based reasoning. The significant contrast in the presence of these expressions observed between the professional discourse on sparkling wines (a subject area with a mere 8.8% of designations containing traces of proper names) and the discourse in the fortified wines business (a subject field covered by just over 69% of designations identified as eponyms) (*see Chapter II.6*) deserves an adequate explanation. One explanation can be found in the way in which the narrowest generic category that is the subject of each of these discourses is linked to a protected designation indicating the place of origin of the wines covered by that category.

⁹ Similar claims can be found in stances of cognitive realists, who draw on the wisdom of ancient Romans perpetuated in the motto '*rem tene – verba sequentur*' (i.e. 'hold fast to the thing, and the words will follow') (Bolognini, [2008] 2011: 44–47). Many of these scholars argue that acts of reflection on reality (whether currently observed or remembered) take priority over linguistic acts, both cognitive and communicative (*see e.g.* Krapiec, 1991: 19–27 *ff.*). Even in cases where conceptual content is constructed using language data, as is typically the case in academic studies or professional settings, it is the fragment of reality that interests a researcher or a professional (and not its linguistic description, no matter how precise) that sets the ultimate limit to cognitive reference (Krapiec, 1991: 24 *ff.*).

KEY TAKEAWAY

The use of eponymous expressions is most widespread in fields in which production methods are strongly linked to a given region, notably when the designation of origin of a given product is protected by law. Subject areas of the sub-domain of fortified wines serve as a notable example. By contrast, in fields where production methods extend beyond a region with a high status (as in the case of Champagne), and the name of a product crafted in this region (*i.e.* champagne) enjoys legal protection, the use of eponyms is limited in favour of generically broader terms.

In the microfield of fortified wines, all three categories resulting from the generic divisibility of the subject field, namely: madeira, port, and sherry, function as territorial brands, meaning that wines referred to by these names are linked to a geographical area in which they are produced. This enables wine professionals to use place names for modifying terms applied to cover concepts in the field of still wines, an industrial field much older and having a substantially larger share in the world's wine market than that of special wines (*i.a.* McGovern *et al.*, 2017; OIV, 2020: 6; Nagórka, 2021a: 4–7, 109–113, 210–213; Nagórka & Ręgowska, 2026). Examples of designations with toponymic elements found in the discourse on fortified wines include *inter alia*: ‘fining of sherry with Spanish earth’, ‘foot crushing of Madeira grapes’, ‘traditional processing of Douro grapes’, ‘vintage madeira’, *etc.*¹⁰

The microfield of sparkling wines is irreducible to generic categories in terms of production methods. Whereas there are various methods to make wines sparkling (double fermentation methods vs. single-fermentation methods), the relevant concepts – found in the lower sections of the conceptual hierarchy – are separated from the broad generic sections by partitive divisions (*see* Nagórka, 2013: 15–16 and Nagórka & Ręgowska, 2026 for a detailed mapping). In the discourse on sparkling wines, designations associated with places in which sparkling wines are crafted are distributed across various categories of sparkling methods, many of these wines exemplifying a single category. The category of traditional method provides a prominent example, including (*inter alia*): *champagnes* (the region of Champagne, France), *corpinnats* (the region of Penedés, Spain), and *franciacortas* (the Franciacorta region, Italy).

Because production methods in the sparkling wine industry are not specific to regions in which sparkling wines are made, eponymous expressions (notably those with toponymic elements) are not as numerous in the discourse on sparkling wines as they are in the discourse in the fortified wines trade.

¹⁰ All of these examples come from the terminological encyclopaedia *Madeira, Port, Sherry: The Equinox Companion to Fortified Wines* (Nagórka, 2021a).

While much less numerous, eponymous expressions found in professional discourse on sparkling wines draw on both place names (toponyms) and personal names (anthroponyms): ‘*Charmat* method’, ‘chilling of *Asti*-method sparkling wines’, ‘*Italian* method’, ‘*Martinotti*-method sparkling red wines’, *etc.*¹¹ Anthroponymic elements serve as a reminder of the authors of achievements considered crucial to the historical development of the special wines industry (as we know it today). This finding demonstrates that while wine professionals representing both the sparkling wine sector and the fortified wines industry – perceived as carriers of unique cultural knowledge¹² (*i.e.* custodians of wine heritage and contributors to the cultural winescape) – (continue to) communicate their expertise using eponymous expressions, they do so in distinct ways. The frequent use of elements of proper names in professional discourse (at least in the field of wine, but – most probably – also in other subject fields monitored by life and technical sciences) seems to be caused by circumstances in which methods applied in the production process are geographically limited (to a given region, or regions).

¹¹ For a complete list of designations with (traces of) proper names identified in the professional discourse in the sparkling wine industry consult the encyclopaedia *Sparkling Wines: The Equinox Guide for Wine Professionals and Connoisseurs* (Nagórka & Ręgowska, 2026).

¹² In this chapter, as in the whole book, cultural knowledge is to be understood as knowledge (enabled – albeit undetermined – by human nature) that a person gains (through participation) throughout their lifetime, including both their linguistic knowledge as well as knowledge derived from their non-linguistic experience (*see* Grucza, [1989] 2017: 7–8; Dziamski, 2016: 50–74, 142, 226). Whether understood as a rich set of features of an individual or shared characteristics of a group of people, culture is typically defined as: 1. having a biological foundation, its development influenced by social conditions and human will; 2. being organically intertwined with cognitive and communicative features of language and characterised by relative (and gradable) stability, assimilability, and (structural) complexity (*see also* Kępiński, [1972] 2012: 33 *ff.*; Zmarzer & Lukszyn, 2007: 5–6).

Summary

Terminology rethought

This book views terminology as an exploratory enterprise built on strategies to gain a thorough and ever greater understanding of vital aspects of specialised communication. The proposed research programme, oriented towards studying communication in an industrial field supported by wine science, marks a transition in exploring communication between professionals. Notably, in this monograph, terminological research is taken as question-guided, with research questions that a scholar forms or adopts as their own appearing after (not before) they have set out on their journey of discovery, a conscious and free decision-based action that must necessarily involve their personal commitment. Searching for answers to questions on communication in various fields and trades has meant delving into patterns specific to these professional areas.

The proposed research programme emphasises the importance of researchers' acquaintance with the industrial domain whose communication they undertake to study, which entails the need of self-education (*see Chapters I.1 and II.1*). This enables the formulation of relevant research questions that meet (and resonate with) communication needs of the professional community concerned. The researcher must also demonstrate intellectual humility while accepting the specificity of communication in a given field. This programme also assumes (*inter alia*) the researcher's competence to solve challenges and postpone judgements, their skill in crafting models of subject knowledge and the use of these models for testing hypotheses to make contributions to the theory of professional communication.

In the course of research, their increasing knowledge of the subject matter allows researchers to transform research questions on communication into testable propositions. This sustainable programme calls for adopting the criteria of truth applied in natural sciences. This means that all propositions and

hypotheses on professional communication in a given field advanced in terminological research, viewed as tentative explanations of phenomena, must submit to tests based on (observable) evidence (*Chapter 1.2*). Put simply, these propositions and hypotheses must be confronted with facts of discourse captured in the relevant model of communication. Notably, a scientific terminology as described in this book studies professionals to gain secure knowledge on the pillars of their communication based on various manifestations of their expertise.

This book demonstrates that modern terminology is capable of taking into account for the creation of models all facts of discourse available, names of individual concepts and non-verbal manifestations of specialised knowledge included. As well as making use of a corpus of documents available, standard and non-standard alike, terminologists may also benefit from immersive research, enabling them to gain experiential knowledge (*Chapter 1.3*). Field research has been found to result in its beneficiaries standing out with a markedly denser network of linkages between concepts in a specific content area compared to their previous knowledge. Notably, enriching the existing corpus with audiovisual records makes it possible to supplement the target model with non-verbal manifestations, reinforcing the transmission of relevant content.¹

While adopting the stance that a scientific terminology has no obligations to restrict its focus to verbal(ised) information proves useful to researchers tasked with building a reliable model, a subject corpus may still contain documents whose contents turn out to be incompatible. In such a case, it is considered good practice to adopt specialised designations, taken as candidate terms, as well as their definitions, according to the degree of reliability recognition accorded in a given community of professionals to documents of various authors and types. The idea of prioritising sources in the knowledge modelling process (where necessary) has been outlined in this book (*see Chapters 1.3 and 11.3*), its main purpose being to avoid perpetuating errors while also ensuring that the target model is reliable in all its applications, in particular in its basic function of representing subject knowledge to a degree sufficient for testing hypotheses.

Taking into account differences in the treatment of time in various areas of cognitive work that can be subjected to terminological studies (*see Nagórka, 2017a*) (*Chapter 1.4*) and many different expectations from the work of applied scientists studying communication, this research does away with ‘dogmatic’ synchronicity in treatment of words and expressions (*see Michta, 2022: 169*),

¹ This improvement of the presentation of subject content meets both professional and research-related needs, with the former covering broad areas of professional education and information retrieval.

an aspect of research often ascribed to (and associated with) the Viennese School of Terminology (Cabr  Castellv , 2003: 166–167). While it recognises that in the food and drink domain, monitored and supported by life and technical sciences, synchronic corpora focused on the most recent sources will usually suffice, diachronic corpora containing old documents will need to be built to cover non-empirical subject areas (such as those linked with ethics).

Although this approach is domain-specific in terms of the use of sources, even professional areas assisted by empirical sciences, such as the area of wines, can benefit from being explored from an encyclopaedic perspective (*Chapters I.4 and II.4*),² especially when research questions call for facts and figures. Not least among these benefits is the fact that some designations reflect industrial developments through references to the history and geography of a given area of trade. This is the case with eponymic expressions found in the discourse on sparkling wines, such as ‘chaptalisation’, ‘*Charmat* method’, ‘*Italian* method’, *etc.* Notably, applying an encyclopaedic perspective to the study of discourse in the special wines industry has enabled gauging the impact of international trade relations on borrowings into English from the industry’s leading languages (Nag rka, 2024b).

Drawing on the legacy of the Varsovian School in the crafting and use of models, with many of its ideas in this remit borrowed from information science, the proposed research programme can be viewed as resting largely on computer-assisted intellectual methods (*Chapters I.4 and II.4*), with the top-down approach and the bottom-up approach to studying discourse for the purpose of collecting data and building structured knowledge models being applied in combination. As in information science, the completion of data compilation is viewed as non-arbitrary, as it uses objective signals of this process coming to an end. This programme considers professional concepts socially negotiated units of subject knowledge, identifiable by studying discourse communities. Supported by realist views, it recognises the polysemous character of specialised expressions, a natural consequence of the creative nature of human communication.

Notably, a scientific terminology as considered in this book aims to mimic the dynamics of human thought by capturing key conceptual pathways in professionals

² Encyclopaedic knowledge on past and cyclical events that have shaped the special wines industry, along with dates and names of professionals that have left their imprints on the field’s progress, provides the researcher with evidence for explaining the *status quo* in this professional field, which finds its expression in the structured collection of designations identified. To provide an example of its application, this highly structured model of encyclopaedic knowledge enables the researcher to test hypotheses that link cultural interactions in matters of trade with language behaviour.

representing a selected field, thus promising an insight into the way that these professionals think. The programme, which focuses on field-specific conceptual relations underlying discourse in a professional community, uses stable sets of semantic linkages as reference tools to help initiate and conduct the process of systemising collections of specialist expressions (e.g. Lukszyn & Zmarzer, 2001: 42) but is far from imposing any restrictions on conceptual diagnosis other than those resulting from the research questions posed (and hypotheses formulated) in the previous stages of research (see *Chapters 1.4* and *11.4*). Calibrated as required, knowledge models can be in their final shape a consequence of differential treatment of information objects under study.³

A workable representation of knowledge crafted by researchers as a result of studying areas of professional discourse using a set of carefully chosen parameters, a knowledge model is seen as capable of providing intelligible insights, offering a structured database that can be displayed using various presentation modules (*Chapter 1.5*). Regardless of display types selected, the level of accuracy in determining types of associative links when building knowledge models rests on both the specificity of a subject field and the level of informative detail of the research question(s) and hypotheses adopted in the course of research (*Chapters 1.5* and *1.6*).⁴ Apart from their primary role (*i.e.* the function of representing knowledge to the required degree), models of professional knowledge can be applied as both informative tools (*i.e.* facilitating data storage, supporting knowledge organisation, notably for the purpose of indexing, as well as streamlining the retrieval of relevant documents) and reliable instruments of professional education.

Knowledge models are considered useful for testing hypotheses on both concept systems and (language) forms, traditional areas of investigation in terminological research. Inquiries into concepts can inform about their character and relations they form with other concepts, as well as about their numerical significance in a particular concept system underlying discourse in an industrial area, making it possible to measure potential intellectual challenges to do with tasks performed by representatives of a particular trade. Examinations of the presence

³ For more details on assigning levels of credibility to documents of different types in cases where their contents seem contradictory, see *Chapter 1.4*.

⁴ In the case of research on professional communication guided by questions that can be answered (and hypotheses that can be tested) through contrastive or comparative analyses, one must remember that contrasting or comparing micromodels of knowledge covering distinct concept areas of a given domain requires the application of the same set of semantic parameters (*i.e.* concept relationship types) in their construction. This rule also refers to the use of analogy in creating compound descriptors, which enables differentiating between professional concepts by highlighting the aspect in which the relevant concept markers differ (see *Chapter 1.6* for examples).

of foreign language elements in a terminological system reflects foreign influences in a given profession (*Chapter I.6*). Models can be seen as valuable to a professional community under study when they offer an adequate summary of the state of knowledge achieved by that community and indicate paths for growth. When models are recognised by leading representatives of a professional community, researchers who have authored them become participants in the discourse they have been studying, a rare circumstance that ought to be seen as increasing their responsibility to that community.

Research on wine discourse

Terminological research into communication in the wine industry, as in any other field, will benefit from a researcher possessing a certain amount of subject knowledge derived from their experience in the target field (*Chapter II.1*). I gained the necessary background knowledge through my experience at the wine industry's educational levels in the period 2002–2012, teaching courses in professional communication at the School of Tourism, Hospitality and Gastronomy in Warsaw, a member of the AEHT (European Association of Hotel and Tourism). These courses included: English for restaurant staff and English for waiters and sommeliers. From the end of June 2006 to the beginning of July 2006, during the AEHT-organised research stay in the UK, I visited the Accor Group's hotels in Coventry and Birmingham to compile a glossary on wine and food terms, subsequently deposited at the school's library as a teaching aid for internal use.

In the framework of my doctoral studies at the University of Warsaw (2006–2011) I worked on developing an advanced terminological model of knowledge on wine production using the computer-assisted intellectual method (consisting of both desk research and field studies). Time-consuming and energy-absorbing as it was, this research work has resulted in what is known as interactional expertise, an insider's knowledge of the field derived from regular social contact with professionals, including credentialed scientists (*Chapter II.1*). The intellectual pathway that entails gaining nuanced industrial knowledge can substantially reduce the number of instances in which consultation with specialists is necessary. Moreover, in-depth knowledge of the industry can be of assistance in the choice of the most transparent and accurate expressions to mark professional concepts for the description of the subject area concerned.

The level of recognition that terminologists receive for the knowledge models provided to the wine industry, as to other fields in the food and drink domain (supported by science and driven by the rapid pace of technological progress), should be commensurate with their determination to continue doing their job

with utmost care and attention to detail (*see Chapter II.1*). Whether in the form of a subject thesaurus, an encyclopaedia, or an advanced dictionary of terms, models of subject knowledge have the potential to support the development of the industry in two broad dimensions, namely: educational (as they represent industrial knowledge)⁵ and linguistic (as they offer answers to questions on professional communication, thus increasing the industry's awareness of the nature and scope of its accumulated knowledge and the way in which its representatives communicate).

My research into professional communication on special wines, conducted from the latter half of 2011 to mid-October 2024, began with identification of communication-related problems in the industry, followed by formulating questions (*see Chapter II.2*). Prior to the onset of this research, little had been known about differences in the scale of intellectual challenges between the relevant areas of trade or about the complexity and divisibility of knowledge within these fields. Similarly, little attention had been paid to borrowings into English from the industry's leading languages (French, Spanish, Portuguese, and Italian), much less to the presence of eponymic expressions in the subject discourse. Not only did this study explore the case of language loans and the case of eponyms, of which the former may be of interest to heads of wine schools; given its encyclopaedic approach, this study also explored the presence of unassimilated borrowings in the English discourse and its reliance on the intensity of (verbal) contact between Anglo-Saxon traders and wine professionals representing different language cultures.

All of the questions adopted in this study stem from the fundamental question: 'How do wine professionals communicate?'. The main question on the conceptual aspects of discourse in this field was: 'In which of the wine sectors in the special wines domain does the production of these wines present the greatest intellectual challenge?', which assumed conceptual differences between trade areas of the subject domain. Auxiliary questions included the following: 'What concepts can be regarded as typifying communication in each of the trade areas under study?', 'What conceptual characteristics comprise wine professionals' understandings in a special wine area they represent?', 'Do professionals representing different sectors of the special wines domain use analogical concepts?'. Quantitative questions were: 'How many concepts do representatives of each of the relevant trade areas need (and use) for its coverage?', 'Do representatives of

⁵ Classifications and fact sheets featuring in each model were found useful when running courses related to the wine trade in the 2018–2025 period. *See Chapter II.1*, footnote no. 3 for details.

a trade area in the special wines domain need a larger number of concepts to describe their province of expertise than representatives of the other areas comprising that domain?', and 'Which concept field underlying communication in the special wines domain is the largest in scope?' (*Chapter II.2*).

The key question on conceptual relations in the domain of special wines was: 'What is the conceptual basis for the way wine professionals representing the special wines domain think?', which entailed a number of qualitative questions, such as: 'What types of relations hold between concepts underpinning discourse in each area of the special wines domain?' and 'Are the concept links (identified) in professionals representing different areas of this domain analogical or different?'. These were followed by quantitative questions: 'Which types of concept relation dominate in communication among professionals in each of the trade areas of the special wines business?', 'Which sector of special wines is typified by the largest number of concept relations (by both type and number)?', 'Which of the subject areas under study is characterised by the greatest depth?' (*i.e.* the greatest number of levels in the hierarchy of meanings), and 'In which sector of the domain of special wines (fortified as well as sparkling) is communication between wine-makers and other wine professionals marked by the greatest relative complexity?' (*Chapter II.2*).

The guiding question on language forms was: 'To what extent does knowledge of a particular (national) language suffice for effective communication in a selected wine trade in the special wines industry?'. The following questions on formal qualities were formulated, taking into account the presence in the discourse of borrowings from the industry's leading languages: 'Do members of a wine community under consideration use foreign language elements when communicating in English?' and 'Which officially recognised languages have been the greatest sources of borrowings into English in the special wines communities in question?'. Exploration of the quantitative aspects of the subject matter required answers to the following questions: 'To what extent are representatives of particular areas of the special wines industry reliant on (unassimilated) borrowings from languages widely regarded as crucial to the development of their professional field when communicating in English?' (*see Chapter II.2*).

Research questions were gradually transformed into hypotheses. The main assumptions about the content of discourse in the special wines domain were that subject areas of the microfield of fortified wines differed in size and depth and that the subject area of madeira might be the most complex. Moreover, preliminary data on the conceptual structure of the special wines domain indicated that the generically divisible microfield of fortified wines, of which the area of madeira forms an integral part, may be significantly more productive than the homogenous

area of sparkling wines. A possible link between generic divisibility of (the top concepts of) a subject field and the ultimate number of concept markers needed for its description can be considered a valid indicator for linguists planning terminology work in view of its scope (*Chapter II.2*). The results of preliminary studies also indicated that conceptual relationships in each area of the special wines domain may be dominated by the *genus–species* (i.e. *parent–child*) relationship. If confirmed, this finding might be an indicator that the domain of special wines, as well as each of its integral areas, is influenced relatively more by wine scientists than by technicians and practitioners.

The main hypotheses concerning the use of language forms are related to either borrowings from the industry's leading languages (French, Spanish, Portuguese, Italian) or the use of eponymic expressions. The first of these two propositions was that Spanish might be the greatest contributor of unassimilated borrowings into English in the fortified wines business (when its trade areas are considered separately), and that French, the leading language in the sparkling wine trade, may be at least as large a donor of direct borrowings into English as Spanish appears to be in the fortified wines industry. Notable is the pattern that emerged from the initial studies of the discourse on special wines: languages that seem to be the largest donors of unassimilated forms into English are spoken on a national level in wine-producing countries with long histories of hostility in commercial ties with English-speaking communities (*Chapter II.2*). The study aims to test the hypothesis that differences and conflicts, which leave their marks on relations between communities concerned (united by the fact of operating in one industry but divided by language), contribute to an increase in the percentage of unassimilated loans from this industry's leading language(s).

Information on the industrial area with most eponymous expressions is presumed to be of interest mainly to scholars, most notably (perhaps) language scholars, historians of language, and culturologists (*Chapter II.2*). Eponyms can be viewed as exponents of the lexicon of a given speciality providing insights into real events relevant to the subject field in question. Reliance on the factual component of language that manifests itself in eponymous descriptors operating in the discourse of the special wines domain was found to differ from one subject area to another. Indeed, based on the preliminary data one could assume that that reliance could be specific to each of the subject areas and language cultures under study. The study assumes that the data set obtained as a result of this research should enable a comparison between the subject area of sparkling wines and that of fortified wines with the goal of learning in which of these areas (and why) the degree of thinking based on facts and individual concepts is the highest.

This research has focused on wine professionals, taking into account their knowledge of the subject matter manifesting itself in documents of various types. Towards the end of the long-term research (2020–2024), it was necessary to supplement documents comprising the subject corpus by conducting interviews with wine experts, the aim being to fill systemic gaps identified in professional knowledge represented by existing documents (*Chapters 1.3 and 11.3*). Differences in the understanding of individual concepts and inconsistencies in the use of general professional concepts noted during the analyses of documents on special wines required the adoption of the realist view, according to which people differ in the quality of their knowledge. Sources comprising the subject corpus were prioritised, which meant putting the greatest trust in those documents that present the highest (relative) proximity to an object or event described.

An active search for solutions to problems associated with truth value encountered in the course of this research has led to the adoption of additional measures, all of which require the researcher to engage in microscale research and to conduct (regular) consistency checks across a variety of documents on the subject (*Chapter 11.3*). The measures include: preference given to detailed accounts over those offering selective views, especially when the former include infographics as well as verbal commentary and the latter have been prepared mainly for promotional purposes; 2. considering documents not only according to their authors' renown in their field of expertise, but also according to the function they perform through their communications in a given circumstance; 3. a greater degree of precision and credibility ascribed to documents whose formats require the highest structural density, notably those whose concept structures are presented in an explicit manner.

Preliminary studies based on a microcollection of documents on the subject of special wines led to capturing key concepts and establishing a set of conceptual relationship types typical of (*i.e.* observed to occur repeatedly in) the subject discourse (*Chapter 11.4*). The relationship types identified were grouped into four categories: 1. vertical (*i.e.* hierarchical) relationships, 2. horizontal links, 3. diagonal (*i.e.* associative) relations, and 4. linkages characterised by semantic proximity (*i.e.* synonymity). A provisional collection of words and expressions operating in the discourse as concept markers was then assembled, which paved the way for modelling of knowledge in the special wines domain. The modelling methods applied during this research owed much to the Varsovian School of Terminology, informed by ideas originating in the achievements of both library and information sciences and epistemology.

In this enterprise, intellectual processing of (language) data dominated over automated methods of analysis. The same set of semantic relationships

determined during preliminary studies was used for building both the model of communication in the fortified wines industry and the model of communication in the sparkling wine business, a factor viewed as indispensable in testing hypotheses that involved comparisons between these models. The standard thesaurus method, helpful in solving the problem of irrelevant expressions, was expanded to include the facts and figures component, which enhanced the final model's interpretative potential (*Chapter II.4*). Wine professionals were consulted throughout the project, depending on the need, with regular contact with subject experts – predominantly from Australia, Austria, France, Italy, Poland, Portugal, Republic of South Africa, Spain, the United Kingdom, as well as the United States – utilised for research purposes.

Each of the two models was designed to contain both a strictly terminological section, with general concepts marked and their interconnections made explicit, and a factual guide, which captured individual concepts (represented by place names, company names, names of historic events, *etc.*). The latter were linked to the network of general concepts using the instance relationship, a linkage connecting a general concept, such as a class of objects (*e.g.* sparkling wine producers) with an individual instance of that class (*e.g.* G.H. Mumm, House of Arras, Pol Roger, Spier Wine Farm, *etc.*) (*see Chapter II.5*). Given their expanded capabilities, the models can assist in finding interesting correlations, such as those between the scale of the presence of foreign elements in the English-language discourse on special wines and the history of trade relations between Anglo-Saxon merchants and representatives of nations from which these elements originate.

The model of discourse in the fortified wine industry (published in November 2021) and the model of professional communication in the sparkling wine trade (released in May 2026) showed their distinct characteristics, not only in their conceptual and structural underpinnings, but also in terms of language forms, notably in the presence of unassimilated loanwords from the domain's leading languages in the English-language discourse on the subject. The conceptual field of fortified wines proved heterogenous, while the model of discourse on sparkling wines showed thematic homogeneity (*see Chapter II.5* for details). The models demonstrate that professional communication on special wines is reliant on 12 types of conceptual linkage and the equivalence relationship, showing significant structural differences. For instance, only in the discourse on port wines have concepts of part (meronyms) been observed to form both *sequential* relationships and relationships of *interdependence*.

The models combine graphic displays and alphabetical displays, with the latter providing not only terms with their extended definitions and examples of objects to which these terms refer, but also tables with numerical data and boxes

with detailed information, including geographical data and descriptions of historical facts (*Chapter II.5*). The terminological component of each model has been designed to include nouns only, mainly compound deverbals, with a proportion of these descriptors represented by unassimilated designations of the French, Spanish, Portuguese, and Italian extractions. Given that the models were intended to serve as a reference point for the purpose of testing hypotheses concerning language forms, particular care was taken to distinguish between the group of descriptors proper and the group of non-preferred terms, with both unassimilated elements and eponyms found in each of these groups.

Based on these models, it can be concluded that the subdomain of fortified wines requires the greatest number of concepts for a lossless description of the subject matter, even though the homogenous subdomain of sparkling wines shows a greater complexity than the most complex of the subject areas in the subdomain of fortified wines (*Chapter II.6*). Moreover, in the subdomain of fortified wines, the subject area of madeira has been found to be the most complex, *i.e.* characterised by the largest number of concepts and the greatest semantic depth. Third, the domain of special wines as a whole, as each of its (broad) categories, is dominated by generic relations, testifying to the scientific nature of this field of knowledge. The models show that foreign elements in the English discourse on special wines come from French, Spanish, Portuguese, and Italian, and that – when speaking in English – wine professionals tend to use unassimilated foreign elements, with most of them being of French extraction. Furthermore, numerous eponymic elements are found in the models, implying that discourses on the subject of special wines are rooted in fact-based reasoning.

Findings and contributions

A close examination of the conceptual structure of the discourse on special wines reveals that the homogeneous subdomain of *sparkling wines* is characterised by fewer concept markers than the heterogeneous subdomain of *fortified wines*, with the former covered by 170 terms and 58 non-preferred terms, and the coverage of the latter requiring 322 terms proper and 46 non-preferred terms (*Chapter III.1*). Notably, not much difference between these two subdomains has been observed in the aspect of their semantic depth, with each of these conceptual subdomains reaching the eighth level in the hierarchy of meanings. The case of professional communication on special wines suggests that generic (rather than partitive) divisibility of top concepts in subject fields of the food and drink sector may have a greater impact on the productivity of these fields, a finding that can be viewed as a valuable contribution to the theory of concepts. A significant number

of concepts can be expected in heterogeneous areas, while in the homogenous fields the number of concepts may not be as high.

The status of the domain of special wines as a highly advanced area of knowledge has been confirmed, as the generic relationships, commonly viewed as a hallmark of scientific thought, are the most prolific in each of the general categories identified. The presence of *genus–species* relationships operating in the subject discourse has been shown to range from almost 50% in the case of the subdomain of sparkling wines to around 62.4% in the case of the area of port wines, the average percentage of taxonomic relations in the subdomain of *fortified wines* being over 57%. A homogenous category, the subject field of sparkling wines is characterised by a lower average percentage of generic relationships than the subdomain of fortified wines, which is heterogeneous (*i.e.* generically divisible). Structural differences between discourses in the industries involved in the production of special wines stem from the fact that professional discourse in each of the subject areas concerned has been shaped by a rich history of scientific and technical developments and practices that are specific to each of these industries (*Chapter III.2*).⁶

Minority relations represented in the terminological system of the special wines domain have been found to include concomitant (*companion–companion*), causative (*cause–effect*), and performative (*performer–activity*) links, all of which are typically regarded as exponents of pragmatic thinking (*Chapter III.3*). The largest share of these relations can be observed in the discourse on sparkling wines, as the proportion of concomitant, causative, and performative linkages in this subdomain reaches ~20.1%, compared with nearly 13.4% of these relations identified in the discourse on fortified wines. To the extent that the discourse on special wines can serve as a reference for other food and drink domains, one may assume that in those domains, as well as their categories, associative links will belong to the group of minority relations. It can also be expected that in the relevant areas with the lowest proportion of associative relations, as in the discourse on sherry, the

⁶ It may be no coincidence that the subdomain of fortified wines, one with a higher number of concepts than the subdomain of sparkling wines, is characterised by the highest average proportion of generic relationships. This finding might suggest that the presence of generic relations causes an increase in the number of concepts in a given subject field not only when these relations organise the top sections of that field's hierarchical system, but also when they penetrate deeper and open up semantic spaces at lower levels of the hierarchies. This may lead to a tentative proposition that generic relations may be viewed as relatively more productive than other relations in a hierarchical system. Still, the proposition that the more *parent–child* relations in a given conceptual field (and not merely in its top sections), the greater intellectual productivity in this area might be expected, requires further research.

weak representation of the associative component will be balanced by a marked presence of partonomic concepts, which tend to form sequential relationships.

The results of this study show that more than one language dominates in the special wines domain, albeit in its different areas (French and Italian in the sparkling wine trade, and Portuguese and Spanish in the fortified wines industry) and in various proportions. Crucially, French appears as the largest donor to English in this subject domain, with French elements found in $\approx 32.9\%$ of all 228 designations covering the relevant knowledge area. Viewed as a structured whole, the special wines industry has been identified as having four leading languages, which manifests itself in the marked presence of direct borrowings in the English-language discourse on the subject. Given the results of this study, by way of analogy, one also has grounds to expect more than one leading language in other fields monitored by life and technical sciences, most notably in the food and drink domains, with each of the relevant primary language systems likely to be exploited for the coverage of a narrow area of knowledge (*Chapter III.4*).

Outcomes of this study indicate that the history of commercial ties between pertinent language communities may be reflected in the extent of borrowing of foreign elements (*Chapter III.5*). Amicable trade relations can be expected to result in a lower percentage of direct borrowings from the leading language in the relevant industrial discourse. This seems to be the case with Portuguese borrowings in the English-language discourse in both the madeira industry and the port trade. By contrast, a history of hostilities in an industry can be expected to produce a higher percentage of direct borrowings from the trade area's primary language, as in the case of Spanish borrowings in the English-language discourse on sherry. The highest proportion of direct borrowings from the trade's leading language(s) is likely to result from a coincidence of two factors: 1. a rich history of tempestuous commercial relations between representatives of different language cultures, with one of them viewed as dominant in an industry concerned, and 2. the circumstance in which in one of these cultures the use of words and expressions borrowed from the industry's leading language(s) is linked with prestige. This appears to be the case with French in the English-language discourse in the sparkling wines business, as in other food and drink industries.

The significant contrast in the presence of eponymous expressions between the professional discourse on sparkling wines (an area with a mere 8.8% of designations containing traces of proper names) and the discourse in the fortified wines business (a field covered by just over 69% of designations identified as eponyms) (*see Chapter III.6*) can be explained by the strength of the links between crafting methods and names of both professionals who shaped the industry and regions in which the relevant wines are produced, with the latter being reflected in the

use of protected designations. In the microfield of fortified wines (dominated by toponyms), all three categories resulting from the generic divisibility of the subject field – madeira, port, and sherry – function as territorial brands, meaning that wines referred to by these names are associated with geographical areas in which they are crafted. By contrast, the top concept of sparkling wines is irreducible to generic categories and relevant designations indicating places in which sparkling wines are made are less numerous,⁷ as the use of sparkling methods is not geographically limited to a given region (or regions). In this case, eponymic elements are distributed across various categories of sparkling method, in the lower sections of the hierarchical system.

⁷ Eponymous expressions found in professional discourse on sparkling wines draw on both place names (e.g. 'Asti method') and personal names (e.g. 'Charmat method') (see *Chapters II.6 and III.6*). The latter serve as a reminder of authors of the achievements viewed as crucial to the historical development of the industry as we know it today. A similar trend concerning the use of eponyms can be observed in professional discourse in the chocolate industry, where the term 'Dutch method', also known as 'dutching' serves as a prominent example. The term is used to refer to an alkalisating process altering the pH of the cocoa powder, resulting in a darker product with mellowed flavour, a 19th-century invention credited to Dutch chemist and chocolate maker Coenraad Johannes van Houten (see Collins, 2022: 367–369).

Bibliography

Literature on communication

- Aarons, Jeremy (2006). Epistemology and Knowledge Management. In David G. Schwartz (Ed.), *Encyclopedia of Knowledge Management*, 166–172. Hershey, London, Melbourne, Singapore: Idea Group Reference.
- Aitchison, Jean, Alan Gilchrist, & David Bawden ([1972] 1997). *Thesaurus Construction and Use: A Practical Manual* (3rd edition). London: Association for Information Management (ASLIB).
- Aitchison, Jean, Alan Gilchrist, & David Bawden ([1972] 2005). *Thesaurus Construction and Use: A Practical Manual* (4th edition). London: Association for Information Management (ASLIB).
- Algeo, John (1996). Spanish loanwords in English by 1900. In Felix Rodríguez González (Ed.), *Spanish Loanwords in the English Language. A Tendency towards a Hegemony Reversal* (Topics in English Linguistics, Volume 18), 13–40. Berlin & New York: Mouton de Gruyter.
- AlMousa, Mohannad, Rachid Benlamri, & Richard Khoury (2021). Exploiting non-taxonomic relations for measuring semantic similarity and relatedness in WordNet. *Knowledge-Based Systems*, Vol. 212. Available from: www.sciencedirect.com/journal/knowledge-based-systems (accessed on 5 July 2022).
- Angus, Daniel, & Cindy Gallois (2017). New Methodological Approaches to Intergroup Communication. In Jon Nussbaum, Dana Cloud, Howard Giles, John Greene, Thomas Hanitzsch, Eric Mark Kramer, Timothy R. Kuhn, Dana Mastro, Roxanne Parrott, & Bradford Vivyan (Eds.), *Oxford Research Encyclopedia of Communication*. Available from: <https://doi.org/10.1093/acrefore/9780190228613.013.380> (accessed on 8 August 2022).
- ANSI/NISO Z39.19 = American National Standards Institute / National Information Standards Organization (2005). *Guidelines for the Construction, Format, and Management of Monolingual Controlled Vocabularies*. Bethesda: NISO Press.
- Aquinas, Thomas ([1256–1259] 1970). *Quaestiones disputatae de veritate*. Available from: <https://www.corpusthomicum.org/qdv01.html> (accessed on 4 July 2023).

- Aristotle ([~350 BC] 2015a). *Metaphysics* (William David Ross, Trans.). In John Alexander Smith & William David Ross (Eds.), *The Aristotle Collection. 50 Books*, 3587–3918. London: Catholic Way Publishing.
- Aristotle ([~350 BC] 2015b). *Physics* (Robert Purves Hardie & Russell Kerr Gaye, Trans.). In John Alexander Smith & William David Ross (Eds.), *The Aristotle Collection. 50 Books*, 732–985. London: Catholic Way Publishing.
- Aristotle ([~340 BC] 2015). *Topics* (Arthur Wallace Pickard-Cambridge, Trans.). In John Alexander Smith & William David Ross (Eds.), *The Aristotle Collection. 50 Books*, 396–591. London: Catholic Way Publishing.
- Arnauld, Antoine, & Pierre Nicole ([1662] 1992). *La logique ou l'art de penser*. Paris: Éditions Gallimard.
- Ashworth, William B., Jr. (2017). *John Evelyn. The Scientist of the Day, 31st October 2017*. Kansas City: Linda Hall Library. Available from: <https://www.lindahall.org/about/news/scientist-of-the-day/john-evelyn/> (accessed on 3 June 2022).
- Austin, Derek, & Peter Dale (1981). *Guidelines for the Establishment of Monolingual Thesauri* (2nd revised edition). Paris: UNESCO.
- Ausubel, David P. (1963). *The Psychology of Meaningful Verbal Learning: An Introduction to School Learning*. New York & London: Grune & Stratton.
- Avery, John (2005). *Science and Society* (2nd edition). Copenhagen: H.C. Ørsted Institute. Available from: <https://www.learndev.org/dl/ScienceAndSociety-Avery.pdf> (accessed on 21 July 2025).
- Bacon, Francis ([1620] 2017). *Novum Organum Scientiarum*. In *The Collected Works of Francis Bacon*, 770–1383. Bexhill: Delphi Publishing Limited.
- Badash, Lawrence ([1998] 2021). Ernest Rutherford. British physicist. In *Encyclopaedia Britannica*. Chicago: Encyclopædia Britannica, Inc. Available from: www.britannica.com/biography/Ernest-Rutherford (accessed on 25 April 2022).
- Balvet, Antonio, Lucy Barque, Marie-Hélène Condette, Pauline Haas, Richard Huyghe, Rafael Marín, & Aurélie Merlo ([2011] 2014). *Nomage: an electronic lexicon of French deverbal nouns based on a semantically annotated corpus*. WoLeR 2011 at ESSLLI, International Workshop on Lexical Resources, Aug 2011, Ljubljana, Slovenia, 8–15. Available from: <https://shs.hal.science/halshs-01078047v1> (accessed on 1 April 2025).
- Bazeley, Pat (2008). Mixed methods in management research. In Richard Thorpe & Robin Holt (Eds.), *The SAGE Dictionary of Qualitative Management Research*, 133–136. London: SAGE Publications.
- Bender, Andrea (2020). What is causal cognition? *Frontiers in Psychology*, 11(3). Available from: <https://doi.org/10.3389/fpsyg.2020.00003> (accessed on 1 February 2025).
- Berlin, Brent (1992). *Ethnobiological Classification: Principles of Categorisation of Plants and Animals in Traditional Societies*. Princeton: Princeton University Press.
- Bernier, Charles L., & Karl F. Heumann (1957). Correlative indexes III. Semantic relations among semantemes – the technical thesaurus. *American Documentation*, 8(3), 211–220.
- Bloom, Lois (1991). *Language Development from Two to Three*. Cambridge: Cambridge University Press.

- Bolognini, Stefano ([2008] 2011). *Secret Passages: The Theory and Technique of Interpsychic Relations* (Gina Atkinson, Trans.). London & New York: Routledge.
- Bonacchi, Sylvia (2011). *Höflichkeitsausdrücke und anthropozentrische Linguistik*. Warszawa: Wydawnictwo Euro-Edukacja.
- Bonaventure, St. ([1259] 1999). *Itinerarium mentis in Deum* (courtesy of Jerónimo Bór-mida). Available from: www.thelatinlibrary.com (accessed on 9 June 2022).
- Bonjour, Lawrence (1985). *The Structure of Empirical Knowledge*. Cambridge, MA & London: Harvard University Press.
- Borgman, Christine L. (2015). *Big Data, Little Data, No Data. Scholarship in the Networked World*. Cambridge, MA & London: The MIT Press.
- Briet, Suzanne (1951). *Qu'est que la documentation?* Paris: Editions Documentaires Industrielles et Techniques.
- Bronowski, Jacob ([1973] 2011). *The Ascent of Man*. London: Random House.
- Broughton, Vanda ([2006] 2018). *Essential Thesaurus Construction*. London: Facet Publishing/Cambridge University Press. Available from: <https://doi.org/10.29085/9781856049849> (accessed on 31 March 2025).
- Bruner, Jerome (1990). *Acts of Meaning*. Cambridge, MA: Harvard University Press.
- Buckl, Sabine, Florian Matthes, & Christian M. Schweda (2010). Utilizing patterns in developing design theories. *International Conference on Information Systems, ICIS 2010 Proceedings*, 122.
- Buckl, Sabine, Florian Matthes, Alexander W. Schneider, & Christian M. Schweda (2013). Pattern-based design research – An iterative research method balancing rigor and relevance. In Jan vom Brocke *et al.* (Eds.), *DESRIST 2013, LNCS 7939*, 73–87. Berlin & Heidelberg: Springer Verlag.
- Buckland, Michael K. (1991). Information as thing. *Journal of the American Society for Information Science*, 42(5), 351–360.
- Buckland, Michael K. (2012). What kind of science *can* information science be? *Journal of Information Science and Technology*, 63(1), 1–7.
- Burkhanov, Igor (1998). *Lexicography: A Dictionary of Basic Terminology*. Rzeszów: Wydawnictwa Wyższej Szkoły Pedagogicznej.
- Cabré, Maria Teresa (1992). *La terminologia: la teoria, els mètodes, les aplicacions*. Barcelona: Empúries.
- Cabré Castellví, Maria Teresa (2003). Theories of terminology: their description, prescription and explanation. *Terminology*, 9(2), 163–199.
- Campbell, Lyle, & Mauricio J. Mixco (2007). *Glossary of Historical Linguistics*. Edinburgh: Edinburgh University Press.
- Carling, Gerd, Sandra Cronhamn, Robert Farren, Elnur Aliyev, & Johan Frid (2019). The causality of borrowing: Lexical loans in Eurasian languages. *PLoS ONE*, 14(10). Available from: <https://doi.org/10.1371/journal.pone.0223588> (accessed on 15 January 2024).
- Castro-Rea, Julián (2010). Hypothesis. In Albert J. Mills, Gabrielle Eurepos, & Elden Wiebe (Eds.), *Encyclopedia of Case Study Research*, Vol. 1, 445–447. Thousand Oaks: SAGE Publications, Inc.

- Chafe, Wallace (2018). *Thought-Based Linguistics. How Languages Turn Thoughts into Sounds*. Cambridge: Cambridge University Press.
- Chaffin, Roger, & Douglas J. Herrmann (1984). The similarity and diversity of semantic relations. *Memory & Cognition*, 12(2), 134–141.
- Chappell, Hilary, & William McGregor (1995). *The Grammar of Inalienability: A Typological Perspective on Body-Part Terms and the Part-Whole Relation*. Berlin: Mouton de Gruyter.
- Clancy, Patricia (1985). The Acquisition of Japanese. In Dan Isaac Slobin (Ed.), *The Cross-Linguistic Study of Language Acquisition*, i: *The Data*, ii: *Theoretical Issues*, Vol. 1, 373–524. Hillsdale: Lawrence Erlbaum Associates.
- Cohen, Jeffrey H. (2000). Problems in the field: participant observation and the assumption of neutrality. *Field Methods*, 12(4), 316–333.
- Cole, Wayne D. (1987). Terminology: Principles and Methods. *Computers and Translation*, 2(2/3), 77–87.
- Collins, Harry, & Robert Evans ([2007] 2009). *Rethinking Expertise*. Chicago: The University of Chicago Press.
- Condamines, Anne (2021). Towards an ergonomic linguistics: Application to the design of controlled natural languages. *International Journal of Applied Linguistics*, 31, 18–30. Available from: <https://doi.org/10.1111/ijal.12313> (accessed on 9 September 2025).
- Condamines, Anne, & Jean-Paul Narcy-Combes (2015). La linguistique appliquée comme science située. In Francis Carton, Jean-Paul Narcy-Combes, Marie-Françoise Narcy-Combes, & Denyse Toffoly (Eds.), *Cultures de recherche en appliquée*, 209–229. Paris: Riveneuve Éditions.
- Considine, John (2016). A Chronology of Major Events in the History of Lexicography. In Philip Durkin (Ed.), *The Oxford Handbook of Lexicography*, 605–615. New York: Oxford University Press.
- Corvellec, Hervé (2013). *What is Theory? Answers from the Social and Cultural Sciences*. Copenhagen & Stockholm: Liber CBS Press / Liber AB.
- COTSOES = Conference of Translation Services of European States' Working Party on Terminology and Documentation (2003). *Recommendation for Terminology Work* (2nd edition, revised and enlarged). Berne: Federal Chancellery Terminology Section.
- Coulthard, Malcolm (2004). Author identification, idiolect, and linguistic uniqueness. *Applied Linguistics*, 25(4), 431–447.
- Dahlberg, Ingetraut (1978). A referent-oriented, analytical concept theory for INTER-CONCEPT. *International Classification*, 5(3), 142–151.
- Dahlberg, Ingetraut (1992). Knowledge Organization and Terminology: Philosophical and Linguistic Bases. *International Classification*, 19(2), 65–71.
- Dahlberg, Ingetraut (2011). How to Improve ISKO's Standing: Ten Desiderata for Knowledge Organization. *Knowledge Organization*, 38(1), 68–74.
- Damasio, Antonio R., & Daniel Tranel (1993). Nouns and verbs are retrieved with differently distributed neural systems. *Proceedings of the National Academy of Sciences of the United States of America*, 90(11), 4957–4960.

- Danks, David, & Isaac Davis (2023). Causal inference in cognitive neuroscience. *WIREs Cognitive Science*, 14(5). Available from: <https://doi.org/10.1002/wcs.1650> (accessed on 1 February 2025).
- Darwin, Charles ([1859] 1998). *The Origin of Species* (a reprint of the 1st edition, full title: *On the Origin of Species by Means of Natural Selection, or the Preservation of Favoured Races in the Struggle for Life*). Ware: Wordsworth Editions Limited.
- De Saussure, Ferdinand ([1916] 1995). *Cours de linguistique générale* (publié par Charles Bailly et Albert Séchehaye avec la collaboration de Albert Riedlinger). Paris: Éditions Payot & Rivages.
- De Vecchi, Dardo (2016). Approche pragmateterminologique des termes des entreprises et des organisations. *Synergies Italie*, 12, 125–139.
- Del Hoyo, Josep, Andrew Elliott, & Jordi Sargatal (Eds.) (1992). *Handbook of the Birds of the World*, Vol. 1. Barcelona: Lynx Edicions.
- Deutsch, Nellie (2012). Implementing technology in blended learning courses. In Janet Salmons (Ed.), *Cases in Online Interview Research*. Thousand Oaks: SAGE Publications. Available from: <https://dx.doi.org/10.4135/9781506335155.n10> (accessed on 20 June 2022).
- DeWalt, Kathleen Musante, Billie R. DeWalt, & Coral B. Wayland (1998). Participant Observation. In H. Russel Bernard (Ed.), *Handbook of Methods in Cultural Anthropology*, 259–299. Walnut Creek: AltaMira Press.
- Dewey, John ([1911–1913] 2008). Hypotheses. In Jo Ann Boydston (Ed.), *Contributions to A Cyclopedia of Education. The Middle Works of John Dewey, Vol. 7: 1912–1914, Essays, Book Reviews, Encyclopedia Articles in the 1912–14 Period, and Interest and Effort in Education*, 218–221. Carbondale: Southern Illinois University.
- Dewey, John (1929). *The Quest for Certainty: A Study of the Relation of Knowledge and Action*. New York: Minton, Balch & Company. Available from: <https://ia801601.us.archive.org/13/items/questforcertain032529mbp/questforcertain032529mbp.pdf> (accessed on 22 June 2022).
- Dewey, John (1938). *Logic. The Theory of Inquiry*. New York: Henry Holt and Company.
- Dick, Anthony Steven, Byron Bernal, & Pascale Tremblay (2014). The Language Connectome: New Pathways, New Concepts. *The Neuroscientist*, 20(5), 453–467.
- Diki-Kidiri, Marcel (2007). Éléments de terminologie culturelle. *Cahiers du Rifal*, 26, 14–25.
- Drayson, Hannah (2017). Academic carelessness, bootstrapping, and the cybernetic investigator. *AVANT*, 8 (Special Issue), 35–43.
- Durkin, Phillip (2014). *Borrowed Words: A History of Loanwords in English*. Oxford: Oxford University Press.
- Durkin, Phillip (2020). Contact and lexical borrowing. In R. Hickey (Ed.), *The Handbook of Language Contact* (2nd edition), 169–180. Malden & Oxford: Wiley-Blackwell.
- Du Toit, Jacques (2015). Research design. In Elisabete A. Silva, Patsy Healey, Neil Harris, & Pieter Van den Broeck (Eds.), *The Routledge Handbook of Planning Research Methods*, 61–73. New York: Routledge.

- Dziamski, Grzegorz (2016). *Kulturoznawstwo czyli wprowadzenie do kultury ponowoczesnej*. Gdańsk: Wydawnictwo Naukowe Katedra.
- Dzierżak, Piotr (2023). Czym jest prawda? In *Z miłości do prawdy*, 1A. Warszawa: Militia Immaculatae.
- EC = European Commission ([2024] 2025) *Monitoring EU agri-food trade. Developments in Nov. 2024*. Brussels, EU: European Commission, DG Agriculture and Rural Development. Available from: https://agriculture.ec.europa.eu/international/agricultural-trade/trade-and-international-policy-analysis_en (accessed on 14 April 2026).
- Elgin, Catherine (2007). Understanding and the facts. *Philosophical Studies*, 132, 33–42. Available from: <https://doi.org/10.1007/s11098-006-9054-z> (accessed on 13 June 2022).
- Evans, Vyvyan (2006). Lexical concepts, cognitive models and meaning-construction. *Cognitive Linguistics*, 17(4), 491–534.
- Evans, Vyvyan (2007). *A Glossary of Cognitive Linguistics*. Edinburgh: Edinburgh University Press Ltd.
- Evans, Vyvyan (2009). *How Words Mean: Lexical Concepts, Cognitive Models, and Meaning Construction*. Oxford: Oxford University Press.
- Evans, Vyvyan (2013). *Language and Time: A Cognitive Linguistics Approach*. Cambridge: Cambridge University Press.
- Faber, Pamela (2011). The Dynamics of Specialized Knowledge Representation: Simulational Reconstruction or the Perception–action Interface. *Terminology*, 17(1), 9–29. Available from: <https://doi.org/10.1075/term.17.1.02fab> (accessed on 7 March 2025).
- Faber, Pamela, & Melania Cabezas-García (2019). Specialized knowledge representation: From terms to frames. *Research in Language*, 17(2). Available from: <https://hdl.handle.net/10481/100280> (accessed on 7 March 2025).
- Faber, Pamela, Pilar León, & Juan Antonio Prieto (2009). Semantic relations, dynamicity, and terminological knowledge bases. *Current Issues in Language Studies*, 1, 1–23.
- Faber Benítez, Pamela (2009). The Cognitive Shift in Terminology and Specialized Translation. *MonTI. Monografías de Traducción e Interpretación*, 1, 107–134.
- FAO = Food and Agricultural Organization ([1981] 2022). *AGROVOC Multilingual Thesaurus*. Rome: Food and Agricultural Organization of the United Nations. Available from: <https://agrovoc.fao.org> (accessed on 22 March 2022).
- FAO = Food and Agricultural Organization (2024). *Current Global Market Situation and Medium-Term Outlook*. Guwahati (Assam, India): Food and Agricultural Organization of the United Nations, Committee on Commodity Problems, Intergovernmental Group on Tea, Twenty-Fifth Session (31 January – 2 February 2024). Available from: www.fao.org (accessed on 4 July 2025).
- FAO = Food and Agricultural Organization, Rikolto, & RUAF = Global Partnership on Sustainable Urban Agriculture and Food Systems (2022). *Urban and Peri-Urban Agriculture Sourcebook: From Production to Food Systems*. Rome: FAO, Rikolto, RUAF. Available from: <https://openknowledge.fao.org> (accessed on 25 November 2024).
- Faris, Robert E.L., & William Form ([1998] 2015). Sociology. In Brian Duignan (Ed.), *Encyclopaedia Britannica*. Available from: <http://www.britannica.com/topic/sociology> (accessed on 16 November 2022).

- Farrugia, Patricia, Bradley A. Petrisor, Forough Farrokhyar, & Mohit Bhandari (2010). Research questions, hypotheses, and objectives. *Canadian Journal of Surgery*, 53(4), 278–281.
- Felber, Helmut, & Gerhard Budin (1989). *Terminologie in Theorie und Praxis*. Tübingen: Gunter Narr Verlag.
- Ferrer, Juan, Barbara Soriano, Vicente Pinilla, Raul Serrano, & Silvia Abella-Garcés (2026). Understanding resilience capacities in rural AGRO-Industries: Evidence from Spanish wineries. *Journal of Rural Studies*, 121, Article 103951. Available from: <https://doi.org/10.1016/j.jrurstud.2025.103951> (accessed on 10 April 2026).
- Fiorella, Logan, & Richard E. Mayer (2013). The relative benefits of learning by teaching and teaching expectancy. *Contemporary Educational Psychology*, 38(4), October, 281–288. Available from: <https://doi.org/10.1016/j.cedpsych.2013.06.001> (accessed on 21 March 2025).
- Fjeldså, Jon (2013). Avian Classification in Flux. In *Handbook of the Birds of the World*, 17, 77–146. Barcelona: Lynx Edicions.
- Fleck, Ludwik ([1935] 1980). *Entstehung und Entwicklung einer wissenschaftlichen Tatsache: Einführung in die Lehre vom Denkstil und Denkkollektiv*. Berlin: Suhrkamp Verlag.
- French, Lucia A., & Katherine Nelson (1985). *Young Children's Knowledge of Relational Terms: Some Ifs, Ors, and Buts*. New York: Springer Verlag.
- Fried, Eiko I. (2020). Theories and models: What they are, what they are for, and what they are about. *Psychological Inquiry. An International Journal for the Advancement of Psychological Theory*, 31(4), 336–344.
- Frigg, Roman, & Stephan Hartmann ([2006] 2020). Models in science. In Edward N. Zalta (Ed.), *The Stanford Encyclopedia of Philosophy*. Stanford: Stanford University. Available from <https://plato.stanford.edu/entries/models-science> (accessed on 16 April 2022).
- Garfield, Eugene (1997). A tribute to Calvin N. Mooers, a pioneer of information retrieval. *The Scientist*, 11(4). Available from: <https://www.the-scientist.com/a-tribute-to-calvin-n-mooers-a-pioneer-of-information-retrieval-57586> (accessed on 10 January 2025).
- Gaudin, François (2003). *Socioterminologie, une approche sociolinguistique de la terminologie*. Bruxelles: Duculot de Boeck.
- Gautier, Laurent (2025, 9 July). Identifying Neology in Discourses on Food and Wine [Address]. Second ENEOLI meeting of WG 3.7 Food & Drink.
- Gautier, Laurent, Anne Parizot, & Arnaud Millereux (2025). Les terminologies de la production fromagère de la prairie au lait: Le patrimoine terminologique du comte au prisme de l'ecoterminologie. *Roczniki Humanistyczne*, 73(8), 115–141. Available from: <https://doi.org/10.18290/rh25738.5> (accessed on 7 November 2025).
- GdQ = Gouvernement du Québec (2012). *Le grand dictionnaire terminologique*. Québec: Gouvernement du Québec.
- Geeraerts, Dirk (2006). Onomasiology and lexical variation. In Keith Allan (Ed.), *Concise Encyclopedia of Semantics*, 653–656. Amsterdam & Oxford: Elsevier.
- Gilchrist, Alan (Ed.) ([2009] 2018). *Information Science in Transition*. London: Facet Publishing.

- Gilchrist, Alan (2018). From punched cards to Google: an outline history of information retrieval. *Scire*, 24(1), 13–21.
- Gleason, Henry Alan (1955). *An Introduction to Descriptive Linguistics*. New York: Henry Holt and Company, Inc.
- Goddard, Cliff ([1998] 2011). *Semantic Analysis. A Practical Introduction*. Oxford: Oxford University Press.
- Goddard, Cliff, & Anna Wierzbicka (1994). Introducing lexical primitives. In Cliff Goddard & Anna Wierzbicka (Eds.), *Semantic and Lexical Universals: Theory and Empirical Findings*, 31–54. Amsterdam: John Benjamins.
- Godfray, Hugh Charles Jonathan, & Sandra Knapp (2004). Taxonomy for the twenty-first century. *Philosophical Transactions of the Royal Society B*, 359(1444). Available from: <https://doi.org/10.1098/rstb.2003.1457> (accessed on 28 January 2025).
- Górnicz, Mariusz (2005a). Kompresja w tekstach specjalistycznych. In Jurij Lukszyn (Ed.), *Słownik Terminologii Przedmiotowej*, Vol. 50. Warszawa: Katedra Języków Specjalistycznych, Uniwersytet Warszawski.
- Górnicz, Mariusz (2005b). Łańcuch terminologiczny. In Jurij Lukszyn (Ed.), *Słownik Terminologii Przedmiotowej*, Vol. 65. Warszawa: Katedra Języków Specjalistycznych, Uniwersytet Warszawski.
- Górnicz, Mariusz (2024). Terminological Borrowings in Polish Technolects: What Types of Term are Borrowed and Why? *Applied Linguistics Papers* 28(3), 18–29. Available from: http://alp.uw.edu.pl/wp-content/uploads/sites/315/2025/05/04_GORNICZ-Mariusz.pdf (accessed on 24 June 2025).
- Greene, Barbara A., Ian A. Lubin, Janis L. Slater, & Susan E. Walden (2013). Mapping changes in science teachers' content knowledge: Concept maps and authentic professional development. *Journal of Science Education and Technology*, 22, 287–299. Available from: <https://doi.org/10.1007/s10956-012-9393-9> (accessed on 10 August 2022).
- GRI = The Getty Research Institute (2017). *Art & Architecture Thesaurus®*. Los Angeles: The Getty Research Institute. Available from: <http://www.getty.edu/research/tools/vocabularies/aat> (accessed on 6 March 2022).
- Grucza, Franciszek ([1983] 2017a). Zagadnienia metalingwistyki. Lingwistyka – jej przedmiot, lingwistyka stosowana. In Sambor Grucza *et al.* (Eds.), *Dzieła wybrane*, Vol. 8. Warszawa: Wydawnictwo Naukowe Instytutu Komunikacji Specjalistycznej i Interkulturowej UW.
- Grucza, Franciszek ([1983] 2017b). Lingwistyka stosowana a nauka w ogóle. In Sambor Grucza *et al.* (Eds.), *Lingwistyka stosowana. Historia – Zadania – Osiągnięcia*, 110–131. Warszawa: Wydawnictwo Naukowe Instytutu Komunikacji Specjalistycznej i Interkulturowej UW.
- Grucza, Franciszek ([1989] 2017). Język a kultura, bilingwizm a bikulturyzm: lingwistyczne i glottodydaktyczne aspekty interlingwalnych i interkulturowych różnic oraz zbieżności. In Sambor Grucza *et al.* (Eds.), *Franciszek Grucza: Dzieła zebrane, Tom 4. O kulturze, kulturach i kulturologii. O tłumaczeniu, tłumaczach i translatoryce*, 7–36. Warszawa: Wydawnictwo Naukowe Instytutu Komunikacji Specjalistycznej i Interkulturowej UW.

- Grucza, Franciszek ([1991] 2017). Terminologia. Jej przedmiot, status i znaczenie. In Sambor Grucza *et al.* (Eds.), *Franciszek Grucza: Dzieła zebrane*, 303–332. Warszawa: Wydawnictwo Naukowe Instytutu Komunikacji Specjalistycznej i Interkulturowej UW.
- Grucza, Franciszek (1993). Język, ludzkie właściwości językowe, językowa zdolność ludzi. In Janusz Piontek & Alina Wiercińska (Eds.), *Człowiek w perspektywie ujęć biokulturowych*, 151–174. Poznań: Wydawnictwo Naukowe UAM.
- Grucza, Franciszek (2009). Metanaukowa i metalingwistyczna wizja lingwistyki (stosowanej). *Lingwistyka Stosowana / Applied Linguistics / Angewandte Linguistik*, 1, 19–39.
- Grucza, Franciszek (2012). Antropocentryczna a paradygmatyczna (tradycyjna) lingwistyka (stosowana) i kulturologia (stosowana). *Lingwistyka Stosowana / Applied Linguistics / Angewandte Linguistik*, 6, 5–43.
- Grucza, Franciszek (2017a). *Lingwistyka stosowana. Historia – zadania – osiągnięcia*. Warszawa: Wydawnictwo Naukowe Instytutu Komunikacji Specjalistycznej i Interkulturowej UW.
- Grucza, Franciszek (2017b). Moja droga do lingwistyki antropocentrycznej. In Sambor Grucza, Magdalena Olpińska-Szkiełko, Monika Płużyczka, Ilona Banasiak, & Marcin Łączek (Eds.), *O nauce profesora Franciszka Gruczy*, 11–70. Warszawa: Wydawnictwo Naukowe Instytutu Komunikacji Specjalistycznej i Interkulturowej UW.
- Grucza, Sambor (2013). *Lingwistyka języków specjalistycznych*. Warszawa: Wydawnictwo Naukowe Instytutu Kulturologii i Lingwistyki Antropocentrycznej UW.
- Grucza, Sambor (2019). Terminologia (antropocentryczna) – jej przedmiot badań i zadania poznawcze. *Applied Linguistics Papers*, 26(3), 1–13.
- Hacking, Ian (2012). Introductory Essay. In Thomas Samuel Kuhn, *The Structure of Scientific Revolutions* (4th edition), VII–XXXIX. Chicago & London: The University of Chicago Press.
- Hamilton, Andrew, & Quentin D. Wheeler (2008). Taxonomy and Why History of Science Matters for Science. *ISIS*, 99(2), 331–340. Available from: <https://www.jstor.org/stable/10.1086/588691> (accessed on 13 June 2025).
- Hanauer, David Ian (2006). *Scientific Discourse: Multiliteracy in the Classroom*. London: Continuum.
- Hansen, Ron (2008). The roots of technical learning and thinking: Situating TLT in schools. *Journal of Technology Education*, 20(1), 5–15.
- Harari, Noel Yuval (2014). *Sapiens: A Brief History of Humankind*. London: Vintage.
- Harding, Robert Graham (2018). *The Establishment of Champagne in Britain, 1860–1914* [Doctoral dissertation]. Oxford: Oxford University.
- Hazelwood, Caleb ([2018] 2021). The species category as a scientific kind. *Synthese*, 198, 3027–3040. Available from: <http://dx.doi.org/10.1007/s11229-018-02025-4> (accessed on 25 January 2025).
- Hesse-Biber, Sharlene, Deborah Rodriguez, & Nollaig A. Frost (2015). A Qualitatively Driven Approach to Multimethod and Mixed Methods Research. In Sharlene Hesse-Biber & R. Burke Johnson (Eds.), *The Oxford Handbook of Multimethod and Mixed Methods Research*, 3–20. Oxford & New York: Oxford University Press.

- Hjørland, Birger (2002). Domain analysis in information science. Eleven approaches – traditional as well as innovative. *Journal of Documentation*, 58(4), 422–462.
- Hjørland, Birger (2003). Fundamentals of Knowledge Organization. *Knowledge Organization*, 30(2), 87–111. Available from: <https://www.imrpess.com/journal/KO/30/2> (accessed on 21 July 2025).
- Hjørland, Birger (2009). Concept theory. *Journal of the American Society for Information Science and Technology*, 60(8), 1519–1536.
- Hjørland, Birger (2011a). The importance of theory of knowledge: Indexing and information retrieval as an example. *Journal of the American Society for Information Science and Technology*, 62(1), 72–77.
- Hjørland, Birger (2011b). Evidence-based practice: An analysis based on the philosophy of science. *Journal of the American Society of Information Science and Technology*, 62(7), 1301–1310.
- Hjørland, Birger (2013). Theories of Knowledge Organization – Theories of Knowledge. *Knowledge Organization*, 40(3), 169–181.
- Hjørland, Birger (2015). Theories are knowledge organizing systems (KOS). *Knowledge Organization*, 42(2), 113–128.
- Hjørland, Birger (2016). Does the traditional thesaurus have a place in modern information retrieval? *Knowledge Organization*, 43(3), 145–159.
- Hjørland, Birger (2021). Information Retrieval and Knowledge Organization: A Perspective from the Philosophy of Science. *Information*, 12(135). Available from: <https://doi.org/10.3390/info12030135> (accessed on 25 January 2023).
- Hockett, Charles F. (1958). *A Course in Modern Linguistics*. New York: The Macmillan Company.
- Hodge, Gail (2000). *Systems of Knowledge Organization for Digital Libraries: Beyond Traditional Authority Files*. Washington, DC: Council on Library and Information Resources. Available from: <http://www.clir.org/pubs/reports/pub91/contents.html> (accessed on 24 January 2023).
- Hsu, Pei-Ling, Hsiao-Shan Hsieh, Jheng-He Liang, Yi-Shin Chen (2015). Mining various semantic relationships from unstructured user-generated web data. *Journal of Web Semantics*, 31, 27–38.
- Hudon, M. (2003). True and tested products: thesauri on the Web. *The Indexer*, 23(3), 115–119.
- Hume, David ([1748] 1777). An Enquiry Concerning Human Understanding (Peter Millican, Ed.). In Peter Millican & Amyas Merivale (Eds.), *Hume Texts Online*. Available from www.davidhume.org (accessed on 18 November 2021).
- IGS UMSOM = Institute for Genome Sciences, University of Maryland School of Medicine (2022). *Disease Ontology*. Baltimore: University of Maryland. Available from: <https://disease-ontology.org> (accessed on 12 October 2022).
- Iorio, Roberto, Sandrine Labory, & Francesco Rentocchini (2017). The importance of pro-social behaviour for the breadth and depth of knowledge transfer activities: An analysis of Italian academic scientists. *Research Policy*, 46(2), March, 497–509.

- ISO = International Organization for Standardization (2008). *Terminology products and services – Overview and guidance* (ISO Standard No. 22128:2008). Geneva: International Organization for Standardization.
- ISO = International Organization for Standardization (2009). *Terminology work – Principles and methods* (ISO Standard No. 704:2009). Geneva: International Organization for Standardization.
- ISO = International Organization for Standardization (2011). *Information and Documentation – Thesauri and interoperability with other vocabularies* (ISO Standard No. 25964:2011). Geneva: International Organization for Standardization.
- ISO = International Organization for Standardization (2018). *Ergonomics of human-system interaction* (ISO/DIS Standard No. 9241-11.2:2018). Geneva: International Organization for Standardization. Available from: <https://www.iso.org/obp/ui/#iso:std:iso:9241:-11:dis:ed-2:v2:en> (accessed 9 September 2025).
- ISO = International Organization for Standardization (2019). *Terminology work and terminology science – Vocabulary* (ISO Standard No. 1087:2019). Geneva: International Organization for Standardization.
- Jaccard, James, & Jacob Jacoby (2010). *Theory Construction and Model-Building Skills. A Practical Guide for Social Scientists*. London & New York: The Guildford Press.
- Jahchan, Nataly (2019). *To what extent does text simplification improve human comprehension? Cognitive evaluations for the optimization of the Airbus cockpit controlled language for future aircraft* [Doctoral dissertation]. Toulouse: University of Toulouse.
- John of Salisbury ([1159] 1955). *The Metalogicon: A Twelfth-Century Defense of the Verbal and Logical Arts of the Trivium* (Daniel D. McGarry, Trans., Introduction, & Notes). Berkeley & Los Angeles: University of California Press.
- Joynson, Catherine, & Ottoline Leyser (2015). The culture of scientific research. *F1000Research*, 4(66).
- Junker, Marie-Odile (2008). Semantic primes and their grammar in a polysynthetic language: East Cree. In Cliff Goddard (Ed.), *Cross-linguistic Semantics*, 163–204. Amsterdam: John Benjamins. Available from: <https://doi.org/10.1075/slcs.102.11jun> (accessed on 29 March 2025).
- Katz, Eric (1993). Artefacts and functions: A note on the value of nature. *Environmental Values*, 2(3), Autumn, 223–232.
- Kępiński, Antoni ([1972] 2012). *Rytm życia*. Kraków: Wydawnictwo Literackie.
- Ketchen, David J., Jr., Donald D. Bergh, & Brian K. Boyd (2019). The Research Design Canvas: A Tool for Creating Better Studies. In Briand Boyd, T. Russell Crook, Jane K. Lê, & Anne D. Smith (Eds.), *Standing on the Shoulders of Giants: Traditions and Innovations in Research Methodology*, 63–76. Bingley: Emerald Publishing Limited.
- Khosrow-Pour, Mehdi (2013). *Dictionary of Information Science and Technology*. Hershey: Information Science Reference.
- Kotzee, Ben (2014). Differentiating forms of professional expertise. In Michael Young & Johan Muller (Eds.), *Knowledge, Expertise and the Professions*, 61–77. New York: Routledge.

- Krąpiec, Mieczysław Albert (1991). *U podstaw rozumienia kultury*. Lublin: Redakcja Wydawnictw Katolickiego Uniwersytetu Lubelskiego.
- Krąpiec, Mieczysław Albert (2000). *Ludzka wolność i jej granice*. Lublin: Redakcja Wydawnictw Katolickiego Uniwersytetu Lubelskiego.
- Kruchten, Anne E., & Jenean H. O'Brien (2022). Teaching undergraduate students how to identify a gap in the literature: Design of a visual map assignment to develop a grant proposal research question. In Nancy J. Pelaez, Stephanie M. Gardner, & Trevor R. Anderson (Eds.), *Trends in Teaching Experimentation in the Life Sciences. Putting Research into Practice to Drive Institutional Change*, 173–192. Cham: Springer Nature Switzerland AG.
- Kuhn, Thomas Samuel ([1962] 2012). *The Structure of Scientific Revolutions* (4th edition). Chicago & London: The University of Chicago Press.
- Lacasta, Javier, Javier Nogueras-Iso, & Francisco Javier Zarazaga-Soria (2010). *Terminological Ontologies. Design, Management and Practical Applications*. New York: Springer Science+Business Media, LLC.
- Langmuir, Irving (1932). *Irvin Langmuir's speech at the Nobel Banquet in Stockholm, December 10, 1932*. The Nobel Prize. Available from: www.nobelprize.org/prizes/chemistry/1932/langmuir/speech/ (accessed on 16 December 2024).
- Lavoisier, Antoine (1789). *Traité Élémentaire de Chimie*. Paris: Cuchet.
- Leibniz, Wilhelm Gottfried ([1679] 1973). *Philosophical Writings* (Mary Morris, George Henry Radcliffe Parkinson, Trans.; George Henry Radcliffe Parkinson, Ed.). London: J.M. Dent & Sons.
- Leigh, Jennifer, & Nicole Brown (2021). *Embodied Inquiry: Research Methods*. London & New York: Bloomsbury Academic.
- Lenneberg, Eric H. (1967). *Biological Foundations of Language*. New York: Wiley.
- Leplin, Jarret (1980). The role of models in theory construction. In Thomas Nickles (Ed.), *Scientific Discovery, Logic, and Rationality*, 267–283. Dordrecht: D. Reidel Publishing Company.
- Leski, Kazimierz (1978). *Zasady budowy tezaursów*. Warszawa: OIN PAN.
- Levin, Susan B. (1997). Greek conceptions of naming: Three forms of appropriateness in Plato and the literary tradition. *Classical Philology*, 92, 46–57. Available from: <https://www.jstor.org/stable/270316> (accessed on 16 April 2026).
- Linné, Carl von ([1735] 1758). *Systema Naturae* (10th edition). Holmiae: Laurent Salvius.
- Locke, John ([1690] 1999). *An Essay Concerning Human Understanding*. University Park: The Pennsylvania State University.
- Loewenstein, George (1994). The psychology of curiosity: A review and reinterpretation. *Psychological Bulletin*, 116(1), 75–98. Available from: <https://doi.org/10.1037/0033-2909.116.1.75> (accessed on 12 July 2022).
- Long, Michael H. (1981). Input, Interaction, and Second-Language Acquisition. *Annals of the New York Academy of Sciences*, 379(1), 259–278.
- Łoniewski, Janusz (1984). Realizm poznawczy czwartej drogi św. Tomasza z Akwinu. *Studia Teologiczne*, 2, 219–233.

- Ludington, Charles (2013). *The Politics of Wine in Britain: A New Cultural History*. Basingstoke: Palgrave Macmillan.
- Łukasik, Marek (2017a). Polska szkoła terminograficzna. In Marta Małachowicz & Sambor Grucza (Eds.), *Polskie i europejskie nurty terminologiczne*, 26–69. Warszawa: Wydawnictwo Naukowe Instytutu Komunikacji Specjalistycznej i Interkulturowej, Uniwersytet Warszawski.
- Łukasik, M. (2017b). Contrastive terminography. *Cognitive Studies | Études cognitives*, 17. Available from: <https://doi.org/10.11649/cs.1378> (accessed on 29 July 2022).
- Łukasik, M. (2018). New Pathways to Terminological Minimum. *Applied Linguistics Papers*, 25(2), 133–168. Available from: http://alp.uw.edu.pl/wp-content/uploads/sites/315/2018/10/ALP-25_2-10-Marek-%C5%81UKASIK.pdf (accessed 24 June 2025).
- Łukszyn, Jurij ([1993] 1998). *Tezaurus terminologii translatorskiej* (2nd edition). Warszawa: Wydawnictwo Naukowe PWN.
- Łukszyn, Jurij (1998). Język specjalistyczny a myślenie zawodowe. *Przegląd Rusycystyczny*, 3–4, 49–56.
- Łukszyn, Jurij (2001). Systemowy słownik terminologii branżowej. In Jurij Łukszyn (Ed.), *Metajęzyk lingwistyki. Systemowy słownik terminologii lingwistycznej*, 103–119. Warszawa: Wydawnictwo AQUILA.
- Łukszyn, Jurij (2004). Leksykon specjalistyczny – słownik terminologiczny – seria terminograficzna. In J. Lewandowski (Ed.), *Języki specjalistyczne 4. Leksykografia terminologiczna – teoria i praktyka*, 55–64. Warszawa: Katedra Języków Specjalistycznych.
- Łukszyn, Jurij (2005a). Sieć semantyczna. In Jurij Łukszyn (Ed.), *Słownik Terminologii Przedmiotowej*, 99. Warszawa: Katedra Języków Specjalistycznych, Uniwersytet Warszawski.
- Łukszyn, Jurij (2005b). Stopień terminologizacji wyrazu. In Jurij Łukszyn (Ed.), *Słownik Terminologii Przedmiotowej*, 113. Warszawa: Katedra Języków Specjalistycznych, Uniwersytet Warszawski.
- Łukszyn, Jurij (2005c). Szkoła terminologiczna. In Jurij Łukszyn (Ed.), *Słownik Terminologii Przedmiotowej*, 125. Warszawa: Katedra Języków Specjalistycznych, Uniwersytet Warszawski.
- Łukszyn, Jurij (2005d). *Słownik terminologii przedmiotowej*. Warszawa: Katedra Języków Specjalistycznych, Uniwersytet Warszawski.
- Łukszyn, Jurij (2011). Języki wiedzy. In Wanda Zmarzer (Ed.), *Języki wiedzy*, 9–20. Warszawa: Instytut Rusycystyki, Wydział Lingwistyki Stosowanej, Uniwersytet Warszawski.
- Łukszyn, Jurij, & Wanda Zmarzer (2001). *Teoretyczne podstawy terminologii*. Warszawa: Katedra Języków Specjalistycznych, Uniwersytet Warszawski.
- Łukszyn, Jurij, & Wanda Zmarzer (2009). Prolegomena. In Jurij Łukszyn & Wanda Zmarzer (Eds.), *Dydaktyczny słownik terminologii lingwistycznej*, 9–25. Warszawa: Katedra Języków Specjalistycznych, Uniwersytet Warszawski.
- Łukszyn, Jurij, Wanda Zmarzer, Małgorzata Kornacka, Adam Marchwiński, Aleksandra Waszczuk, & Ewa Zwierchoń (2009). *Dydaktyczny słownik terminologii lingwistycznej*. Warszawa: Katedra Języków Specjalistycznych, Uniwersytet Warszawski.

- Lyons, Henry ([1944] 2015). *The Royal Society, 1660–1940. A History of its Administration under its Charters*. New York: Cambridge University Press.
- Macionis, John J. (2017). *Sociology* (16th edition). London: Pearson Education Limited.
- Małachowicz, Marta (2005). Standaryzacja terminologii. In Jurij Lukszyn (Ed.), *Słownik Terminologii Przedmiotowej*, 107. Warszawa: Katedra Języków Specjalistycznych, Uniwersytet Warszawski.
- Małachowicz, Marta (2017). Polskie badania terminologiczne. In Sambor Grucza & Marta Małachowicz (Eds.), *Polskie i europejskie nurty terminologiczne*, 8–25. Warszawa: Wydawnictwo Naukowe Instytutu Komunikacji Specjalistycznej i Interkulturowej UW.
- Malinowski, Bronisław (1923). The Problem of Meaning in Primitive Languages. In Charles Kay Ogden & Ivor Armstrong Richards, *The Meaning of Meaning*, 296–336. New York: Harcourt, Brace & World, Inc.
- Mammen, Jens (1994). En realistisk begrebsteorie: Om forholdet mellem virksomhedsteori og den økologiske kognitive psykologi. In Jens Mammen & Mariane Hedegaard (Eds.), *Virksomhedsteori i udvikling*, 43–58. Århus: Psychological Institute, University of Aarhus.
- Mammen, Jens (2008). What is a concept? *Journal of Anthropological Psychology*, 19, 25–27.
- Maniez, Jacques (1988). Relationships in Thesauri: Some Critical Remarks. *International Classification*, 15, 133–138.
- Marchwiński, Adam (2001). Związki interdyscyplinarne w słowniku terminologii lingwistycznej. In Jurij Lukszyn (Ed.), *Metajęzyk lingwistyki. Systemowy słownik terminologii lingwistycznej*. Warszawa: Wydawnictwo Aquila.
- Masterman, Margaret, Roger Needham, & Karen Spärck-Jones (1959). The Analogy between Mechanical Translation and Library Retrieval. In *Proceedings of the International Conference on Scientific Information*, November 1958, Vol. 2, 917–936. Washington, DC: National Academy of Sciences.
- Mayr, Ernst, & Walter J. Bock (1994). Provisional Classifications vs. Standard Avian Sequences: Heuristics and Communication in Ornithology. *IBIS*, 136, 12–18.
- Mayr, Ernst, & Walter J. Bock (2002). Classifications and other ordering systems. *Journal of Zoological Systematics and Evolutionary Research*, 40, 169–194.
- Mazur, Marian (1961). *Terminologia techniczna*. Warszawa: Wydawnictwa Naukowo-Techniczne.
- Mazzocchi, Fulvio (2018). Knowledge organization system (KOS). *Knowledge Organization*, 45(1), 54–78.
- McCain, Kevin (2016). Explanation and understanding. In Kevin McCain (Ed.), *The Nature of Scientific Knowledge*, 133–154. Springer Undergraduate Texts in Philosophy. Cham: Springer. Available from: https://doi.org/10.1007/978-3-319-33405-9_9 (accessed on 13 June 2022).
- McGovern, Patrick, Mindia Jalabadze, Stephen Batiuk, Michael P. Callahan, Karen E. Smith, Gretchen R. Hall, Eliso Kvavadze, David Maghradze, Nana Rusishvili, Laurent Bouby, Osvaldo Failla, Gabriele Cola, Luigi Mariani, Elisabetta Boaretto, Roberto Bacilieri, Patrice This, Nathan Wales, & David Lordkipanidze (2017). Early Neolithic

- Wine of Georgia in the South Caucasus. *PNAS PLUS*, 114(48), E10309–E10318. Available from: www.pnas.org (accessed on 25 November 2019).
- McIntyre, Alasdair ([1958] 2004). *The Unconscious: A Conceptual Analysis*. London & New York: Routledge.
- Mercier, Hugo (2020). *Not Born Yesterday: The Science of Who We Trust and What We Believe*. Princeton & Oxford: Princeton University Press.
- Merton, Robert (1957). Priorities in Scientific Discovery: A Chapter in the Sociology of Science. *American Sociological Review*, 22(6), 635–659. Available from: <https://www.jstor.org/stable/2089193> (accessed on 13 April 2026).
- Meyer, Ingrid (2022). Concept management for Terminology: A Knowledge Engineering approach. In Pamela Faber & Marie-Claude L'Homme (Eds.), *Theoretical Perspectives on Terminology. Explaining Terms, Concepts and Specialized Knowledge*. Terminology and Lexicography. Research and Practice, 23, 111–126. Amsterdam: John Benjamins Publishing Company.
- Michta, Tomasz (2022). *Systemy pojęć w terminologii i słowniku*. Białystok: Wydawnictwo PRYMAT.
- Mills, Kathy A. (2017). What are the threats and potentials of big data for qualitative research? *Qualitative Research*, 18(6). Available from: <https://doi.org/10.1177/1468794117743465> (accessed on 18 October 2022).
- Milo, Władysław (2018). *The Fundamentals of Economic Research*. Łódź: Wydawnictwo Uniwersytetu Łódzkiego.
- Morris, Christopher (1992). *Academic Press Dictionary of Science and Technology*. Boston, London, New York, San Diego, Sydney, Tokyo: Academic Press.
- Nagórka, Piotr (2010). Metafrastyczna typologia języków a translatoryczna technika tezauryzowania. In Jurij Lukszyn & Małgorzata Kornacka (Eds.), *Metafrastyczna typologia języków*, 121–138. Warszawa: Katedra Języków Specjalistycznych, Wydział Lingwistyki Stosowanej, Uniwersytet Warszawski.
- Nagórka, Piotr (2011). Struktura wiedzy zawodowej. In Wanda Zmarzer (Ed.), *Języki wiedzy*, 69–96. Warszawa: Instytut Rusycystyki WLS UW.
- Nagórka, Piotr (2012). Analiza semantyczna a struktura jednostki informacyjnej. In Wanda Zmarzer (Ed.), *Struktura jednostek informacyjnych*, 23–50. Warszawa: Instytut Rusycystyki WLS UW.
- Nagórka, Piotr (2013). *Thesaurus of Oenology: English–Polish*. Warszawa: Piotr Nagórka / Linguistic Modelling.
- Nagórka, Piotr (2014). Tezaurusy jako narzędzia edukacyjne. In Małgorzata Suświłło & Natalia Anna Fechner (Eds.), *Edukacja XXI wieku*, 34. *Podmioty, środowiska i obszary edukacyjne: Wyzwania i zagrożenia połowy XXI wieku*, Vol. 2, 471–482. Poznań: Wydawnictwo Wyższej Szkoły Bezpieczeństwa.
- Nagórka, Piotr (2017a). Conceptual Maps of European Values. *International Journal on Language, Literature and Culture in Education*, 4(1), 3–33.
- Nagórka, Piotr (2017b). Kreatywność a język lingwistyki. In Katarzyna Burska & Rafał Zarębski (Eds.), *Kreatywność językowa w przestrzeni publicznej*, 23–36. Łódź: Wydawnictwo Uniwersytetu Łódzkiego.

- Nagórka, Piotr (2017c). Realna podstawa leksykonu enologii. In Oksana Borys, Magdalena Jeż, Aleksandra Samadowa, & Marta Saniewska (Eds.), *Szkice językowe i literacko-kulturowe*, 73–93. Warszawa: Katedra Ukrainistyki Uniwersytetu Warszawskiego.
- Nagórka, Piotr (2021a). *Madeira, Port, Sherry. The Equinox Companion to Fortified Wines*. Bristol & Sheffield: Equinox Publishing.
- Nagórka, Piotr (2021b). Pojęcia wartości moralnych ks. prof. Józefa Tischnera. Diagnoza terminologiczna na podstawie cyklu telewizyjnego rozmów Józefa Tischnera z Jackiem Żakowskim ‘Tischner czyta katechizm’. In Małgorzata Guławska & Grzegorz Pawłowski (Eds.), *Ideologiczne i polityczne uwarunkowania komunikacji językowej*, 78–98. Warszawa: Wydawnictwa Uniwersytetu Warszawskiego.
- Nagórka, Piotr (2023). Iberian-Romance borrowings into English in the fortified wine industry: Implications for wine educators. *Revista de Linguas para fines Especificos*, 29. Available from: <https://ojsspdc.ulpgc.es/ojs/index.php/LFE/article/view/1610> (accessed on 22 February 2025).
- Nagórka, Piotr (2024a). Konceptualizacja terminologiczna pojęcia „miłość ojczyzny” na podstawie książki generalowej Jadwigi Zamoyskiej „O miłości ojczyzny”. Przyczynek do badań nad pojęciami wartości etycznych. In Ewelina Chodźko & Paulina Pomajda (Eds.), *Literackie i kulturowe przedstawienie rodziny, dzieciństwa i ojczyzny*, 121–140. Lublin: Wydawnictwo Naukowe TYGIEL.
- Nagórka, Piotr (2024b). The impact of international trade relations on French borrowings into English in the sparkling wine industry: A corpus-driven study conducted by a terminologist. *LingBaW, Linguistics Beyond and Within*, 10, 131–147. Available from: <https://doi.org/10.31743/lingbaw.18015> (accessed on 22 February 2025).
- Nagórka, Piotr, & Grzegorz Pawłowski (2018). Lingwistyka a terminologia – konflikt czy symbioza? Nowe perspektywy poznawcze dotyczące metodologii obu dyscyplin. In Magdalena Aleksandrak (Ed.), *Języki specjalistyczne w lingwistyce stosowanej: Między teorią i praktyką*, 11–32. Poznań: Wydawnictwo Naukowe UAM.
- Nagórka, Piotr & Marta Ręgowska (2026). *Sparkling Wines: The Equinox Guide for Wine Professionals and Connoisseurs*. Sheffield & Bristol, CT: Equinox Publishing.
- Nakano, Natália, Daniel Martínez-Ávila, Maria José Vicentini Jorente, & Mariana Cantisani (2018). Information Design, Information Science, and Knowledge Organization: A Domain Analysis from the Perspective of Complexity / Diseño de información, ciencia de la información y organización del conocimiento: un análisis de dominio desde la perspectiva de la complejidad. *Scire*, 24(1), 67–75.
- NCI = National Cancer Institute (2022). *NCI Thesaurus*. Rockville: National Cancer Institute. Available from <https://ncit.nci.nih.gov> (accessed on 12 October 2022).
- Newton, Isaac ([1676] 1959). Letter to Robert Hooke, 5 February 1676. In Herbert Western Turnbull (Ed.), *The Correspondence of Isaac Newton*, Vol. 1. Cambridge, UK: Cambridge University Press.
- Newton, Isaac ([1713] 1846). *The Mathematical Principles of Natural Philosophy* (Andrew Motte, Trans.). New York: Daniel Adee.
- Nowicki, Witold (1979). *Metoda pracy nad terminologią wybranej dziedziny*. Warszawa: Wydawnictwo Czasopism i Książek Technicznych SIGMA.

- Nowicki, Witold (1986). *Podstawy terminologii*. Wrocław: Ossolineum.
- Nuopponen, Anita (2014). Tangled web of concept relations. Concept relations for ISO 1087-1 and ISO 704. *Terminology and Knowledge Engineering*, June 2014. Available from: <https://hal.science/hal-01005882> (accessed on 28 July 2025).
- Ogden, Charles Kay, & Ivor Armstrong Richards (1923). *The Meaning of Meaning. A Study of the Influence of Language upon Thought and of the Science of Symbolism*. New York: Harcourt, Brace & World, Inc.
- Osthoff, Hermann, & Karl Brugman ([1878] 2013). *Morphologische Untersuchungen auf dem Gebiete der indogermanischen Sprachen*, Vol. 1. Cambridge & New York: Cambridge University Press.
- Otlet, Paul ([1934] 2021). *Traité de documentation. Le livre sur le livre: théorie et pratique*. Paris: Éditions des maisons des sciences de l'homme associées.
- Paterlini, Marta (2007). There shall be order. The legacy of Linnaeus in the age of molecular biology. *EMBO Rep.*, 8(9), 814–816. Available from: <https://doi.org/10.1038/sj.embor.7401061> (accessed on 28 January 2025).
- Pawłowski, Grzegorz (2017). *Fachlexeme in Konstruktion. Linguistischer Beitrag zur Erkenntnisarbeit*. Frankfurt am Main: Peter Lang.
- Pawłowski, Grzegorz (2021). *Metafizyka poznania lingwistycznego*. Warszawa: Wydawnictwa Uniwersytetu Warszawskiego.
- Pawson, Ray, Geoff Wong, & Lesley Owen (2011). Known Knowns, Known Unknowns, Unknown Unknowns: The Predicament of Evidence-Based Policy. *American Journal of Evaluation*, 32(4), 518–546. Available from: <https://doi.org/10.1177/1098214011403831> (accessed on 11 February 2023).
- Pedersen, Elaine L. (2007). Theory is everywhere. A discourse on theory. *Clothing & Textiles Research Journal*, 25(1), 106–128.
- Pirożyński, Marian ([1946] 2017). *Kształcenie charakteru*. Lublin: Fundacja *Servire Veritati*, Instytut Edukacji Narodowej.
- Pitts, Maggie J. (2017). Qualitative Methods in Intergroup Communication. In Jon Nussbaum, Dana Cloud, Howard Giles, John Greene, Thomas Hanitzsch, Eric Mark Kramer, Timothy R. Kuhn, Dana Mastro, Roxanne Parrott, & Bradford Vivyan (Eds.), *Oxford Research Encyclopedia of Communication*. Available from <https://doi.org/10.1093/acrefore/9780190228613.013.382> (accessed on 8 August 2022).
- Plato ([~399–387 BC] 1997). *Apology* (Georges Maximilien Antoine Grube, Trans.). In John M. Cooper (Ed.), *Plato: Complete Works*, 17–36. Indianapolis: Hackett Publishing Company.
- Plato ([~399–380 BC] 1997). *Protagoras* (Stanley Lombardo & Karen Bell, Trans.). In John M. Cooper (Ed.), *Plato: Complete Works*, 746–790. Indianapolis: Hackett Publishing Company.
- Plato ([~360 BC] 1997). *Sophist* (Nicholas P. White, Trans.). In John M. Cooper (Ed.), *Plato: Complete Works*, 235–293. Indianapolis: Hackett Publishing Company.
- Popper, Karl Raimund ([1959] 2005). *The Logic of Scientific Discovery*. London & New York: Routledge Classics.
- Popper, Karl Raimund [1963] 1972. *Conjectures and Refutations. The Growth of Scientific Knowledge* (4th edition). London: Routledge and Kegan Paul.

- Popper, Karl Reimund ([1982] 2014). Erkenntnis und Gestaltung der Wirklichkeit: Die Suche nach einer besseren Welt (Ein Vortrag, Alpbach, August 1982). In Karl Reimund Popper, *Auf der Suche nach einer besseren Welt*, 11–40. München & Zürich: Piper Verlag.
- Powner, Leanne C. (2015). *Empirical Research and Writing. A Political Science Student's Practical Guide*. Thousand Oaks: CQ Press.
- Pratt, Chris (1986). Anglicisms in contemporary European Spanish. In Wolfgang Viereck & Wolf-Dietrich Bald (Eds.), *English in Contact with Other Languages. Studies in Honour of Broder Carstensen on the Occasion of His 60th Birthday*, 345–367. Budapest: Akadémiai Kiadó.
- Pratt, Chris (1992). The status of loan-words in modern monolingual dictionaries. In M. Alvar Ezquerro (Ed.), *EURALEX '90. Proceedings of the 4th International Congress*, 509–516. Barcelona: Bibliograf.
- Putnam, Hilary ([1974] 1991). The 'Corroboration' of theories. In Richard Boyd, Philip Gasper, & J.D. Trout (Eds.), *The Philosophy of Science*, 121–137. Cambridge, MA: MIT Press.
- Putnam, Hilary (1999). *The Threefold Cord: Mind, Body, and the World*. Cambridge: CUP.
- Rastier, François (1993). The linguistic analysis of expert texts. In René Jorna, Barend van Heudsen, & Roland Posner (Eds.), *Signs, Search and Communication: Semiotic Aspects of Artificial Intelligence*, 336–347. Berlin: Walter de Gruyter.
- Rescher, Nicolas (1973). *The Coherence Theory of Truth*. Oxford: The Clarendon Press.
- Rexhepi, Hanife (2018). *Bridging the Information Gap. Supporting Evidence-Based Medicine and Shared Decision-Making through Information Systems*. Skövde: University of Skövde.
- Ribbens McCarthy, Jane (2012). The powerful relational language of 'family': togetherness, belonging and personhood. *Sociological Review*, 60(1), 68–90. Available from: <http://dx.doi.org/doi:10.1111/j.1467-954X.2011.02045.x> (accessed on 4 March 2025).
- Roberts, Norman (1984). Historical Studies in Documentation: The Pre-History of Information Retrieval Thesaurus. *Journal of Documentation*, 40(4), 271–285. Available from: <https://doi.org/10.1108/eb026769> (accessed on 10 January 2025).
- Ruggiero, Diana M. (2022). *Teaching World Languages for Specific Purposes. A Practical Guide*. Washington, DC: Georgetown University Press.
- Russell, Bertrand (1953). *The Impact of Science on Society*. New York: Simon & Schuster.
- RWHA = Royal Warrant Holders Association (2024). *Members' Directory*. London: RWHA. Available from: www.royalwarrant.org/directory (accessed on 10 January 2024).
- Sager, Juan C. (1990). *A Practical Course in Terminology Processing*. Amsterdam & Philadelphia: John Benjamins.
- Schapiro Groszof, Miriam, & Hyman Sardy (1985). *A Research Primer for the Social and Behavioral Sciences*. Orlando: Academic Press, Inc.
- Schlamberger Brezar, Mojca ([2004] 2006). Analysis of a business negotiation. In Victor H. Yngve & Zdzisław Wąsik (Eds.), *Hard-Science Linguistics*, 142–173. London & New York: Continuum.
- Scott, John, & Gordon Marshall ([1994] 2009). *A Dictionary of Sociology* (3rd edition, revised). New York: Oxford University Press.

- Seneca, Lucius Annaeus ([~65] 1916/2016). *Letters from a Stoic* (Richard Mott Gummere, Trans.). Mineola: Dover Publications, Inc.
- Sextus Empiricus ([~200] 1935). *Against the Logicians* (Robert Gregg Bury, Trans.). London & Cambridge, MA: William Heinemann Ltd. & Harvard University Press.
- Sharoff, Serge, & Anthony Hartley (2012). Lexicography, terminology and ontologies. In Alexander Mehler, Laurent Romary, & Dafydd Gibbon (Eds.), *Handbook of Technical Communication*, HAL 8, 317–346. Berlin & Boston: Walter de Gruyter GmbH.
- Sinclair, John (1991). *Corpus, Concordance, Collocation*. Oxford: Oxford University Press.
- Sjöblom, Paula (2014). Commercial names and unestablished terminology. Joan Tort i Donada & Montserrat Montagut i Montagut (Eds.), *Names in Daily Life. Proceedings of the XXIV International Congress of Onomastic Sciences*. Secció 1, Biblioteca Tècnica de Política Lingüística, 11, 92–98. Available from: <https://doi.org/10.2436/15.8040.01.12> (accessed on 18 April 2023).
- Skuce, Douglas, & Ingrid Meyer (1990). Concept analysis and terminology: A knowledge-based approach to documentation. In Hand Karlgren (Ed.), *COLING 1990: Proceedings of the 13th Conference on Computational Linguistics – Vol. 1*, 56–58. Stroudsburg: Association for Computational Linguistics. Available from: <https://aclanthology.org/C90-1011> (accessed on 30 December 2022).
- Smaldino, Paul E. (2020). How to translate a verbal theory into a formal model. *Social Psychology*, 51(4), 207–218. Available from: <https://econtent.hogrefe.com/doi/pdf/10.1027/1864-9335/a000425> (accessed on 23 April 2022).
- Smith, Marvin L. (2024, 18 July). Exploratory research: Definition, types, methodologies. *Blainy*. Available from: <https://blainy.com/exploratory-research> (accessed on 4 December 2024).
- Sodan, Angela C. (1999). Examples of fuzziness in compilers and runtime systems. In Julian A. Padget (Ed.), *Collaboration between Human and Artificial Societies: Coordination and Agent-Based Distributed Computing*, 43–61. Berlin & New York: Springer-Verlag.
- Souza, Renato Rocha, Douglas Tudhope, & Mauricio B. Almeida (2012). Towards a Taxonomy of KOS: Dimensions for Classifying Knowledge Organization Systems. *Knowledge Organization*, 39(3), 179–192.
- Spencer, Elizabeth (2019). Corpus linguistics. In Jack S. Damico & Martin J. Ball (Eds.), *The SAGE Encyclopedia of Human Communication Sciences and Disorders*, Vol. 1, 503–506. Thousand Oaks & London: SAGE Publications.
- Stella, Massimo, & Yoed N. Kenett (2022). Knowledge modelling and learning through cognitive networks. *Big Data and Cognitive Computing*, 6(53). Available from: <https://doi.org/10.3390/bdcc6020053> (accessed on 7 October 2022).
- Summa, Michael (2024). Desiring to Know: Curiosity as a Tendency toward Discovery. *Human Studies, A Journal for Philosophy and the Social Sciences*, 47, 37–57. Available from: <https://doi.org/10.1007/s10746-023-09698-y> (accessed on 2 December 2024).
- Sunderland, Jane (2010). Research Questions in Linguistics. In Lia Litosseliti (Ed.), *Research Methods in Linguistics*, 9–28. London & New York: Continuum International Publishing Group.

- Suominen, Arho, Henni Kauppinen, & Kirsi Hyytinen (2021). 'Gold', 'Ribbon' or 'Puzzle': What motivates researchers to work in Research and Technology Organizations. In *Technological Forecasting & Social Change*, 170. Available from: <https://doi.org/10.1016/j.techfore.2021.120882> (accessed on 4 June 2022).
- Swales, John Malcolm (1990). The concept of discourse community. In John Malcolm Swales, *Genre Analysis: English in Academic and Research Settings*, 21–32. Cambridge: Cambridge University Press.
- Szczęsny, Anna (2005). Paradygmat naukowy. In Jurij Lukszyn (Ed.), *Słownik Terminologii Przedmiotowej*, 76. Warszawa: Katedra Języków Specjalistycznych, Uniwersytet Warszawski.
- Temmerman, Rita (1997). Questioning the Univocity Ideal. The Difference Between Socio-Cognitive Terminology and Traditional Terminology. *Hermes, Journal of Linguistics*, 18, 51–90. Available from <https://tidsskrift.dk/her/article/view/25412/22333> (accessed on 12 January 2023).
- Temmerman, Rita (2000). *Towards New Ways of Terminology Description: The Sociocognitive Approach*. Amsterdam: Benjamins.
- Temmerman, Rita (2007). Approaches to terminology: Now that the dust has settled. In Ingrid Simonnaes (Ed.), *SYNAPS, A Journal of Professional Communication*, 20, 27–36.
- Thinkmap ([1998] 2022). *The Visual Thesaurus®*. New York: Thinkmap, Inc. Available from: www.visualthesaurus.com (accessed on 22 March 2022).
- Thoiron, Philippe, & Henri Béjoint (2010). La terminologie, une question de termes? *Meta*, 55(1), 105–118. Available from: <https://doi.org/10.7202/039605ar> (accessed on 12 May 2022).
- Thomson, William ([1883] 1889). Electrical Units of Measurement: A lecture delivered at the Institution of Civil Engineers, May 3, 1883. In *Popular Lectures and Addresses, Volume I: Constitution of Matter*, 73–136. London & New York: MacMillan & Co.
- Tichenor, Philip J., George A. Donohue, & Clarice N. Olien (1970). Mass media flow and differential growth in knowledge. *Public Opinion*, 34(2), 159–170.
- Tognini-Bonelli, Elena (2001). *Corpus Linguistics at Work*. Amsterdam & Philadelphia: John Benjamins Publishing Company.
- Tomasik-Beck, Joanna (1977). *Zasady budowy tezaursów wielojęzycznych*. Warszawa: Instytut Informacji Naukowej, Ekonomicznej i Technicznej.
- Tremblay, Pascale, & Anthony Steven Dick (2016). Broca and Wernicke are dead, or moving past the classic model of language neurobiology. *Brain & Language*, 162, 60–71.
- Upmeyer zu Belzen, Annette, Paul Engelschalt, & Dirk Krüger (2021). Modeling as Scientific Reasoning: The Role of Abductive Reasoning for Modeling Competence. *Education Science*, 11(9), Article 495. Available from: <https://doi.org/10.3390/educsci11090495> (accessed on 14 October 2022).
- Van Coetsem, F. (1988). *Loan Phonology and the Two Transfer Types in Language Contact*. Berlin & Boston: De Gruyter Mouton.
- Weinreich, Uriel ([1953] 1979). *Languages in Contact: Findings and Problems*. The Hague, Paris, New York: Mouton Publishers.

- Whewell, William (1828). *An Essay on Mineralogical Classification and Nomenclature with Tables of the Orders and Species of Minerals*. Cambridge: University of Cambridge.
- White, Patrick (2009). *Developing Research Questions: A Guide for Social Scientists*. New York: Palgrave MacMillan.
- Wierzbicka, Anna (1975). W poszukiwaniu tradycji: idee semantyczne Leibniza. *Pamiętnik Literacki*, 66(1), 109–126.
- Wierzbicka, Anna (1994). The universality of taxonomic categorization and the indispensability of the concept ‘kind’. *Rivista di Linguistica*, 6(2), 347–364.
- Wierzbicka, Anna ([1996] 2004). *Semantics. Primes and Universals*. Oxford & New York: Oxford University Press.
- Wierzbicka, Anna (2011). Uniwersalia ugruntowane empirycznie. *Teksty drugie*, 1–2, 13–30. Available from: <https://rcin.org.pl> (accessed on 8 March 2025).
- Wierzbicka, Anna (2016). Back to ‘Mother’ and ‘Father’: Overcoming the Eurocentrism of Kinship Studies through Eight Lexical Universals. *Current Anthropology*, 57(4), 408–429. Available from: www.jstor.org/stable/26545519 (accessed on 4 March 2025).
- Wierzbicka, Anna (2021). “Semantic primitives”, fifty years later. *Russian Journal of Linguistics*, 25(2), 317–342.
- Wilkenfeld, Daniel A. (2018). Understanding as compression. *Philosophical Studies*, 176, 2807–2831. Available from: <https://doi.org/10.1007/s11098-018-1152-1> (accessed on 13 June 2022).
- Wilkins, John ([1668] 2022). *An Essay Towards a Real Character and a Philosophical Language*. London: Gellibrand & Martyn. Available from: <https://quod.lib.umich.edu> (accessed on 24 March 2022).
- Winford, Donald (2019). Theories of Language Contact. In Anthony P. Grant (Ed.), *The Oxford Handbook of Language Contact*, 51–74. New York: OUP.
- Winston, Morton Emanuel, Roger Chaffin, & Douglas J. Herrmann (1987). A Taxonomy of Part-Whole Relations. *Cognitive Science*, 11, 417–444.
- Wolff, J. Gerard (2019). Information compression as a unifying principle in human learning, perception, and cognition. *Complexity*, 2019, Article 1879746. Available from <https://doi.org/10.1155/2019/1879746> (accessed on 13 June 2022).
- Woodward, James, & Lauren Ross ([2003] 2021). Scientific Explanation. In Edward N. Zalta (Ed.), *The Stanford Encyclopedia of Philosophy* (Summer 2021 Edition). Available from: <https://plato.stanford.edu/archives/fall2025/entries/scientific-explanation/> (accessed on 13 June 2022).
- Wright, Roger (2012). Convergence and Divergence in World Languages. In Juan Manuel Hernández-Campoy & Juan Camilo Conde-Silvestre (Eds.), *The Handbook of Historical Sociolinguistics*, 552–567. Hoboken: John Wiley & Sons. Available from: <https://doi.org/10.1002/9781118257227.ch30> (accessed on 24 June 2025).
- Wüster, Eugen (1979). *Einführung in die allgemeine Terminologielehre und terminologische Lexikographie*. Wien & New York: Springer-Verlag.
- Yang, Puyu, Ahad Shoaib, Robert West, & Giovanni Colavizza (2024). Open access improves the dissemination of science: Insights from Wikipedia. *Scientometrics*, 129,

- 7083–7106. Available from: <https://doi.org/10.1007/s11192-024-05163-4> (accessed on 21 July 2025).
- Yngve, Victor H. (1996). *From Grammar to Science. New Foundations for General Linguistics*. Amsterdam & Philadelphia: John Benjamins Publishing Company.
- Yngve, Victor H. ([2004] 2006a). An Introduction to Hard-Science Linguistics. In Victor H. Yngve & Zdzisław Wąsik (Eds.), *Hard-Science Linguistics*, 27–34. London & New York: Continuum.
- Yngve, Victor H. ([2004] 2006b). To be a Scientist. In Victor H. Yngve & Zdzisław Wąsik (Eds.), *Hard-Science Linguistics*, 342–367. London & New York: Continuum.
- Yngve, Victor H., & Zdzisław Wąsik ([2004] 2006). Coping with Cultural Differences. In Victor H. Yngve & Zdzisław Wąsik (Eds.), *Hard-Science Linguistics*, 326–331. London & New York: Continuum.
- Zeng, Marcia Lei (2008). Knowledge Organization Systems. *Knowledge Organization*, 35(2–3), 160–182.
- Zeng, Marcia Lei (2019). Interoperability. *Knowledge Organization*, 46(2), 122–146. Available from: www.isko.org/cyclo/interoperability (accessed on 11 January 2023).
- Zheng, Liting, Kathryn E. Barry, Nathaly R. Guerrero-Ramírez, Dylan Craven, Peter B. Reich, Kris Verheyen, Michael Scherer-Lorenzen, Nico Eisenhauer, Nadia Barsoum, Jürgen Bauhus, Helge Bruehlheide, Jeannine Cavender-Bares, Jiri Dolezal, Harald Auge, Marina V. Fagundes, Olga Ferlian, Sebastian Fiedler, David I. Forrester, Gislene Ganade, ... Yann Hautier (2024). Effects of plant diversity on productivity strengthen over time due to trait-dependent shifts in species overyielding. *Nature Communications*, 15(2078). Available from: <https://doi.org/10.1038/s41467-024-46355-z> (accessed on 9 June 2025).
- Zmarzer, Wanda (2005a). Praca terminologiczna. In Jurij Lukszyn (Ed.), *Słownik Terminologii Przedmiotowej*, 88–89. Warszawa: Katedra Języków Specjalistycznych, Uniwersytet Warszawski.
- Zmarzer, Wanda (2005b). Terminologia stosowana. In Jurij Lukszyn (Ed.), *Słownik Terminologii Przedmiotowej*, 139. Warszawa: Katedra Języków Specjalistycznych, Uniwersytet Warszawski.
- Zmarzer, Wanda (2005c). Tezaurus. In Jurij Lukszyn (Ed.), *Słownik Terminologii Przedmiotowej*, 141. Warszawa: Katedra Języków Specjalistycznych, Uniwersytet Warszawski.
- Zmarzer, Wanda (2011). Kilka uwag o sposobach odtwarzania struktury znaczeniowej tekstu. In Wanda Zmarzer (Ed.), *Języki wiedzy*, 193–201. Warszawa: Instytut Rusycystyki Uniwersytetu Warszawskiego.
- Zmarzer, Wanda, & Jurij Lukszyn (2007). Uwagi wstępne. In Wanda Zmarzer & Jurij Lukszyn (Eds.), *Polsko-rosyjski tezaurs konstant kulturowych*, 5–8. Warszawa: Instytut Rusycystyki UW & Katedra Języków Specjalistycznych UW.
- Zwierzchoń-Grabowska, Ewa, Iwona Drabik, Jan Łompiś, Krzysztof Sitkowski, Małgorzata Kornacka, Paweł Krzysztof Filipowicz, Piotr Nagórka, Tomasz Michta, & Wioletta Mela (2010). Słownik pojęć kluczowych. In Jurij Lukszyn & Małgorzata Kornacka (Eds.), *Metafrastyczna typologia języków*, 171–184. Warszawa: Katedra Języków Specjalistycznych, Wydział Lingwistyki Stosowanej, Uniwersytet Warszawski.

Literature on wine

- Ahmed, Sarah (2012, November). Madeira: A visit with Blandy's and the Annual Tasting, London. *The Wine Detective*. Available from: www.thewinedetective.co.uk (accessed on 11 October 2019).
- Câmara, José Sousa, José C. Marques, María A. Alves, & Antonio C. Silva Ferreira (2004). 3-Hydroxy-4,5-dimethyl-2(5H)-furanone levels in fortified madeira wines: Relationship to sugar content. *Journal of Agricultural and Food Chemistry*, 52(22): 6765–6769.
- CIVC = Comité Interprofessionnel du Vin de Champagne (2013). *Champagne: From Terroir to Wine*. Épernay: Comité Interprofessionnel du Vin de Champagne. Available from: www.champagne.fr/en (accessed on 9 November 2023).
- CIVC = Comité Interprofessionnel du Vin de Champagne (2021a). *Les Expéditions de Vins de Champagne en 2020*. Épernay: Comité Interprofessionnel du Vin de Champagne. Available from: www.champagne.fr/en (accessed on 27 January 2024).
- CIVC = Comité Interprofessionnel du Vin de Champagne (2021b). *Champagne: A major economic player: 2020*. Épernay: Comité Interprofessionnel du Vin de Champagne. Available from: www.champagne.fr/en (accessed on 31 January 2024).
- CIVC = Comité Interprofessionnel du Vin de Champagne (2022a). *Les Expéditions de Vins de Champagne en 2021*. Épernay: Comité Interprofessionnel du Vin de Champagne. Available from: www.champagne.fr/en (accessed on 27 January 2024).
- CIVC = Comité Interprofessionnel du Vin de Champagne (2022b). *Champagne: A major economic player: 2021*. Épernay: Comité Interprofessionnel du Vin de Champagne. Available from: www.champagne.fr/en (accessed on 31 January 2024).
- CIVC = Comité Interprofessionnel du Vin de Champagne (2023a). *Les Expéditions de Vins de Champagne en 2022*. Épernay: Comité Interprofessionnel du Vin de Champagne. Available from: www.champagne.fr/en (accessed on 27 January 2024).
- CIVC = Comité Interprofessionnel du Vin de Champagne (2023b). *Champagne: A major economic player: 2022*. Épernay: Comité Interprofessionnel du Vin de Champagne. Available from: www.champagne.fr/en (accessed on 31 January 2024).
- CIVC = Comité Interprofessionnel du Vin de Champagne (2024, 20 August). How champagne is made. *Champagne*. Available from: www.champagne.fr/en/about-champagne/how-champagne-is-made (accessed on 20 August 2024).
- Collins, Ross F. (2022). *Chocolate: A Cultural Encyclopedia*. Santa Barbara: ABC-CLIO, LLC.
- Elliott, Trevor ([2010] 2019). *The Wines of Madeira: An Indispensable Guide to the Wines, Grapes and Producers*. Gosport: Trevor Elliott Publishing.
- Fielden, Christopher ([1994] 1998). *Exploring Wines and Spirits*. London: The Wine & Spirit Education Trust.
- Forbes, Patrick ([1967] 1989). *Champagne: The Wine, The Land and The People*. London: Victor Gollancz Ltd.
- Goddard, Sarah (2012, 13 March). Sparkling Icewine – Uniquely Canadian. *Sommelier Scribbler – A Wine Blog*. Available from: <https://sommelierscribbler.wordpress.com> (accessed on 23 October 2023).

- Grainger, Keith, & Hazel Tattersall (2016). *Wine Production and Quality* (2nd edition). Chichester & Hoboken: John Wiley & Sons.
- Halliday, James, & Hugh Johnson ([1992] 2013). *The Art and Science of Wine*. Buffalo: Firefly Books.
- Jackson, Ron S. ([1994] 2008). *Wine Science. Principles and Applications* (3rd edition). Amsterdam: Academic Press/Elsevier.
- Jackson, Ron S. ([1994] 2014). *Wine Science: Principles and Applications* (4th edition). Amsterdam: Academic Press/Elsevier.
- Jarvis, Tom (2017, 2 December). The Complete Guide to Ice Wine. *Wine-Searcher*. Available from: www.wine-searcher.com/m/2017/12/the-complete-guide-to-ice-wine (accessed on 23 October 2023).
- Jeandet, Philippe, Silke S. Heinzmann, Chloé Roullier-Gall, Clara Cilindre, Alissa Aron, Marie Alice Deville, Franco Moritz, Thomas Karbowski, Dominique Demarville, Cyril Brun, Fabienne Moreau, Bernhard Michalke, Gérard Liger-Belair, Michael Witting, Marianna Lucio, Damien Steyer, Régis D. Gougeon, & Philippe Schmitt-Kopplin (2015). Chemical messages in 170-year-old champagne bottles from the Baltic Sea: Revealing tastes from the past. *PNAS*, 112(19), 5893–5898. Available from: www.pnas.org/doi/full/10.1073/pnas.1500783112 (accessed on 3 July 2023).
- Jolly, N., P. Minaar, M. Booyse, & P. Gerber (2021). Bottle-fermented sparkling wine: Cork or crown closures during the second fermentation? *South African Journal of Enology and Viticulture*, 42(2), 136–153. Available from: <https://doi.org/10.21548/42-2-4522> (accessed on 6 March 2025).
- Kemp, Belinda, Hervé Alexandre, Bertrand Robillard, & Richard Marchal (2014). Effect of Production Phase on Bottle-Fermented Sparkling Wine Quality. *Journal of Agricultural and Food Chemistry*, 63(1), 19–38. Available from: <https://pubs.acs.org/doi/10.1021/jf504268u> (accessed on 4 March 2025).
- Kendig, Catherine, & Joeri Witteveen (2020). The history and philosophy of taxonomy as an information science. *History and Philosophy of the Life Sciences*, 42(3), 1–9. Available from: <https://www.jstor.org/stable/45410633> (accessed on 13 June 2025).
- Liem, Peter (with Kate Leahy) (2017). *Champagne: The Essential Guide to the Wines, Producers, and Terroir of the Iconic Region*. Berkeley: Ten Speed Press.
- Liem, Peter ([2019] 2022). Glossary of Terms. *ChampagneGuide.net* (via Peter Liem). Available from www.champagneguide.net/info/glossary (accessed on 26 April 2023).
- Liger-Belair, Gérard, & Clara Cilindre (2021). Recent progress in the analytical chemistry of champagne and sparkling wines. *Annual Review of Analytical Chemistry*, 14, 21–46. Available from: www.doi.org/10.1146/annurev-anchem-061318-115018 (accessed on 1 March 2024).
- Lloyd, Angela ([2017] 2024, December). *Agrafe – A pioneering method for méthode cap classique*. *WoSA News > Cape Chatter*. Available from: www.wosa.co.za (accessed on 7 March 2025).
- Lucand, Christophe ([2017] 2019). *Hitler's Vineyards: How the French winemakers collaborated with the Nazis*. Barnsley: Pen & Sword Books.

- Luyten, Ruben (2018, 3 October). 8 things Wine Folly got wrong about sherry. *Sherry Notes*. Available from: www.sherrynotes.com/?s=8+things+Wine+Folly+got+wrong+about+sherry (accessed on 30 August 2022).
- Manson, Anne (2018, 21 May). Sherry: The Beginner's Guide to One of Spain's Greatest Wines. *Annie B's Spanish Kitchen: Kitchen Notes*. Available from: www.anniebspain.com/blog (accessed on 9 April 2026).
- Mayson, Richard ([1994] 2015). Madeira. In Jancis Robinson & Julia Harding (Eds.), *The Oxford Companion to Wine* (4th edition), 500–503. Oxford: Oxford University Press.
- Mayson, Richard (2016). *Madeira: The Islands and their Wines*. Oxford: Infinite Ideas.
- McCarthy, Ed, & Mary Ewing-Mulligan (2016). *Wine for Dummies* (6th edition). Hoboken: John Wiley & Sons, Inc.
- OIV = Organisation Internationale de la Vigne et du Vin (2020). *OIV Focus: The Global Sparkling Wine Market (April)*. Paris: Organisation Internationale de la Vigne et du Vin.
- OIV = Organisation Internationale de la Vigne et du Vin (2022). *International Code of Oenological Practices – 2022 Issue*. Paris: Organisation Internationale de la Vigne et du Vin.
- OIV = Organisation Internationale de la Vigne et du Vin (2025). *International Code of Oenological Practices – 2025 Issue*. Dijon: Organisation Internationale de la Vigne et du Vin. Available from: <https://www.oiv.int/standards/international-code-of-oenological-practices> (accessed on 26 June 2025).
- Pessey, Christian (2002). *The Little Book of Champagne* (Fui Lee Luk, Trans.). Paris: Flammarion.
- Phillips, Rod (2017). *The Wines of Canada*. Oxford: Infinite Ideas Limited.
- Puckette, Madeline, & Justin Hammack (2018). *Wine Folly's Magnum Edition: The Master Guide to the World of Wine*. London: Penguin Random House.
- Rand, M. (2022). The méthode champenoise. In Susan Keevil (Ed.), *On Champagne*, 18–20. Myddle & Shrewsbury: Académie du Vin Library.
- Robinson, Jancis (2009). *WSET 3 Minute Wine School – Champagne*. London: Wine and Spirit Education Trust. Available from: <https://trawis.ro/en/resources/movies> (accessed 13 November 2023).
- Robinson, Jancis, & Julia Harding ([1994] 2015). *The Oxford Companion to Wine* (4th edition). Oxford: Oxford University Press.
- Robinson, Jancis, & Nicholas Faith ([1994] 2015). Champagne. In Jancis Robinson & Julia Harding (Eds.), *The Oxford Companion to Win* (4th edition), 218–221. Oxford: Oxford University Press.
- Sellier, André ([1998] 2003). *A History of the Dora Camp* (Stephen Wright & Susan Taponier, Trans.). Chicago: Ivan R. Dee.
- Stamp, Matt (2012, 19 November). Madeira: A time capsule. *GuildSomm*. Available from: www.guildsomm.com/public_content/features/articles/b/stamp/posts/madeira (accessed on 9 February 2017).
- Tagliabue, John (2010, 14 December). Buried Treasure in Baltic has Vintage Taste. *The New York Times*. Available from: <https://www.nytimes.com/2010/12/15/world/europe/15champagne.html> (accessed on 30 June 2023).

- The Finest Bubble Ltd. (2017, 24 November). *Prestige Cuvée vs Vintage Champagne: The Complete Tasting Hosted by Jancis Robinson MW* [Video]. YouTube. Available from: <https://www.youtube.com/watch?v=nMqRRBLpCnE> (accessed on 13 November 2023).
- UMC = Union des Maisons de Champagne (2024, 20 August). Stages in Winemaking < Appellation. *Union des Maisons de Champagne*. Available from: <https://maisons-champagne.com/en/appellation/stages-in-winemaking> (accessed on 20 August 2024).
- VQA Ontario = Vintners Quality Alliance Ontario ([1999] 2023). *O. Reg. 406/00: Rules Of Vintners Quality Alliance Ontario Relating to Terms for VQA Wine*. Available from: <https://www.ontario.ca/laws/regulation/000406> (accessed on 23 October 2023).
- Watkins, Mike (2022, 27 October). How is champagne made? *Just Champagne*. Available from: <https://www.justchampagne.co.uk/blog/2022/10/27/how-is-champagne-made> (accessed on 6 March 2025).
- Welke, Juliane Elisa, Bruna Dachery, Lucas Dal Magro, Karolina Cardoso Hernandes, & Cláudia Alcaraz Zini (2022). Volatile compounds formation in sparkling wines. In Felipe Richter Reis & Caroline Mongruel Eleutério dos Santos (Eds.), *Volatile Compounds Formation in Specialty Beverages*. Boca Raton: CRC Press.
- WSET = Wine & Spirit Education Trust (2020). *D4: Sparkling Wines. An Accompaniment to the WSET® Level 4 Diploma in Wines*. London: Wine & Spirit Education Trust.
- Zamuner, Marco (2021, 12 March). Vidal Sparkling Icewine – Niagara Peninsula, Limited Edition, VQA [Video]. YouTube. Available from: www.magnotta.com (accessed on 14 September 2023).

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Exploring tenets of scientific research, current and past, the book rethinks and rewrites the programme of terminological studies on professional communication in industrial areas monitored by life and technical sciences in general and by wine science in particular. The worth of the proposed research programme lies in its focus on theory building by means of testing hypotheses using terminological models of (encyclopaedic) knowledge. Its value is demonstrated by presenting all stages of multilateral research on communication in the wine trade. The research programme offered in this book draws heavily on two encyclopaedias on special wines, namely *Madeira, Port, Sherry: The Equinox Companion to Fortified Wines* (2021) and *Sparkling Wines: The Equinox Guide for Wine Professionals and Connoisseurs* (2026). Considered as knowledge models and analysed for their content, these reference works have enabled empirical testing of research propositions, providing theoretical insights on professional communication, notably regarding the understanding of concepts and the use of loanwords and eponyms in discourse, the latter viewed as unique testimonies to various stages of a trade's history.

The author develops a structured and explicit research programme based on hypothesis formulation, corpus analysis, and knowledge modelling. The emphasis on models as tools for testing hypotheses and building theory is particularly convincing and innovative.

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What distinguishes the work from other publications is first and foremost its focus upon the oenological field, understood here as a life science, but one with rich cultural aspects, which makes it relevant to adopt a broad concept of terminology, including not only the conceptual elements allowing the modelling of conceptual relations of different kind, but also the inclusion of encyclopaedic information.

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