

Modeling Melodic Dictation

David John Baker

2018-08-02

Contents

1	Prerequisites	5
2	Theoretical Background and Rationale	7
2.1	Significance of the Study	7
3	History of Aural Skills	9
3.1	History of Aural	9
3.2	Current State	9
4	Individual Differences	11
4.1	Cognitive Aparatus	11
4.2	Training Effects	11
4.3	Transfere Literature	11
4.4	Memory for Melodies Literature	11
5	Musical Parameters	13
5.1	Inspiration from Computational Linguistics	13
5.2	Feature Extraction in Music	13
5.3	Point is that these features can stand in for intuition	13
6	Corpus	15
6.1	Why need new data	15
6.2	History of Corpus Studies	15
6.3	Current State in Music	15
6.4	Limitations	15
6.5	Boring Corpus Stuff	15
6.6	Descriptives of the Corpus compared to Essen/Dutch/Whatever	15
7	Final Words	17
8	Experiments	19
8.1	Rationale for Experiment	19
8.2	Selection of Melodies	19
8.3	Experiment I and II	19
8.4	Experiment III?	19
8.5	Limitations	19
8.6	Summaries	19
8.7	Conclusions	19

Chapter 1

Prerequisites

This is a *sample* book written in **Markdown**. You can use anything that Pandoc's Markdown supports, e.g., a math equation $a^2 + b^2 = c^2$.

My first reference (Margulis, 2005)

The **bookdown** package can be installed from CRAN or Github:

```
install.packages("bookdown")  
# or the development version  
# devtools::install_github("rstudio/bookdown")
```

Remember each Rmd file contains one and only one chapter, and a chapter is defined by the first-level heading #.

To compile this example to PDF, you need XeLaTeX. You are recommended to install TinyTeX (which includes XeLaTeX): <https://yihui.name/tinytex/>.

Chapter 2

Theoretical Background and Rationale

2.1 Significance of the Study

All students pursuing a Bachelor's degree in Music from universities accredited by the National Association of Schools of Music must learn to take melodic dictation (NAS, 2018) VIII.6.B.2.A .

+++++ Define the rationale and significance for this study talk about what the processes are that go into this What are the implicit transfer claims of this? + discussed in chapter 2 (history and rationale, Karpinski) + transfer literature also discussed in chapter 2 Is there literature specifically on this? Yes, but scant.

what contributes to this whole process?

Note that there are two fields, both of which's literature can help out.

2.1.1 Theoretical Background

2.1.1.1 Computational Musicology

2.1.1.2 Music Psychology and Memory for Melody

2.1.2 Rationale

2.1.2.1 Computational Musicology

2.1.2.2 Music Psychology

2.1.3 Factors

This section will list factors that are believed to be important to modeling melodic dictation. Need to have both individual and musical parameters. Ends with polymorphic view of musicianship.

===== 63 words at start

Chapter 3

History of Aural Skills

3.1 History of Aural

- Compare and contrast goals in terms of pedagogy and teaching.

3.2 Current State

- Books and what not.

Chapter 4

Individual Differences

4.1 Cognitive Aparatus

4.2 Training Effects

4.3 Transfere Literature

4.4 Memory for Melodies Literature

Chapter 5

Musical Parameters

5.1 Inspiration from Computational Linguistics

5.2 Feature Extraction in Music

5.2.1 Symbolic Approaches (Static)

5.2.2 Symbolic Approaches (Dynamic)

5.2.3 Behavioral Results

5.3 Point is that these features can stand in for intuition

Chapter 6

Corpus

6.1 Why need new data

6.2 History of Corpus Studies

6.3 Current State in Music

6.4 Limitations

6.5 Boring Corpus Stuff

6.5.1 Encoding Process

6.5.2 Sampling Criteria

6.5.3 Situation of Corpus Methods

6.6 Descriptives of the Corpus compared to Essen/Dutch/Whatever

Chapter 7

Final Words

We have finished a nice book.

You can label chapter and section titles using `{#label}` after them, e.g., we can reference Chapter 2. If you do not manually label them, there will be automatic labels anyway, e.g., Chapter ??.

Figures and tables with captions will be placed in `figure` and `table` environments, respectively.

```
par(mar = c(4, 4, .1, .1))  
plot(pressure, type = 'b', pch = 19)
```

Reference a figure by its code chunk label with the `fig:` prefix, e.g., see Figure 7.1. Similarly, you can reference tables generated from `knitr::kable()`, e.g., see Table 7.1.

```
knitr::kable(  
  head(iris, 20), caption = 'Here is a nice table!',  
  booktabs = TRUE  
)
```

You can write citations, too. For example, we are using the **bookdown** package (Xie, 2018) in this sample book, which was built on top of R Markdown and **knitr** (?).

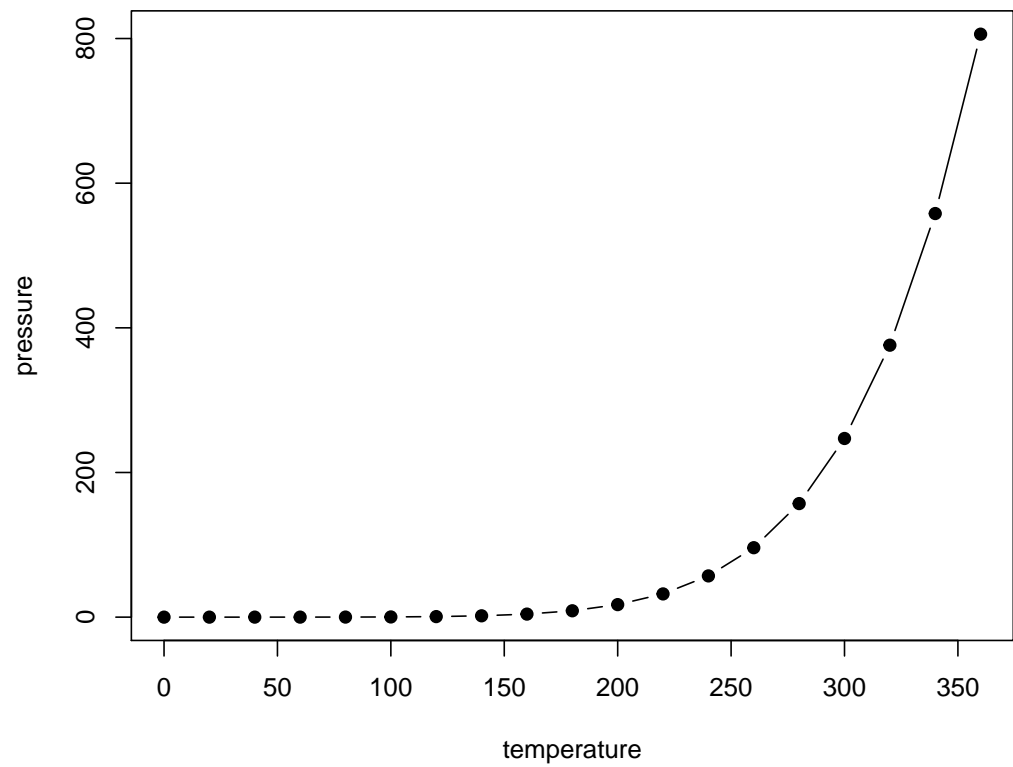


Figure 7.1: Here is a nice figure!

Table 7.1: Here is a nice table!

Sepal.Length	Sepal.Width	Petal.Length	Petal.Width	Species
5.1	3.5	1.4	0.2	setosa
4.9	3.0	1.4	0.2	setosa
4.7	3.2	1.3	0.2	setosa
4.6	3.1	1.5	0.2	setosa
5.0	3.6	1.4	0.2	setosa
5.4	3.9	1.7	0.4	setosa
4.6	3.4	1.4	0.3	setosa
5.0	3.4	1.5	0.2	setosa
4.4	2.9	1.4	0.2	setosa
4.9	3.1	1.5	0.1	setosa
5.4	3.7	1.5	0.2	setosa
4.8	3.4	1.6	0.2	setosa
4.8	3.0	1.4	0.1	setosa
4.3	3.0	1.1	0.1	setosa
5.8	4.0	1.2	0.2	setosa
5.7	4.4	1.5	0.4	setosa
5.4	3.9	1.3	0.4	setosa
5.1	3.5	1.4	0.3	setosa
5.7	3.8	1.7	0.3	setosa
5.1	3.8	1.5	0.3	setosa

Chapter 8

Experiments

8.1 Rationale for Experiment

8.2 Selection of Melodies

8.3 Experiment I and II

8.4 Experiment III?

8.5 Limitations

8.5.1 How to Score

8.5.2 Reasons for making everything open source

8.6 Summaries

8.6.1 Applications to Pedagogues

8.6.2 Conceptual Frameworks

8.7 Conclusions

8.7.1 What can we really expect of undergrads?

Bibliography

- (2018). NASM-2017-18-Handbook.pdf. Technical report, National Association of Schools of Music, Reston, Virginia.
- Margulis, E. H. (2005). A Model of Melodic Expectation. *Music Perception: An Interdisciplinary Journal*, 22(4):663–714.
- Xie, Y. (2018). *bookdown: Authoring Books and Technical Documents with R Markdown*. R package version 0.7.