Exploring the Physical Manifestation of Humanity's Subconscious Desires

A Practical Guide

Goro Akechi

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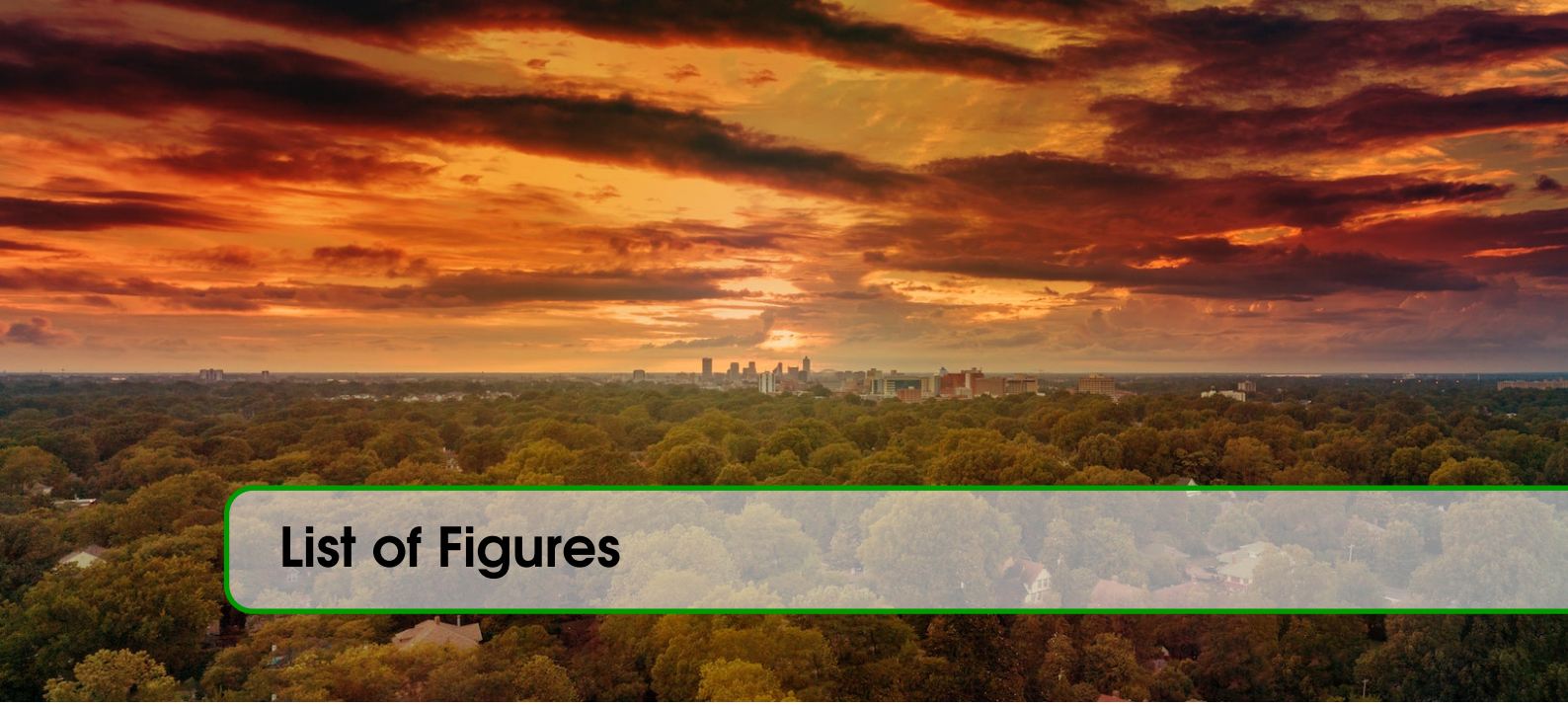
Contents



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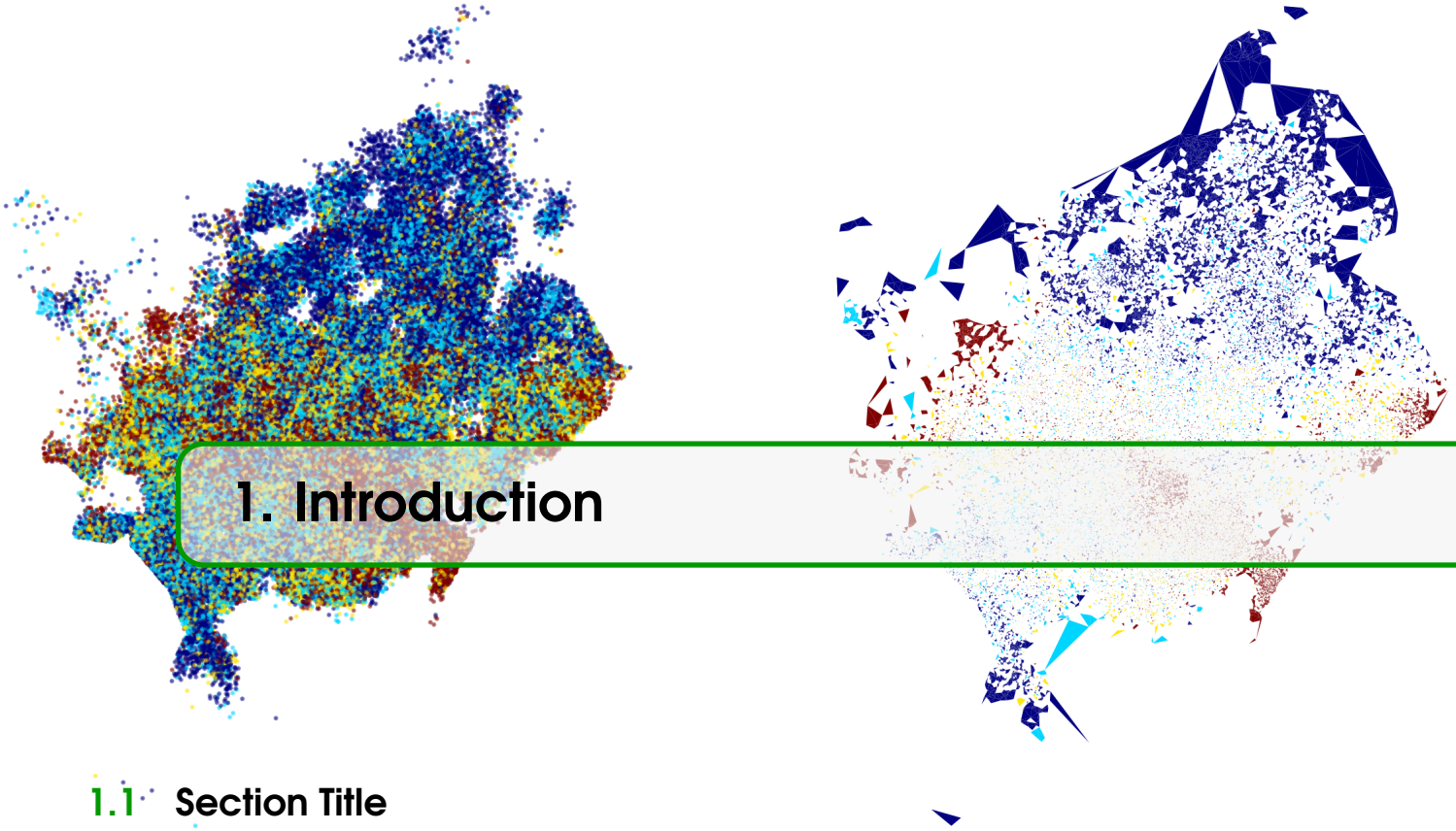

1. Introduction

1.1 Section Title

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1.1.1 Subsection Title

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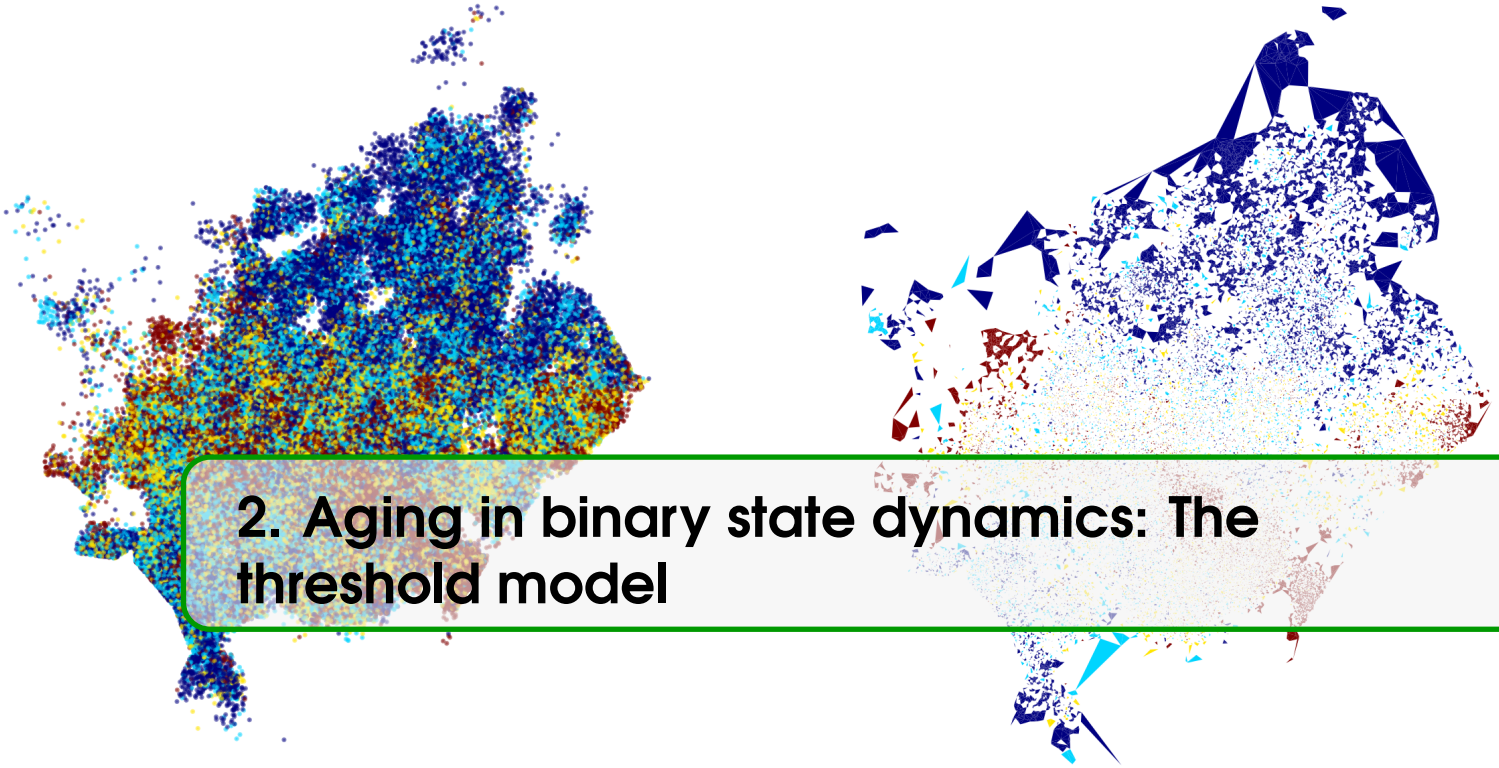
Aging in threshold models



2. Aging in binary state dynamics: The threshold model

2.1 Referencing Publications

This statement citation [1]; this one is more specific [2, page 162].

2.2 Link Examples

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2.3 Lists

Lists are useful to present information in a concise and/or ordered way.

2.3.1 Numbered List

1. First numbered item
    a. First indented numbered item
    b. Second indented numbered item
        i. First second-level indented numbered item
2. Second numbered item
3. Third numbered item

2.3.2 Bullet Point List

- First bullet point item
    - First indented bullet point item
    - Second indented bullet point item
        - First second-level indented bullet point item
- Second bullet point item
- Third bullet point item

2.3.3 Descriptions and Definitions

Name Description
Word Definition
Comment Elaboration

2.4 International Support

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2.5 Ligatures

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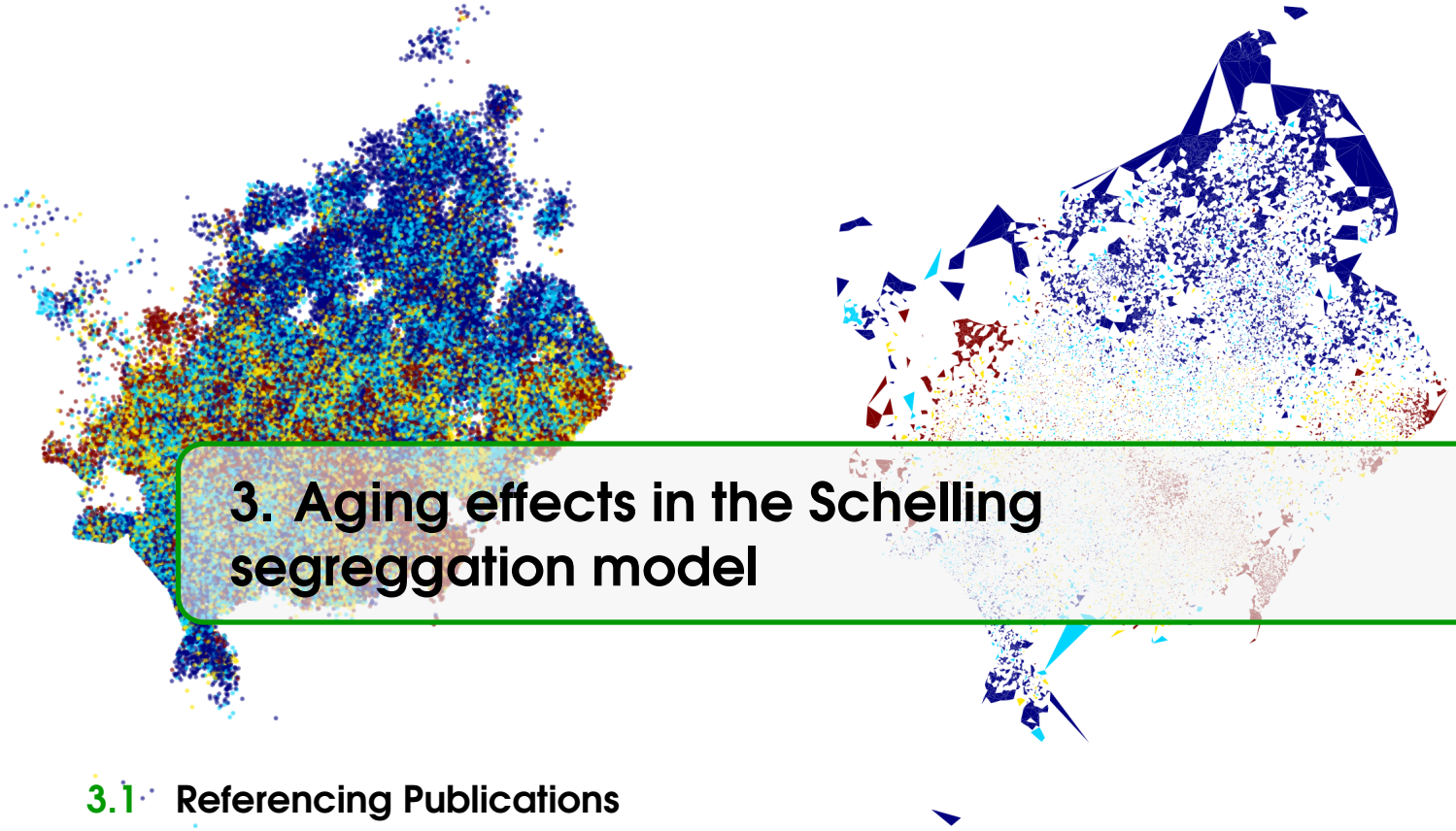

3. Aging effects in the Schelling segreggation model

3.1 Referencing Publications

This statement citation [1]; this one is more specific [2, page 162].

3.2 Link Examples

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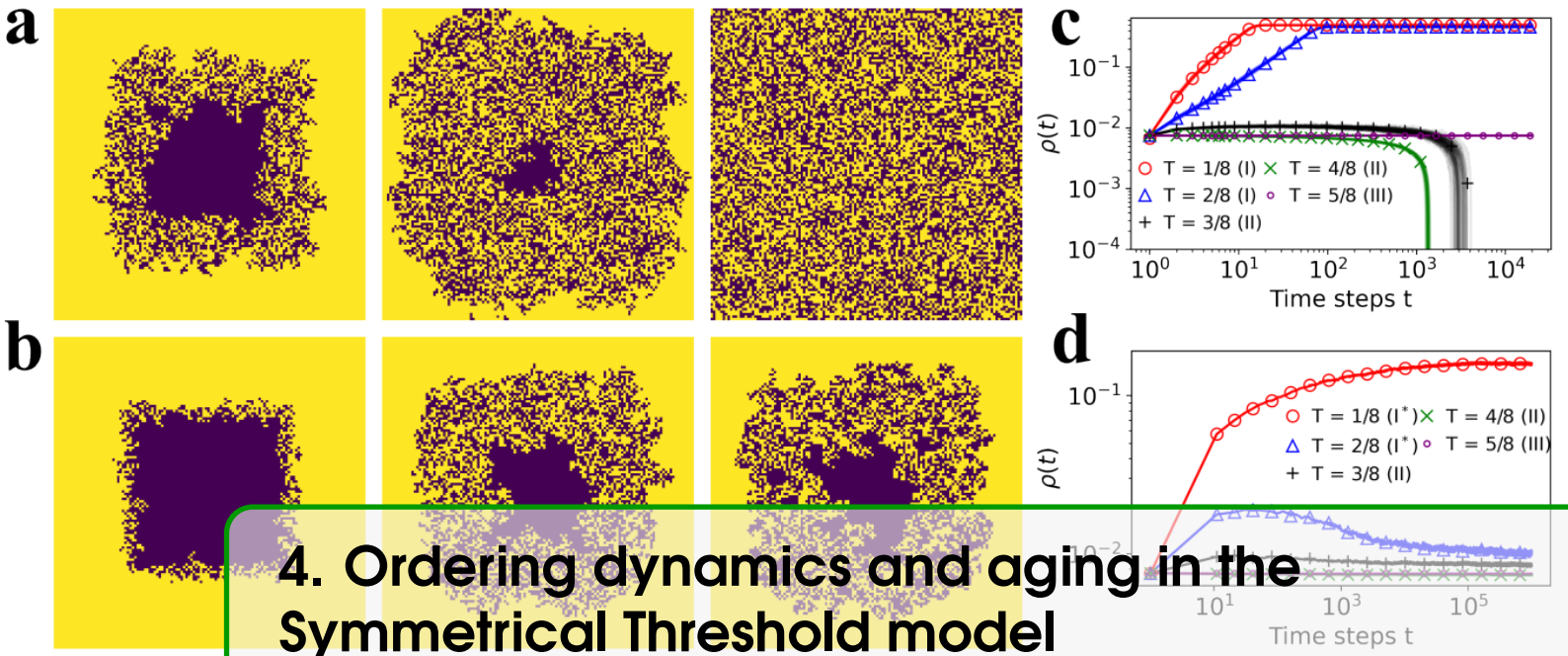


4. Ordering dynamics and aging in the Symmetrical Threshold model

4.1 Theorems

4.1.1 Several equations

This is a theorem consisting of several equations.

Theorem 4.1 — Name of the theorem. In $E = \mathbb{R}^n$ all norms are equivalent. It has the properties:

$$\big|\,||\mathbf{x}|| - ||\mathbf{y}||\,\big| \leq ||\mathbf{x}-\mathbf{y}|| \tag{4.1}$$

$$||\sum_{i=1}^{n}\mathbf{x}_i|| \leq \sum_{i=1}^{n}||\mathbf{x}_i|| \quad \text{where } n \text{ is a finite integer} \tag{4.2}$$

4.1.2 Single Line

This is a theorem consisting of just one line.

Theorem 4.2 A set $\mathscr{D}(G)$ in dense in $L^2(G)$, $|\cdot|_0$.

4.2 Definitions

A definition can be mathematical or it could define a concept.

Definition 4.1 — Definition name. Given a vector space E, a norm on E is an application, denoted $||\cdot||$, E in $\mathbb{R}^+ = [0,+\infty[$ such that:

$$||\mathbf{x}|| = 0 \;\Rightarrow\; \mathbf{x} = \mathbf{0} \tag{4.3}$$

$$||\lambda\mathbf{x}|| = |\lambda| \cdot ||\mathbf{x}|| \tag{4.4}$$

$$||\mathbf{x}+\mathbf{y}|| \leq ||\mathbf{x}|| + ||\mathbf{y}|| \tag{4.5}$$

4.3 Notations

■ **Notation 4.1** Given an open subset G of $\mathbb{R}^n$, the set of functions φ are:

1. Bounded support G;
2. Infinitely differentiable;

a vector space is denoted by $\mathscr{D}(G)$.

4.4 Remarks

This is an example of a remark.

R The concepts presented here are now in conventional employment in mathematics. Vector spaces are taken over the field $\mathbb{K} = \mathbb{R}$, however, established properties are easily extended to $\mathbb{K} = \mathbb{C}$.

4.5 Corollaries

Corollary 4.1 — Corollary name. The concepts presented here are now in conventional employment in mathematics. Vector spaces are taken over the field $\mathbb{K} = \mathbb{R}$, however, established properties are easily extended to $\mathbb{K} = \mathbb{C}$.

4.6 Propositions

4.6.1 Several equations

Proposition 4.1 — Proposition name. It has the properties:

$$\big|\,||\mathbf{x}|| - ||\mathbf{y}||\,\big| \leq ||\mathbf{x}-\mathbf{y}|| \tag{4.6}$$

$$||\sum_{i=1}^{n}\mathbf{x}_i|| \leq \sum_{i=1}^{n}||\mathbf{x}_i|| \quad \text{where } n \text{ is a finite integer} \tag{4.7}$$

4.6.2 Single Line

Proposition 4.2 Let $f, g \in L^2(G)$; if $\forall \varphi \in \mathscr{D}(G)$, $(f,\varphi)_0 = (g,\varphi)_0$ then $f = g$.

4.7 Examples

4.7.1 Equation Example

■ **Example 4.1** Let $G = \{x \in \mathbb{R}^2 : |x| < 3\}$ and denoted by: $x^0 = (1,1)$; consider the function:

$$f(x) = \begin{cases} \mathrm{e}^{|x|} & \text{si } |x-x^0| \leq 1/2 \\ 0 & \text{si } |x-x^0| > 1/2 \end{cases} \tag{4.8}$$

The function f has bounded support, we can take $A = \{x \in \mathbb{R}^2 : |x-x^0| \leq 1/2+\varepsilon\}$ for all $\varepsilon \in]0;5/2-\sqrt{2}[$. ■

4.7.2 Text Example

■ **Example 4.2 — Example name.** Aliquam arcu turpis, ultrices sed luctus ac, vehicula id metus. Morbi eu feugiat velit, et tempus augue. Proin ac mattis tortor. Donec tincidunt, ante rhoncus luctus semper, arcu lorem lobortis justo, nec convallis ante quam quis lectus. Aenean tincidunt sodales massa, et hendrerit tellus mattis ac. Sed non pretium nibh. Donec cursus maximus luctus. Vivamus lobortis eros et massa porta porttitor. ■

4.8 Exercises

Exercise 4.1 This is a good place to ask a question to test learning progress or further cement ideas into students' minds. ■

4.9 Problems

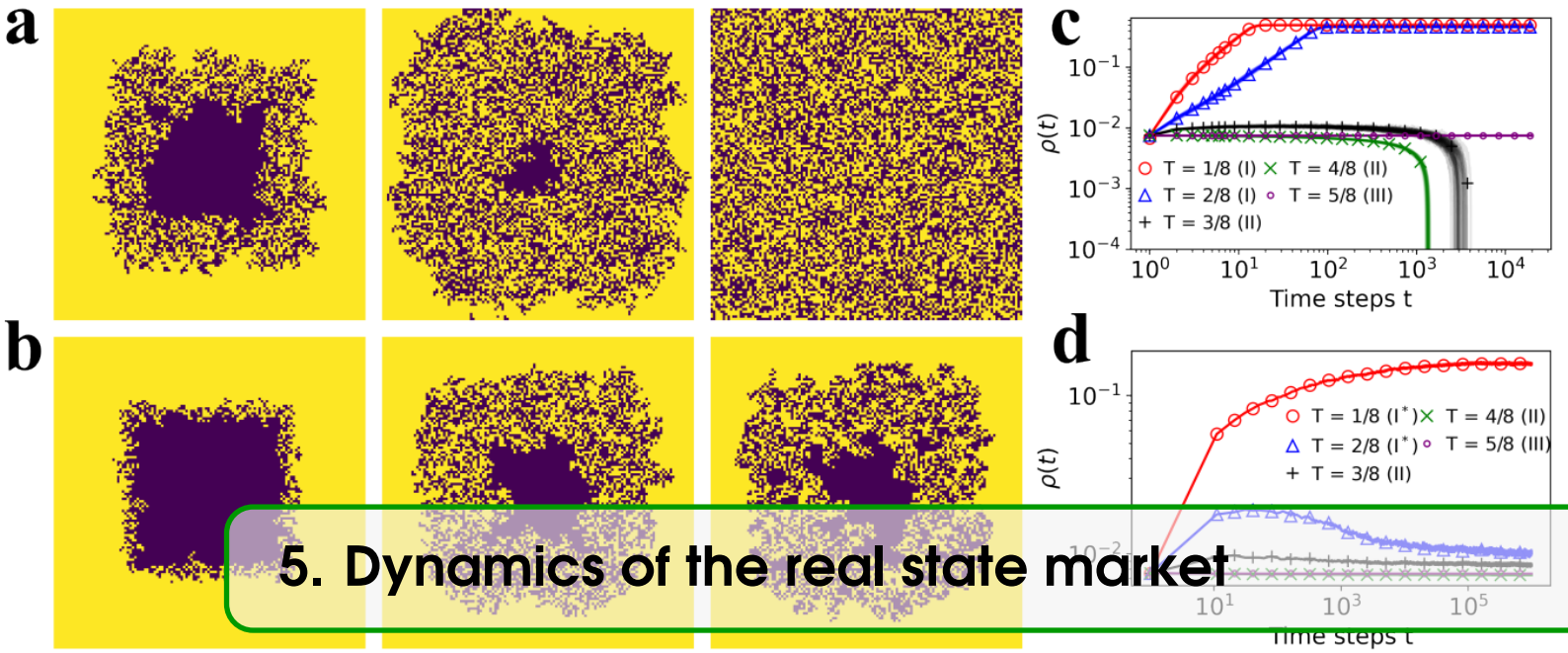
Problem 4.1 What is the average airspeed velocity of an unladen swallow?

4.10 Vocabulary

Define a word to improve a students' vocabulary.

- **Vocabulary 4.1 — Word.** Definition of word.

II Real estate agency dynamics



5. Dynamics of the real state market

5.1 Theorems

5.1.1 Several equations

This is a theorem consisting of several equations.

Theorem 5.1 — Name of the theorem. In $E = \mathbb{R}^n$ all norms are equivalent. It has the properties:

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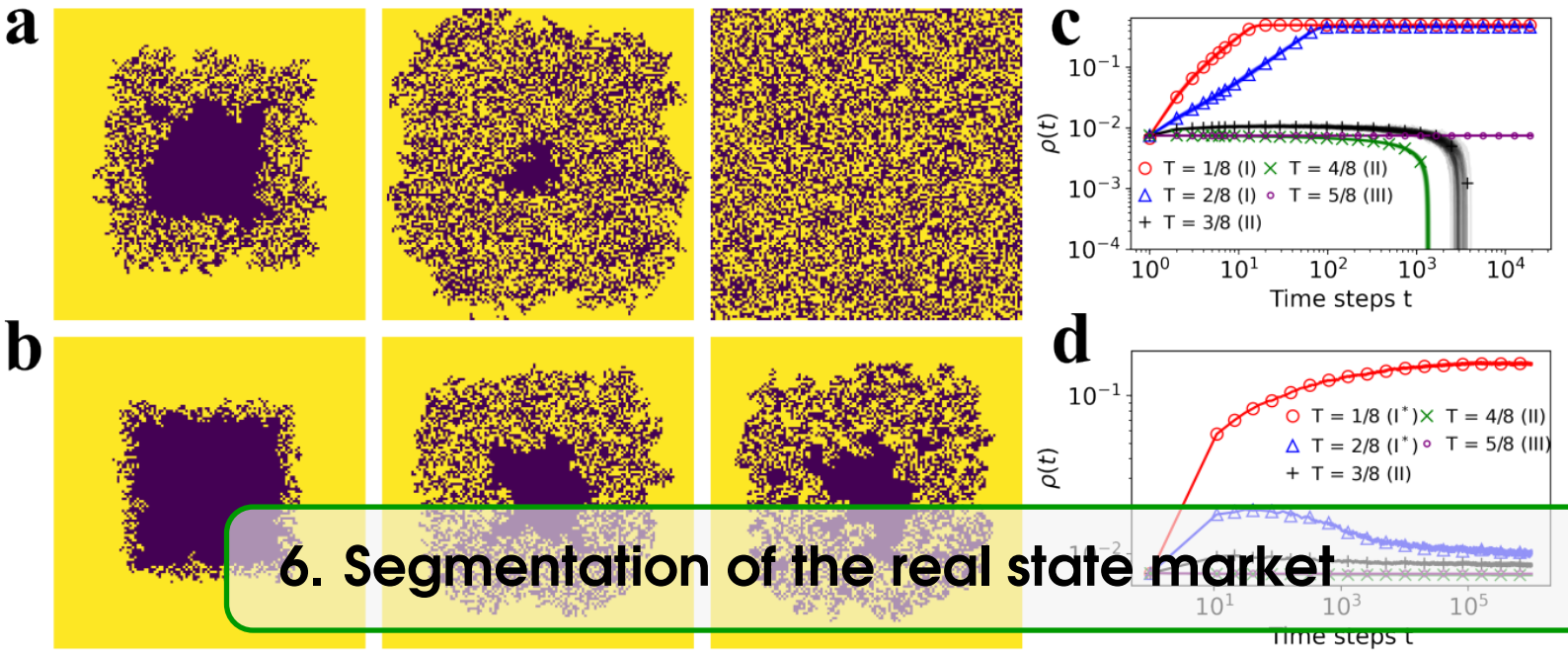
Define a word to improve a students' vocabulary.

- **Vocabulary 5.1 — Word.** Definition of word.



6. Segmentation of the real state market

6.1 Table

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Treatments	Response 1	Response 2
Treatment 1	0.0003262	0.562
Treatment 2	0.0015681	0.910
Treatment 3	0.0009271	0.296

Table 6.1: Table caption.

Referencing Table 6.1 in-text using its label.

6.2 Figure

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Figure 6.1: Figure caption.

Referencing Figure 6.1 in-text using its label.

Treatments	Response 1	Response 2
Treatment 1	0.0003262	0.562
Treatment 2	0.0015681	0.910
Treatment 3	0.0009271	0.296

Table 6.2: Floating table.

Figure 6.2: Floating figure.

Bibliography

Articles

[1] A. B. Jones and J. M. Smith. “Article Title”. In: *Journal title* 13.52 (Mar. 2022), pages 123–456. DOI: 10.1038/s41586-021-03616-x (cited on pages 15, 17).

Books

[2] J. M. Smith and A. B. Jones. *Book Title*. 7th. Publisher, 2021 (cited on pages 15, 17).

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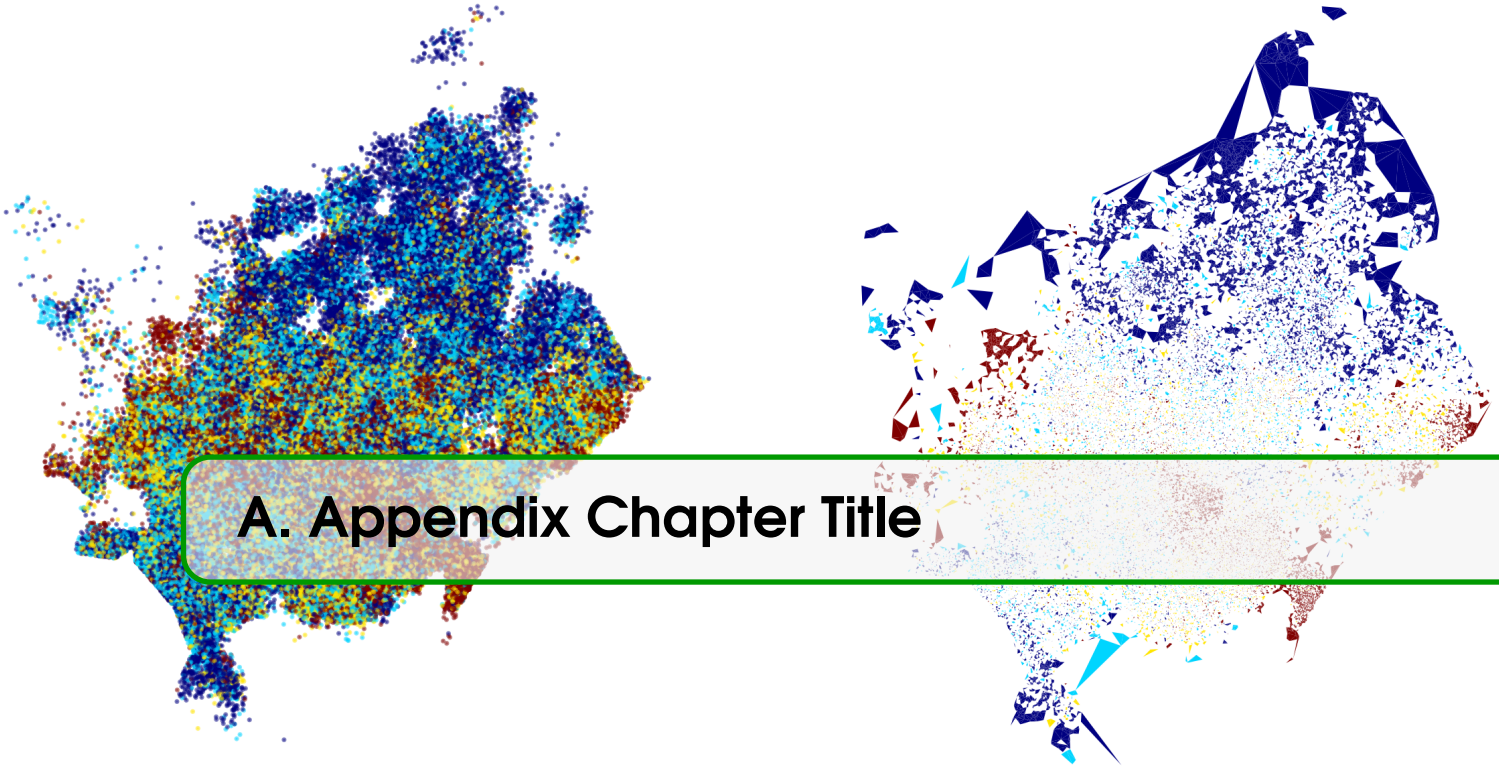

A. Appendix Chapter Title

A.1 Appendix Section Title

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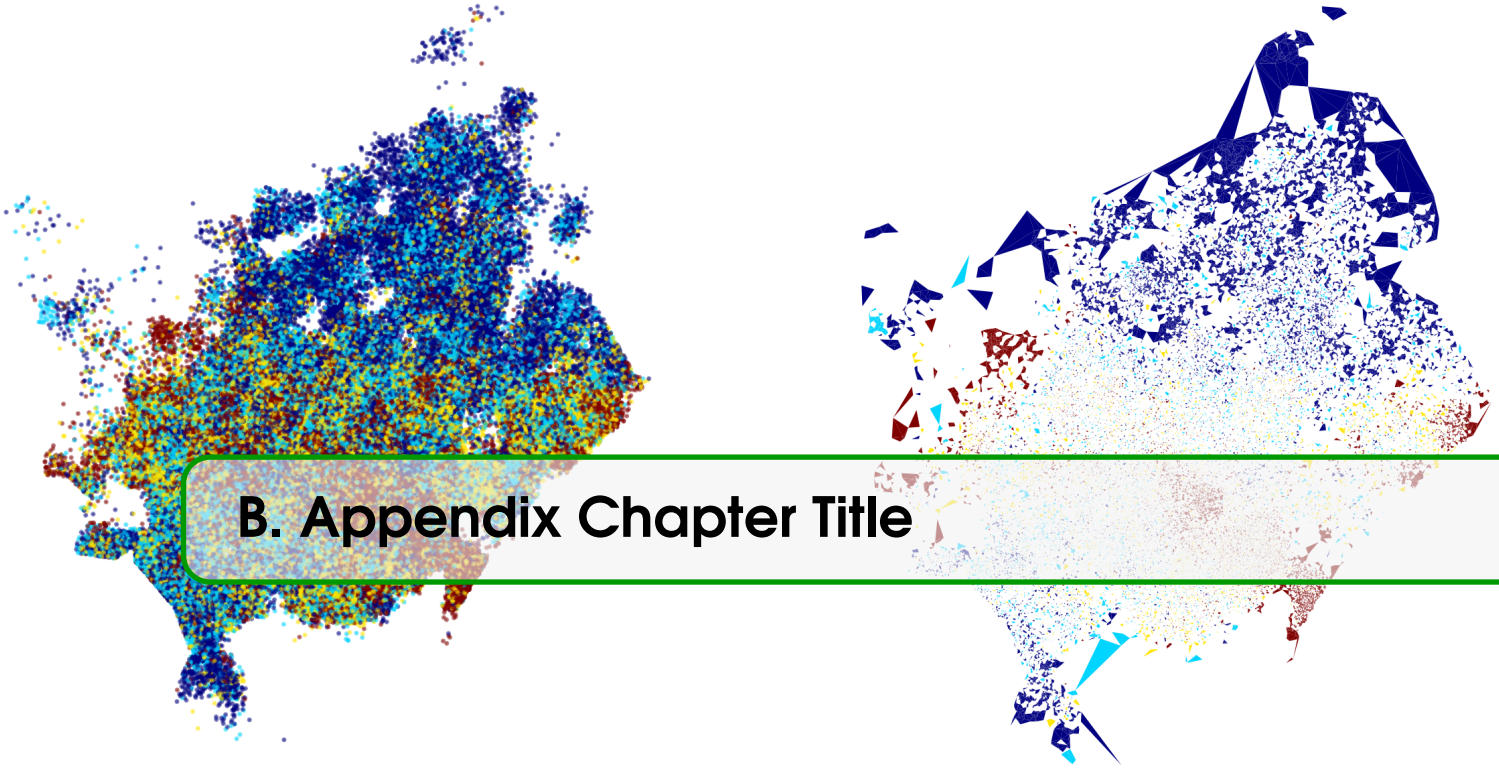

B. Appendix Chapter Title

B.1 Appendix Section Title

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