

# HOW TO DRAW A DESSIN?

MICHAEL MUSTY

ABSTRACT. In this work we present an explicit implementation of an algorithm to draw dessins d'enfants from their combinatorial description as permutation triples. In Section 1 we review some background about dessins d'enfants, Belyi maps, and some of the reasons the reader might be interested in these objects. In Section 2 we review the existing methods for drawing pictures of dessins d'enfants and the available catalogs in the literature. In Section 3 we present our technique for explicitly drawing dessins along with explanations of the choices made during this process. We then include a database of all dessins up to degree 11 and conclude in Section 9 with some observations about the data.

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## 1. BACKGROUND

- 1.1. **Equivalent categories.**
- 1.2. **Dessins.**
- 1.3. **Clean dessins.**
- 1.4. **Ribbon graphs.**

## 2. EXISTING CATALOGS

## 3. DRAWING TECHNIQUES

4. DEGREE  $\leq 4$ 

## 5. DEGREE 5

## 6. DEGREE 6

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## 9. CONCLUSIONS

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FALL 2019 AT ICERM, 121 S MAIN STREET, PROVIDENCE, RI 02903

Email address: michaelmusty@gmail.com

