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Preface

There may be only two authors listed on its cover, but this book represents the combined effort of many. Its roots stretch back to an earlier textbook on learning that Paul Eelen wrote in the 1980s for a course he taught at the University of Leuven (Belgium). His textbook undoubtedly had its own roots, but it is difficult to discern what they were (some of Paul Eelen's earliest graduate students remember that he was especially fond of Mackintosh, 1983). In 2002, the first author of the current book, Jan De Houwer, who was also a graduate student of Paul Eelen, revised the textbook for his own learning psychology course at Ghent University (Belgium). For that revision, he drew on the textbooks of Domjan (2000) and Schwartz, Wasserman, and Robbins (2002). During subsequent years, Jan Velghe optimized the textbook's layout by adding sections on learning goals and introductory tasks at the beginning of each chapter. A second major revision was undertaken by Jan De Houwer in 2009 when he was on sabbatical leave at the University of New South Wales (Australia). For the first time, the basic tenets of the functional-cognitive framework were added, including the definition of learning as ontogenetic adaptation (i.e., as the impact of environmental regularities on behavior; see the introductory chapter). This revision involved a drastic restructuring of the text, including the systematic separation of functional knowledge about learning (i.e., knowledge about its moderators) from mental theories of learning (i.e., knowledge about its mental mediators). Bouton's (2007) book on learning and behavior provided a welcome source of information for that revision.

The book that you are now reading emerged after a third major revision by both authors, Jan De Houwer and Sean Hughes, in 2018 and 2019. It involved an almost complete rewriting of the introductory chapter, reflecting the conceptual work that both authors were engaged in together with several colleagues (most prominently Dermot Barnes-Holmes and Agnes Moors). The chapter on operant conditioning was also revised substantially, based primarily on the works of Catania (2013) and Michael (2004). The book also grew to include a new chapter on complex learning (to reflect current developments) as well as a chapter on applied learning psychology (to illustrate the power and potential of learning psychology in

predicting and influencing real problems facing real people in the real world). Once again, (the second edition of) Bouton's excellent book (2016) served as a benchmark when deciding which topics should be included in our own book.

Because the current book has benefited from the work of many, we were uncomfortable with the thought that we would profit financially from it. Thus, making the pdf version of the book accessible to all seemed like the right thing to do. We hope that the open-access format will also stimulate others to contribute to the future growth and development of this book. We realize that the current version is undoubtedly flawed and limited in many respects given the gaps in our own knowledge and understanding of the literature on learning. We therefore welcome input and suggestions on how we can continue to improve the book in the years to come. To foster such interactions, we created the website www.psychologyoflearning.be through which we can share comments of readers, as well as resources for students and teachers, such as PowerPoint slides.

Although the book certainly has it flaws, many of the limits of our book are the result of carefully considered choices. We use this book for a class of (primarily) second-year psychology bachelor students that involves about thirty hours of teaching. In this setting, it does not make sense to present a complete and detailed overview of the learning literature. Instead, our course (and therefore this book) provides only an introduction to the learning literature. As you will notice when consulting the book, we often refer readers to review papers or to other textbooks after providing only a glimpse of a specific topic in learning research. So let us be clear from the start: if you are looking for a comprehensive and detailed review of the learning literature, this book will not satisfy your appetite. You will be much happier reading other books, particularly the excellent works of Catania (2013) and Bouton (2016).

Nevertheless, as an introduction to the psychology of learning, we believe that our book has several unique strengths. First, to the best of our knowledge, it is the only book on learning that attempts to present and integrate knowledge from both functional psychology (including behavior analysis) and cognitive psychology in a systematic manner. It does so by adopting a functional-cognitive framework that recognizes the fundamental differences between both approaches in psychology while also highlighting the way in which these approaches are mutually supportive. It puzzles and disturbs us that there is so little interaction between functional and cognitive learning researchers despite the huge overlap in the work they are doing. Our aim is not to unite the two approaches but to argue that both approaches have merit and that each can learn from the other. To the best of our knowledge, our book is also the first to integrate aspects from the (functional) literature on relational frame theory in a textbook on learning. We believe that relational frame theory has much to offer with regard to the study of both simple and complex forms of learning.

Second, our book provides a unique perspective on what learning is and on the scope of learning research. Although all definitions have their limitations, our definition of learning (as changes in behavior that are due to environmental regularities) allows us to organize and expand the universe of learning research by highlighting different types of regularities and the different ways that they change behavior. In our opinion, our chapter on complex learning (i.e., changes in behavior that are due to the joint impact of multiple environmental regularities) provides a clear example of the usefulness of our definition. The idea of complex learning not only allows us to reveal similarities and differences between existing learning phenomena, ranging from sensory preconditioning, to Pavlovian-instrumental transfer, and arbitrarily applicable relational responding, but also leads to a new perspective on learning in humans that encompasses seemingly complex phenomena such as relational learning. As such, we look at the past, as is typically done in a textbook, but we also actively explore the future, which is more typical for a monograph. Also because of this mix of old and new ideas, our book is unique within the literature on learning. One downside of this approach is that our own research is featured much more heavily in our book than it is in other textbooks. We realize that this might be frowned upon. However, it is an inevitable consequence of our choice to use the functional-cognitive framework as the organizing principle of this book. Much of the work that we have done over the years either led up to the development of the functional-cognitive framework on which the book is built (e.g., the work on propositional models of learning) or originated from the framework (e.g., our recent work on complex learning). The monograph aspect of our book lies mainly in our aim to demonstrate the heuristic and predictive value of the functional-cognitive framework. We hope to show that the framework (a) provides a coherent means of structuring and integrating the available functional and cognitive literature on learning (which is why the book can also function as a textbook) and (b) highlights new questions and opportunities for future research. We therefore hope that after reading the book, you will share our enthusiasm for the functional-cognitive framework.

In closing, we want to take a moment to explicitly acknowledge many of those who contributed to this book in different ways. Ian Stewart provided exceptionally detailed and insightful comments on a first full draft of the book. Mark Bouton and his collaborators also sent us detailed comments which allowed us to correct many errors. We are also grateful for the feedback of Marc Brysbaert, Mike Dougher, Ralph Miller, and Mikael Molet. Thanks to Rebecca Willems, Ariane Jim, and Inge Van Nieuwerburgh for their help with practical issues (references, table of contents, figures, advice on open access). Thanks also to Philip Laughlin at the MIT Press and to the three anonymous reviewers who provided constructive comments for improving the book. We are grateful for the many discussions about learning that we had

over the years with the members of the Learning and Implicit Processes Lab (www.liplab.be) at Ghent University. Finally, we are deeply grateful for the long-term financial support of the Flemish government via Methusalem grant BOF16/MET_V/002 of Ghent University, which was awarded to Jan De Houwer. This support not only allowed us to explore new paths in our research but also made possible the open-access publication of the pdf version of this book.

Jan De Houwer and Sean Hughes

September 2019