Making messages memorable: the influence of rhetorical techniques on information retention

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1. Introduction

1.1 Memorable messages in a knowledge society

If Aristotle would have been able to travel to the 21st century to observe rhetorical practices, this founding father of rhetoric would have seen striking dissimilarities with his day and age and ours. Although knowledge unmistakably already played an important role in ancient Greek (and later Roman) civilisation, today's society is often referred to as a *knowledge society*, in which "knowledge--understood as our abilities to access, process, analyse, store and manage information—becomes the main element of the social capital" (Kampka & Molek-Kozakowska, 2016, p. 9). At the heart of the current knowledge society are new media, which enable a growing number of people to have access to information and be connected to each other (Lytras & Sicilia, 2005).

In the current knowledge society, Aristotle would have seen people trying to inform and persuade each other in ways that he and other classical rhetoricians would be quite familiar with: via speeches and presentations. However, unlike in Aristotle's day and age, access to speech events is no longer restricted to those present at the actual event. Presentations are often almost instantly available to audiences around the world via recordings or live streams. TED talks for example, intended to make knowledge and ideas widely accessible, are among the most viewed online videos and have sparked renewed interest in public speaking. Political speeches, or fragments thereof, are almost immediately covered by media; virtually all politicians—not just party leaders or cabinet members—are professional policy-makers as well as professional speakers who regularly perform at public speaking events, both offline and online. Scholars perform in online courses such as MOOCs and travel around the world as speaking professionals to exchange their research with peers at conferences, using electronic media to support their stories. Moreover, the COVID-19 pandemic in 2020 and 2021 fast-tracked the development of online presentations. In a sheer omnipresent virtual communication situation online presentations quickly became the only available way to give a talk. This development forces speakers to adapt to such new presentation settings.

In order to successfully transfer or exchange knowledge in any presentation situation, speakers need to make their main message memorable for the audience. According to Kjeldsen, Kiewe, Lund and Hansen, "the fleeting character of the spoken word makes it rhetorically important that a speech is clearly organised, has memorable formulations, makes an impression, and sticks in memory" (2019, p. 13).[1] The time-

[1] This apparent focus on memorability in oral communication can be related to the way in which the information is offered to and processed by the audience. In oral communication events such as presentations and speeches audiences depend on the speaker to properly process the information. In written communication, information processing by readers is mediated by text and readers are able to follow their own pace. Mediated presentations, such as TED talks, are often viewed by an audience that did not attend the actual event. Although in such a context

traveling Aristotle might have primarily recognised this important position of memory in rhetorical theory and public speaking from the point of view of the speaker: in ancient rhetoric, the *memoria* was distinguished as the fourth of five stages an orator should go through in order to prepare a proper speech.[2] In this stage, the orator would memorise the speech using mnemonic techniques (memory aids) such as the *method of loci*, also known as the memory palace (cf. Yates, 2014; Foer, 2011).

However, the focus on the *audience's* as opposed to the *orator's* memory appears to be a more recent phenomenon, emphasised in modern public-speaking textbooks and expert weblogs. In his textbook on presentation skills, memory expert Wagenaar even claims that speakers' first and foremost purpose is to make a message memorable for their audience: "You have to be prepared to go to great lengths to achieve this, even if it means standing on your head on stage! I have stood on my head once" (Wagenaar, 1996, p. 7). Similarly, a characteristic entry of a public speaking weblog on how to give a "highly memorable" presentation states: "If your audience doesn't remember you once you've finished, what's the point?" (Suster, 2013). A third example: Philip Collins, former speechwriter to British prime minister Tony Blair, promises to unravel "the secrets of making people remember what you say"—the subtitle of his book on writing speeches and presentations (2012). Perhaps the most important secret to be memorable, Collins believes, lies within the material that the speaker shares: "the central argument of this book is that you need to have a central argument" (p. 10).

Moreover, popular-scientific books on memorability such as *Made to stick* (Heath & Heath, 2010) and *Moonwalking with Einstein* (Foer, 2011) surfaced during the past decades, reaching a wide audience. Heath & Heath's bestseller aims to advise the reader on "how to make your ideas stick", which means that they "are understood and remembered, and have lasting impact--they change your audience's opinions and behaviour" (2010, p. 17). Heath & Heath remark that 'stickiness' rarely receives the attention it deserves. They suggest that communication advice on making an idea stick is not comprehensive enough; it is often only focused on aspects such as delivery, structure and storytelling (2010, p. 18).

As a time-traveling rhetorician, Aristotle would also have noticed that rhetoric and public speaking still play their part in modern education, even though rhetoric's role

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situation a viewer can control the viewing experience to a certain extent, for example by pausing, rewinding or fast-forwarding the recording, the speaker still influences the pace at which information is processed. In practice such viewing behaviour seems rare. Observations of listeners viewing recorded video lectures show that most listeners viewed the videos with little to no rewinding during playback (Gross & Dinehart, 2016, p. 11).

[2] In ancient rhetorical theory, the five orator's canons were the *invention* (selecting and determining subject matter for the speech), *dispositio* (structuring and ordering the information), *elocutio* (choosing the appropriate formulation and style), *memoria* (memorising and becoming familiar with the speech) and *actio* (delivering the speech). Cicero and Quintilian dwell on these stages the orator should move through when preparing and delivering a speech.

in students' general formation is probably not as prominent as it was in ancient times. The development of communication skills forms an integral part of academic curricula in both Europe and the United States (see Meijers, 2003; Bologna Group, 2005; Anderson, 2008).[3] Oral presentation skills or public-speaking courses are therefore embedded in most universities' educational programmes, such as the courses offered by the Centre for Languages and Academic Skills of Delft University of Technology.[4] Such courses can be seen as examples of contexts in which students should be prepared for conveying a memorable message in today's and tomorrow's societies.

However, while the orator's memory formed a key element of ancient rhetorical education, modern teachers and (often) inexperienced students cannot rely on such a theory about the audience's memory. Delivering a memorable message is seen as a key purpose in a public-speaking situation, but the topic of information retention by the audience is scarcely studied (see section 1.4). What specific rhetorical strategies can a speaker apply to enhance the audience's ability to retain information and to what extent are these techniques effective? Wagenaar (1996) knew that the answer is not that straightforward as standing on your head; still, evidence-based answers are not readily available.

This thesis provides insight into the way that rhetorical techniques influence how audience members retain information.[5] To do so, this introduction chapter first addresses three key factors that help to clarify the relationship between rhetoric and audience information retention. First, Section 1.2 discusses insights from (cognitive) memory psychology, which show that the process of storing and retrieving information in the long-term memory can depend on many variables. These insights are hardly ever (explicitly) linked to ideas and principles from classical and modern

[3] In the United States, development of communicative skills was earmarked as one of the learning priorities for the 21st century (Anderson, 2008). In Europe, students' abilities to effectively communicate are one of the five criteria known as the so-called Dublin descriptors that form the framework for academic education (Bachelor, Master and Doctorate level/undergraduate and graduate level) (Bologna Group, 2005). This applies to all academic disciplines, including those that might not be immediately associated with a high valuation of communication skills, such as engineering. In fact, in a document that sets forth future cornerstones of higher engineering education in The Netherlands with 2030 as a benchmark, Kamp (2016) mentions communication skills as one of the key aspects to prepare engineers for their role in an information-dense knowledge society. He emphasises engineers' abilities to communicate complex technical and scientific content comprehensibly to a broader audience.

[4] The author works at the Centre for Languages and Academic Skills at Delft University of Technology in The Netherlands, which provides courses in oral presentation, (academic) writing and debating skills in bachelor's and master's programs, as well as in the Graduate School for PhD students. Next to that, the centre offers language courses (e.g. English, Spanish and Dutch) to (PhD) students and employees.

[5] 'Audience information retention' is the key concept of this thesis. Section 1.2 explains how information retention is understood in this thesis. As this concept is at the heart of this study, for readability reasons it will regularly be referred to as 'information retention' or 'retention'.

rhetorical advice. Next, Section 1.3 addresses how a public speaking event is a complex rhetorical situation that comprises a multitude of variables such as speaker, audience, topic and context; all of these may somehow be related to the purpose of making a message memorable, but the interplay between these variables is not easily predicted.

Section 1.4 introduces a rhetorical approach to making messages memorable. First it briefly addresses what is currently known about information retention by the audience in public-speaking situations, based on the scarce number of studies on retention effects of rhetorical techniques. The perspective is then turned to the approach of this thesis: the main research question and general approach are put forward in Section 1.4.1; the scope and contribution of the thesis are highlighted in Section 1.4.2. The introduction chapter is wrapped up in Section 1.4.3 with the outline and methodology, as the thesis structure reflects the three steps of the approach to answer the main question.

1.2 The psychology of remembering messages

Insights from memory psychology show that the process of information retention is not straightforward. Only few of the sensory stimuli people experience find their way to long term memory. The way information is initially processed or interpreted determines for a large part whether it will be stored for a longer period and can later be retrieved. Since Atkinson's and Shiffrin's memory model (1968), which became known as the 'modal model', these processes of storage and retrieval play an important role in memory theory (Baddeley, Eysenck & Anderson, 2009). When information is retained, it is stored and can be retrieved from long-term memory. In this thesis, information retention will therefore be understood as "having the information stored in long-term memory in such a way that it can be readily retrieved" (Bennett & Rebello, 2012, p. 2856).

Successful information retention depends on a number of conditions and processes. For this brief overview, I first address the role of 'attention' in filtering sensory information and processing it in the working memory system. Next, I touch upon how encoding processes are key factors in transferring the information to long-term memory and enabling its retrieval.[6]

1.2.1 Attention enables encoding

A key condition for the ability to store information is attention, defined by Bruning et al. as the "mental energy used to perceive, think, and understand" (2004, p. 16). When attention is focused, information perceived via the sensory system can be transferred to the working memory. The working memory system can hold a limited amount of

[6] This thesis by no means intends to provide an exhaustive overview of memory research, but the theory is used here to obtain insight into how retention processes could work when an audience listens to a presentation or a speech.

information[7] and at the same time has the capacity of mentally working with it, performing complex activities such as rehearsal (Baddeley et al., 2009). For the function of information retention, it is vital to know that the attentional focus, "the capacity to direct attention to the task at hand" (Baddeley et al., 2009, p. 54), is prone to disruption by external factors. Our attentional focus is limited, and dividing attention over various tasks (multitasking) most often leads to each task being poorly performed (Bruning et al., 2004). In public-speaking situations, audiences should be able to have a full attentional focus for the speaker and message. Speakers should aim to keep audiences attentive throughout the presentation, or at least during essential parts of the talk.

From the working memory, the information needs to be stored into long-term memory in such a way that it can be retrieved. The way in which information is "placed into long-term memory", known as the process of *encoding*, influences how it can be stored (Bruning et al., 2004). Three main encoding principles emerge from memory psychology: 'organisation', 'elaboration' and 'visualisation' (Baddeley et al., 2009). In this thesis I have mainly focused on organisation and elaboration, which will regularly recur in the core chapters to put rhetorical strategies and techniques in a 'memory perspective'. Although visualisation undeniably is a key retention factor, it is not the main focus of this thesis (Section 3.1.1 contains an extensive motivation for the decision not to focus on visualisation). Therefore, this introductory chapter next focuses on organisation and elaboration, and their connection to retention and rhetorical theory. The encoding principles referred to here are not always labelled as such in the literature and their characteristics show some overlap.

1.2.2 Encoding via organisation

How information is structured or categorised influences its storage in long-term memory. Organising strategies such as repetition contribute to this storage process. Repeatedly restating information can enhance retention, although it leads to shallow processing (Baddeley et al., 2009). This means that the repeated information might indeed be stored, but not in such a way that it encourages retrieval. To increase chances of retrieval, deeper processing is preferred (Craik & Tulving, 1975; Craik, 2019).[9] A learner can effectively achieve such processing by organising the subject matter in such a way that it supports the learning process—a so-called subjective organisation strategy (Baddeley et al.. 2009, p. 104).

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[7] In a renowned paper, Miller (1956) suggests that seven is the "magical number": the working memory can hold about seven chunks of information at the same time. As Baddeley (1994) points out, this idea has been influential in many disciplines, and probably continues to be. Later, Cowan (2000) summarised studies on capacity limits and concludes that four is more likely to be the magical number.

[9] In their experiments in 1975, Craik & Tulving encouraged deep levels of encoding by asking subjects questions about the category and meaning of words they were requested to process; subjects who engaged in deeper encoding performed better on memory tests (recall/recognition of the words) than subjects who engaged in shallow or intermediate levels of processing, which were related to form and sound features of the words (as opposed to meaning-related questions).

'Chunking' is an example of a subjective organisation strategy: learners create a limited number of categories that is more easily learned by categorising chunks of information that seem to be related to each other. Gobet et al. (2001, p. 236) distinguish goal-oriented chunking, which assumes a "deliberate, conscious control of the chunking process", and perceptual chunking, which is "more of a continuous process of chunking during perception". Organising information according to clear hierarchical relations is a second example of a subjective organisation strategy, For example, a list of animals can be organised into mammals, fish, birds and reptiles. This approach involves two ways of stimulating retention: the various members of the list are chunked into categories, and the relationship between the category and its members is specified. Organising the information in a story in which each element is linked by a logical storyline is a third example of subjective organisation; this strategy tends to be more effective when applied to information that is not easily categorised (Baddeley et al., 2009, pp. 105–106).

1.2.3 Encoding via elaboration

The encoding principle 'elaboration' entails to what extent information can be linked to prior knowledge and can be made meaningful (Baddeley et al. 2009; Bruning et al. 2004). Elaboration can be used as an overarching term to describe various encoding processes such as organisation of information by connecting it to existing knowledge. This way, chunking and categorisation processes can also be seen as examples of elaboration (cf. Bruning et al., 2004); we should therefore not view these processes as completely independent but as complementary.

Various instructional strategies can encourage elaboration by inciting students to actively process the information (Bruning et al., 2004, p. 87). Teachers can stimulate students to make new subject matter meaningful by linking it to their own knowledge or personal goals and beliefs, for example by asking questions. Rhetorical questions can influence message processing and elaboration, as they activate the audience to think about the answer (Petty, Cacioppo & Heesacker, 1981) and can influence the audience's attention (Aluhwalia & Burnkrant, 2004).

Another strategy that encourages elaboration is to activate so-called *schemas*, for example via a story. Baddeley et al. describe schemas as "a well-integrated chunks of knowledge about the world, events, people or actions" (2009, p. 128). Schemas can be activated by connecting new information to fixed knowledge that we have about the order and sequence of events in familiar situations (e.g. going to a restaurant) or to existing knowledge about the physical world (objects) and their characteristics around us (e.g. 'a bicycle has two wheels and a saddle').[10] The extent to which we can relate information to such schemas can influence its retention.

[10] Schemas about familiar events or situations are called 'scripts' (in a restaurant, we expect a particular order of events, such as to be seated or to choose a seat, after which a waiter will arrive to take our order). Schemas about entities or the physical world around us are called 'frames' (related to but not to be confused with the linguistic/rhetorical definition of frames) (Bruning et al., 2004).

Next to the activation of schemas, a high interest in the topic is likely to encourage elaboration. Someone is more likely to process information via a central route when it is personally relevant, according to the Elaboration Likelihood Model by Petty & Cacioppo (1986). Furthermore, the use of imagery can stimulate elaboration: when information is mentally visualised, chances increase that it will be stored (Bruning et al., 2004; Baddeley et al., 2009). Although visualisation (particularly the creation of visual support aids) is not the core focus of this thesis, creating mental images via verbal strategies can also be seen as an influential elaboration factor. When information is mentally visualised, it is often associated with familiar information or images already stored in long-term memory.

1.2.4 Retrieval process

Encoding processes via organisation and elaboration can determine how the information is stored in long-term memory, but they can also play an important role in the retrieval of that information. In order to retrieve particular memories or information, we usually rely on so-called 'retrieval cues'. Such cues are related to the moment that the memory or information was stored and can aid in retrieving it (Baddeley et al., 2009). For example, a speaker could illustrate the message 'having a hearty breakfast is important' with the personal story about forgetting to eat breakfast and fainting on the morning train to work—an uncomfortable situation. Regardless of the argument's quality, listeners might have used the story to elaborate on the message and store it. Later, parts of the story ("fainting", "train", or the sequence of events) could serve as cues that help to retrieve the specific message. Other aspects that can function as a retrieval cue are, for example, the environment or location at the time of storage.

Retrieval cues have to be brought to the listeners' attention to be effective. Moreover, the more distinctly the cue can be related to the memory or information that needs to be retrieved, the more effective the retrieval will likely be (known as 'encoding specificity', see Baddeley et al., 2009). The principle used to encode the information (for example, a specific organisation and/or elaboration strategy), can usually serve as a cue to retrieve the information.

So far, this section has presented concepts from memory psychology and educational psychology that are related to information retention. These concepts provide insight into how we learn, store and retrieve information. Therefore, they also seem highly relevant to study information retention by the audience in a public-speaking situation. However, most studies that led to these insights have not focused on public-speaking situations, but rather on contexts such as (individual) learning of information by students. Studies in educational and instructional psychology that did focus on public-speaking contexts, such as studies on the influence of classroom instruction on cognitive load and memory, show that instruction strategies regularly feature organisation, elaboration (interaction) and visualisation principles (cf. Sweller, Merriënboer & Paas, 2019).

Still, such instruction strategies are usually not explicitly linked to rhetoric, which offers a systematic approach to analyse public-speaking situations. At the same time, instructions and techniques in rhetorical theory are not concretely connected to insights from memory psychology. Although *memoria* techniques in ancient rhetoric often hinge on visualisation, organisation and elaboration or association (e.g. the technique of the memory palace mentioned in Section 1.1), such techniques are aimed at improving the speaker's memory as opposed to the audience's memory. This thesis intends to connect rhetorical ideas and techniques related to information retention by the audience more closely to insights from memory psychology. Therefore, the next section zooms in on the characteristics of public-speaking situations and explains how the interplay between these characteristics can influence information retention.

1.3 The rhetorical retention situation

The memory processes described in the previous section are expected to come into play in oral rhetorical events that strongly connected to audience information retention, such as presentations and speeches. The orality of a public-speaking situation contributes to an emphasis on memorability, as the audience has to be enabled to store important information then and there. In order to find out what factors can influence information storage in a presentation event, insight is needed into variables that constitute a rhetorical situation, such as audience, context, and rhetor (the speaker in a public-speaking situation).[11]

Kjeldsen et al. (2019, pp. 15–16) emphasise the key role that a speaker plays in a rhetorical situation:

[11] This thesis does not aim to offer a theoretical account on the much-discussed concept of the rhetorical situation. Here, it is mainly used to help understand what factors can influence information retention in a public-speaking context. The term 'rhetorical situation' was introduced by Bitzer, who regards a rhetorical situation as "a natural context of persons, events, objects, relations, and an exigence which strongly invites utterance" (1968, p. 5). In a rhetorical situation, a rhetor's utterance can serve as a response to the exigence or (urgent) issue that the situation raises. Next to 'exigence', Bitzer discerns two other constituents of the rhetorical situation: 'audience', and 'constraints' such as persons, events, objects and relations that can influence exigence. He summarises the role of the speaker or orator and the contents (spoken word in a public-speaking situation) as follows: "When the orator, invited by situation, enters it and creates and presents discourse, then both he and his speech are additional constituents" (1968, p. 8). After publication, Bitzer's concept of rhetorical situation was critically reviewed, perhaps most notably by Vatz (1973). Critics claimed the concept relied too heavily on the 'situational aspect', attributing an all too contingent character to rhetoric and generating "the perception of rhetoric as an adjunct technique rather than an autonomous discipline" (Turnbull, 2017, p. 117). In his comprehensive summary of the rhetorical situation debate, Turnbull provisionally concludes that it "eventually converged on the general idea that both rhetoric and situation are important" (2017, p. 117).

> When a speaker is actually present and standing in front of an audience presenting her case, the message therein becomes more than just a position or an argument. It becomes a rhetorical situation whereby a speaker is an engaged person stretching herself toward other persons, hoping to touch them with her ideas and values in order to make them see the world as she sees it. The underlying assumption is that the speaker believes the audience is capable of changing the situation. This is a defining characteristic of speeches: a speaker who invests herself in the cause, trying to change the world by influencing her audience and believing in the potential of change.

The agency of the speaker is an important point of departure in this thesis. The relationship between variables in a rhetorical situation can influence information retention by the audience. Speakers are able to select and apply particular rhetorical techniques or strategies in their speech. This way, they can exercise some control over the rhetorical retention situation in order to realise their intentions.

Speakers can consciously attempt to create a situation that stimulates audience information retention. They can, for example, arouse attention and select rhetorical strategies related to the encoding principles organisation, elaboration and visualisation that contribute to encoding, storage and retrieval (e.g. dividing information into chunks or connecting it to existing knowledge via questions or stories). Ideally, speakers should consider whether such strategies fit into the rhetorical situation: do they match the expectations of the particular audience and suit the constraints imposed by a particular event or context? Such a consideration can make their public-speaking task more complex.

In (academic) presentation skills classes, students learn about the agency of a speaker. Students gradually find out that they have a range of options for selecting contents, arranging it, finding the right words, becoming familiar with the speech and delivering it. At the same time, they also need to be aware that the effects of these choices, the presentation's reception, depend on how they relate to other factors in the rhetorical situation. In their attempt to influence the rhetorical situation, speakers need to be aware that a certain extent of information retention by the audience is probably needed.

Next to the speaker's agency, the circumstances in which a presentation or speech is received should be considered. Roughly speaking, a traditional and mediated situation can be distinguished (Kjeldsen et al., 2019). In a traditional situation, the speaker and the audience are in the same space, which can create a greater sense of 'togetherness'. This does not mean that the speaker and the audience are aligned and in agreement by definition, but their close proximity in the same event might influence how the speech is received (Kjeldsen et al., 2019). The proximity of the speaker and the audience is a circumstance Burke (1969, p. 21) referred to as 'consubstantiality'. Audiences might receive mediated presentations such as online TED talk videos in another space and at another moment, which could create a greater distance between the speaker and the audience. It is well conceivable that variations in the public-speaking situation, such as the speaker's selection of rhetorical techniques, the

relationship between the audience and the speaker, and the circumstances in which the audience receives the presentation, influence retention.

1.4 A rhetorical approach to making messages memorable

Sections 1.2 and 1.3 explain that information retention in a public-speaking situation is a complex process; a presentation event consists of many variables that could influence the retention process. What rhetorical techniques have been shown to be effective in achieving information retention? Until now, no detailed, evidence-based answer can be given to this question, because retention as a rhetorical function has never been systematically studied. Only few studies focused on the effects of rhetorical techniques on audience information retention in the specific communicative situation of a presentation or speech. Retention never appears to be the main focus of these studies, which may explain the diversity in techniques and strategies studied. In most cases, the possible retention effect of the selected technique(s) was one of several factors included in the research design, next to—for example—the speaker's ethos or comprehensibility of the speech. This suggests that the choice to measure retention did not directly follow from the research motivation, but was a sub-purpose.

What, then, are the main findings on retention effects of rhetorical techniques in a public-speaking situation so far? Some studies report a generally positive influence, albeit as a result of a single message design in a specific context. For instance, Kaplan and Pascoe (1977) found that the use of humour in a lecture increased the recall of the specific humorous examples that were used. Furthermore, in an experiment by Andeweg, De Jong and Hoeken (1998) the presence of an anecdote as an opening technique in a presentation led to an increased retention of the presentation's contents. Next, a study into the effect of visual aids in a presentation by Alley et al. (2006) shows that concise sentences used as titles on PowerPoint slides are more effective regarding retention than single words or short phrases.

Other studies report more ambiguous retention effects of presentation strategies. Baars and Andeweg (2019) investigated how different types of gestures made by a speaker influence retention. The use of so-called 'beat gestures' (repetitively using the same gesture as if indicating rhythm with two hands) led to an increase in retention compared to not using any gestures at all. However, the use of more metaphorical and pictorial gestures did not influence retention significantly more than beat gestures and absent gestures. The use of explicit transition sentences, another rhetorical strategy, did not cause an increase in information retention in an experiment by Andeweg & De Haan (2009). Furthermore, Lagerwerf, Boeynaems, Van Egmond-Brussee and Burgers (2015) showed that rhetorical schemes and negative framing in political speeches can increase recall; they found that attention and comprehensibility were important mediating factors in determining the recall effect of rhetorical schemes, but it was not possible to attribute the recall effect to one of the specific schemes they used ('contrast' and 'list of three', among others).

Overall, the results of this limited number of studies can be useful for speakers, but they are also diverse and ambiguous. Inexperienced speakers therefore

mainly lean on advice they find in numerous public-speaking textbooks or examples of (experienced) colleagues or renowned speakers. When exploring these sources, novice speakers who are looking for advice on making their message memorable are likely to be confronted with many different strategies and techniques. An overview of the most prominent public-speaking advice on retention is lacking. On top of that, the already highlighted classical rhetorical mnemonic techniques for the orator appear to have lost their importance in public-speaking education and advice over time.[12] So, although the topic of memorability seems to be top of mind in popular culture—see the popularity of books like *Made to stick* (Heath & Heath, 2010)—and it is often linked to the context of public speaking, a comprehensive and systematic review of information retention by the audience is lacking.

1.4.1 Research aim

The aim of this thesis is to gain more insight into how rhetorical techniques influence the audience's ability to retain information. To this end, the following main research question is formulated:

How can rhetorical techniques in speeches enhance information retention by the audience?

The main research question is divided into three key questions, which will be formulated more precisely in each of the chapters in this thesis:

1. What techniques to make a message memorable are advised in public-speaking textbooks?
2. How do speakers apply advised retention techniques in public-speaking practice?
3. What is the effect of such retention techniques?

These key questions reflect the three methodological steps I take in this thesis. Answering the first question results in an overview of ancient and modern rhetorical advice related to retention. Such an overview offers insight into which techniques are most frequently connected to retention, how textbook authors believe that these techniques should be applied in a speech or presentation, and how the recommended retention techniques relate to insights from memory psychology.

The answer to the second question shows how speakers in various presentation genres currently apply the rhetorical retention techniques advised in textbooks. What do these retention techniques look like when applied in a speech (e.g. how are they phrased)? How can the rhetorical situation affect which retention techniques are selected and how they are applied? This second step serves two purposes: it shows how textbook advice relates to specific public-speaking contexts

[12] These mnemotechniques have gained popularity in recent years in books on memory (skills) such as Buzan (2009) and Foer (2011), but these works are not specifically aimed at public speaking.

(genres), and contributes to designing the approach for the final step: measuring retention effects.

With the third key question, I intend to show the retention effect of a limited number of rhetorical techniques in a specific public-speaking context (an informative presentation). To do so, insights gained from the first two key questions are used to design two experiments. Section 1.4.3 provides more details on the methodology.

1.4.2 Scope and contribution

The main question of this thesis has a broad scope. The term 'speech' in the main question is used as an umbrella term for a public-speaking event involving a speaker who directs a spoken message to an audience, such as a presentation, lecture or talk. The term 'speech' as it is used in the main question is not genre-specific and includes public-speaking events with and without visual support (e.g. slides). With each key question, the study zooms in on more specific public-speaking contexts. The first step is a broad collection of all rhetorical advice on retention in public-speaking textbooks, the second step focuses on three speech genres (informative, persuasive and inspirational presentations) and the final step is narrowed down to the context of informative presentations in an educational setting.

This thesis contributes to rhetorical theory and practice in three main ways. First of all, it intends to show that audience information retention deserves a more structural position in rhetorical theory. Ideas about factors that influence the way an audience stores and retrieves information are somewhat scattered around various elements in rhetorical theory, ranging from the canons of the orator to stylistics. This thesis provides a more comprehensive overview of retention in rhetoric. Results from experimental studies into the retention effect of particular rhetorical techniques are a step towards more detailed knowledge on retention in rhetorical theory.

Secondly, this thesis aims to connect insights on memory and retention from various disciplines: rhetoric, (cognitive) memory research and educational psychology. The emphasis in this thesis is placed on rhetoric, while theory on memory and retention from other disciplines is used to assess possible effects of rhetorical techniques, to be able to categorise ideas and to bring to light interdisciplinary similarities. This underlines that rhetoric essentially is a multi-disciplinary field of study.

Finally, this thesis offers insights to educational practitioners in rhetoric and public speaking skills. To teach students how their main message might 'stick', this study offers an overview of techniques related to retention and for a few relevant techniques in an educational context it assesses their effect. Although the thesis is not intended to be a guidebook, it can help teachers to get a grip on the concept of a 'memorable presentation'; it offers reference points to discuss the topic more in-depth. Following from that, theory in this book may not only be applied to student presentations, but also presents insights to analyse the 'retention impact' of presentations in other contexts than an educational setting, such as political speeches and TED talks.

1.4.3 Methodology and thesis outline

This study used a three-way approach consisting of various research methods, which is reflected in the thesis structure: each core chapter discusses a key question.[13] Therefore, the thesis outline and methodology are presented together here.

To answer key question 1, a content analysis was performed of four ancient works on rhetoric[14] and a corpus of forty English-language and forty Dutch-language modern public-speaking textbooks from the period 1980–2009. Based on this analysis, chapter 2 provides an extensive overview of rhetorical advice and techniques specifically related to retention. Furthermore, it gives insight into warnings for speakers: what strategies are said to backfire or not to contribute to information retention? Although audience information retention is the key focus, the chapter also pays attention to how ancient rhetorical works advise orators to enhance their memory in order to memorise the speech (the orator's canon of *memoria*), and what traces of that advice have found their way into modern public-speaking textbooks. Moreover, the chapter evaluates to what extent the information about retention in modern public-speaking textbooks is supported, e.g. by academic studies and examples of (well-known) speakers.

Chapter 3 shows how seven rhetorical techniques that are advised to influence retention are applied in public-speaking practice (key question 2). These rhetorical techniques are related to the encoding principles organisation and elaboration (see Section 1.2). To this end, rhetorical analyses of three corpora of presentation and speech texts were conducted. These presentations and speeches differed in the type of speaker delivering them: scholars, politicians and TED speakers. The results exemplify how advice on retention techniques corresponds to public-speaking practice in three contexts and provide stylistic and structural characteristics of the selected retention techniques when applied in practice. The examples of applied retention techniques also serve as input for the next step: experimental effect studies.

Chapter 4, which answers key question 3, investigates the retention effects of three rhetorical techniques linked to the organisation of a presentation (in particular: the conclusion): the announcement of the conclusion, circle technique and summary, Two experiments were performed in the context of an informative presentation: the first experiment focused on announcing the conclusion of the presentation and the circle technique, the second centred on the summary in the concluding part of a presentation. Finally, chapter 5 answers the main research question and looks ahead to the future of rhetorical retention research.

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[14] Aristotle's *Rhetoric*, the *Rhetorica ad Herennium* (of the unknown *Auctor ad Herennium*), Cicero's *De Oratore* and Quintilian's *Institutio Oratoria*.