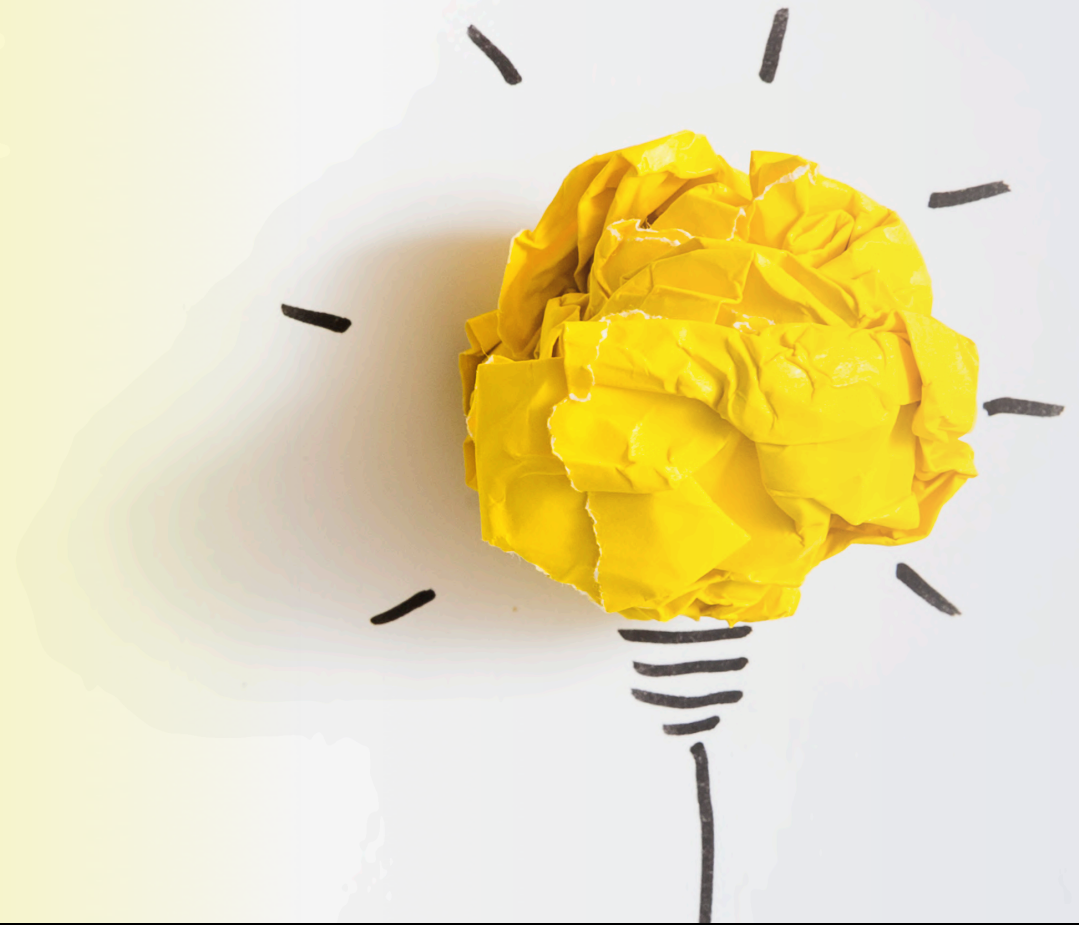
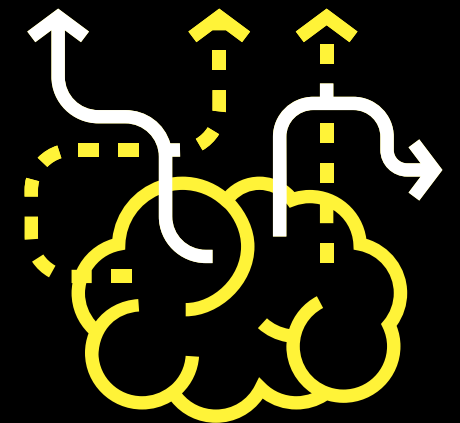


Constraints



BOOST YOUR

C@Σ@T!v!TY



Learning outcomes

AFTER COMPLETING THEME 3: CONSTRAINTS, STUDENTS WILL BE ABLE TO

- *Explain and discuss the dual role that constraints play in a creative process, as constraints can both impede and enable new solutions*
- *Analyse and discuss key constraints in a given creative assignment*
- *Challenge and introduce constraints constructively as a resource to develop more original solutions*

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Constraints in your everyday life

What do you think of when you hear the word 'constraints'?

When have you recently experienced constraints? At school? At home? In your spare time?

How would you think constraints typically affect creativity? Why?

Perspectives on constraints

Perceived potential
for creativity

High

Assumption 2
More constraints are better

Eminent artists like
Stravinsky, Picasso, etc.

Assumption 1
Fewer constraints are better

General understanding



Level of constraint intensity

Low

High

What are constraints in a creative process?

The word ‘constraints’ is an umbrella term

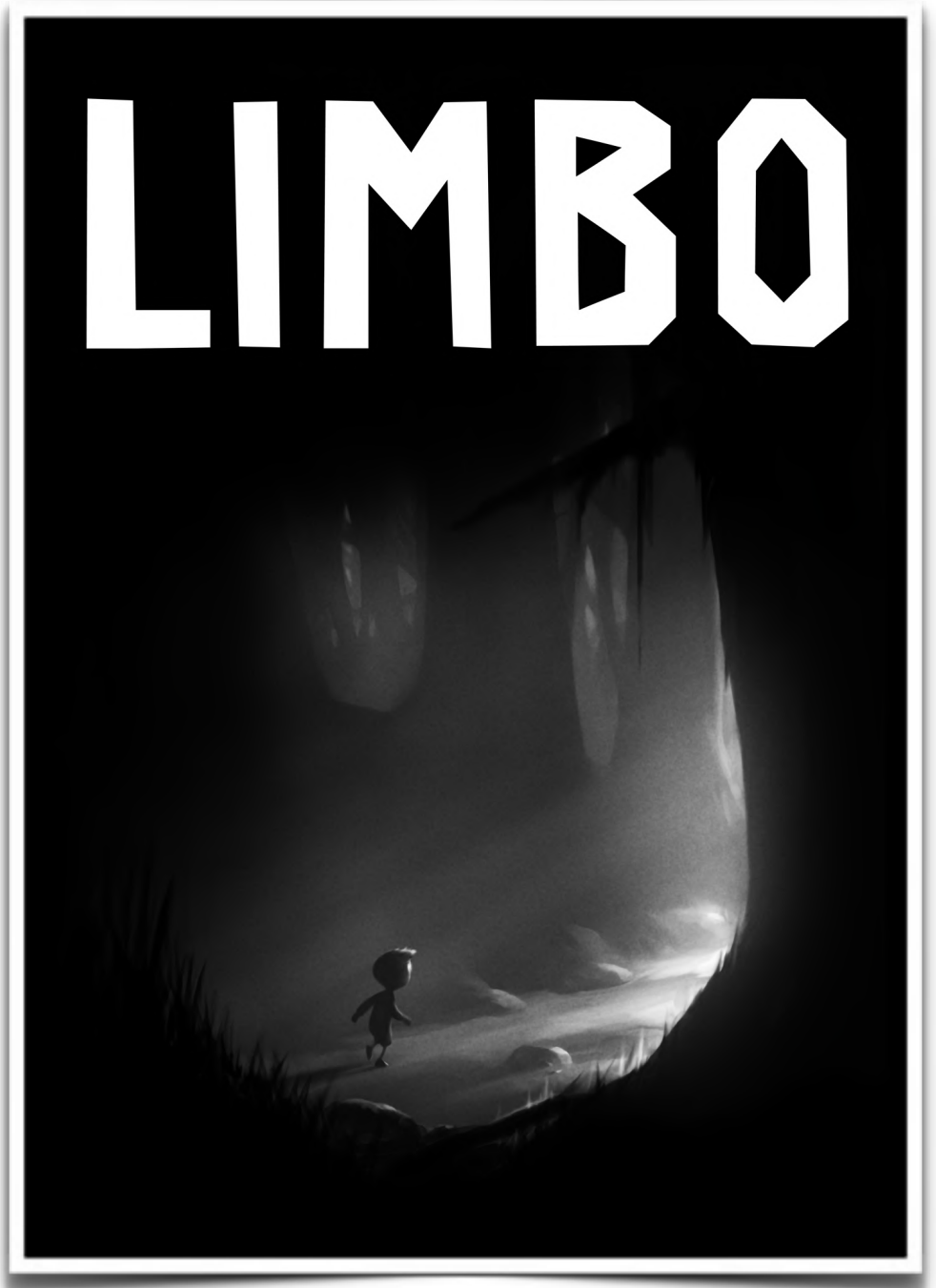
Constraints cover many different subordinate terms such as:

- Creative choices
- Preferences
- Obstacles
- Needs
- Demands
- Wishes
- Conventions
- Limits
- Rules
- Requirements
- ...depending on the creative domain

Creativity constraints in practice



LEGO bricks



Puzzle-platform video game:
LIMBO (2010) by Playdead Studios

Creativity constraints in practice

Art

“The more constraints one imposes, the more one frees one’s self of the chains that shackle the spirit”⁽¹⁾

Igor Stravinsky (1882-1971), Russian-born composer

Innovation

“Constraints shape and focus problems and provide clear challenges to overcome. Creativity thrives best when constrained [...] Innovation is born from the interaction between constraint and vision”⁽²⁾

Marissa Ann Mayer (b. 1975), Google employee #20, former CEO of Yahoo

(1) Stravinsky, I. (1970). Third Lesson: The Composition of Music. In *Poetics of Music in the Form of Six Lessons* (The Charles Eliot Norton Lectures, 1939-40) Bilingual edition (French/English) ed., pp. 61-87. Cambridge, Massachusetts, USA: Harvard University Press.

(2) Mayer, M. A. (2006, February 13). Creativity Loves Constraint. *Bloomberg BusinessWeek*, p. 102.

Types of constraints

Intrinsic

- Materials
- Weight
- Colour
- Letters in the alphabet
- Breaking strain
- Battery life
- Resistance to acid, heat, etc.
- Other built-in properties



Elster, J. (2000). *Ulysses Unbound: Studies in Rationality, Precommitment, and Constraints*. Cambridge, MA: Cambridge University Press.

Biskjaer, M. M., & Halskov, K. (2014). Decisive constraints as a creative resource in interaction design. *Digital Creativity*, 25(1), 27-61. doi:10.1080/14626268.2013.855239

Types of constraints

Imposed

- Deadlines
- Budgets
- Materials
- Resources available
- Client requirements
- User needs
- Criteria for success
- KPIs (key performance indicators)
- Other constraints imposed by partners and stakeholders



Elster, J. (2000). *Ulysses Unbound: Studies in Rationality, Precommitment, and Constraints*. Cambridge, MA: Cambridge University Press.

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Types of constraints

Self-imposed

- Target group
- Colour
- Idioms, modes of expression
- Instrumentation
- Key, chords and tempo
- Tone of voice
- Various stylistic preferences
- Creative materials
- Collaborators
- Tools
- Other creative choices that you yourself have made deliberately



Elster, J. (2000). *Ulysses Unbound: Studies in Rationality, Precommitment, and Constraints*. Cambridge, MA: Cambridge University Press.

Biskjaer, M. M. (2013). *Self-imposed creativity constraints*. Ph.D. dissertation, School of Communication and Culture, Aarhus University, Aarhus, Denmark.

Types of constraints

Invisible

- Habits
- Norms
- Traditions
- Biases and prejudice
- Assumed expectations
- Choices made unknowingly
- Context and surroundings
- Other types of influences that will always affect the creative process and the many choices you make



Working with creativity constraints

Understanding of the creative task you work on



Under-constrained

Too much creative freedom

Over-constrained

Too little creative freedom

Understanding of the individual intensity of the relevant constraints



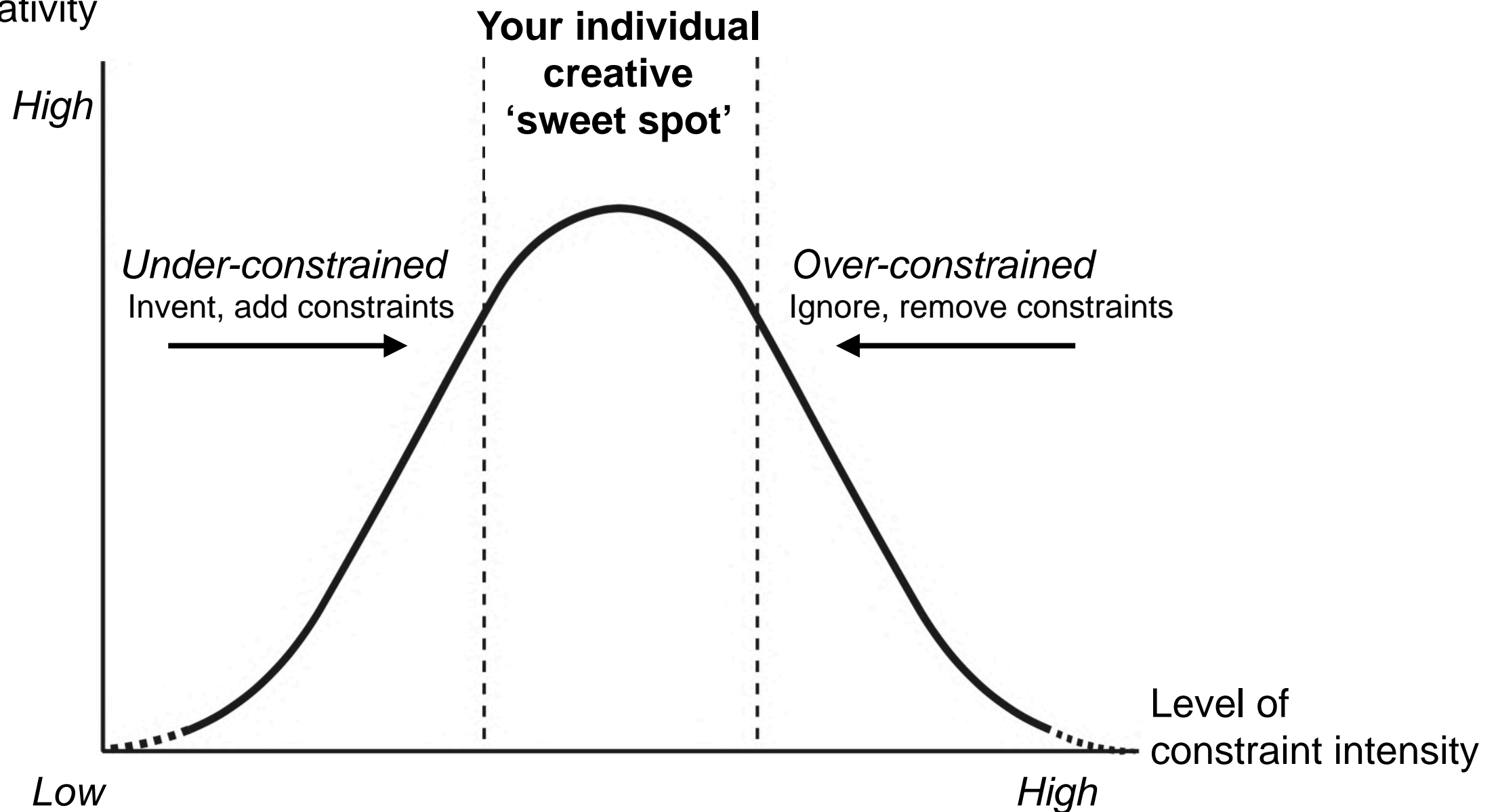
Free

Flexible

Fixed

The 'sweet spot' of constraints

Perceived potential
for creativity



Biskjaer, M. M., Christensen, B. T., Friis-Olivarius, M., Abildgaard, S. J. J., Lundqvist, C., & Halskov, K. (2019). How task constraints affect inspiration search strategies. *International Journal of Technology and Design Education*. doi:10.1007/s10798-019-09496-7

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Onarheim, B. (2012b). *Creativity under constraints: Creativity as balancing 'constrainedness'*. Ph.D. dissertation, The Ph.D. School of Economics and Management, Copenhagen Business School, Denmark.