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**Supporting  
Entrepreneurship Through  
Creativity & Innovation Methods**


**Jonathan C. BORG**

 macdac engineering consultancy bureau  
EST.



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**Presentation Outline**



- 1. Creativity & Innovation Through Design**
- 2. Design Synthesis Methods**
- 3. Exercises**
- 4. Conclusions**

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## What is Innovation?



**In-no-va-tion** (in'ava'shen) n. [Latin in-, novus]

1. A new idea, method, or invention
2. The process of making changes or revisions.



## Innovation & Creativity?

*Innovation ?? Creativity ??*

Probably we'll never agree... so let us refer to what others are saying on the link between I & C !





## Link between Innovation & Creativity?



Creativity and innovation are closely related but different since *innovation is using creativity* – turning creative ideas into use as products or as active practices.

Indeed, creativity is one of the basic characteristics of being human. Yet creativity can be supported, encouraged and cultivated – as well as weakened, suffocated, even killed.



## Innovation & Creativity in the EU?



Home  
Goal  
Inno  
Docu  
Part  
Debi  
Caten  
2008

*Creativity is a driver for innovation and a key factor for the development of personal, occupational, entrepreneurial and social competences and the well-being of all individuals in society.*

Creativity  
and Innovation  
European Year 2009

<http://create2009.europa.eu/>





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## Design Innovation & Entrepreneurship?

“A recent Dept. Of Trade & Industry report in the UK confirmed that innovating enterprises out-performed non-innovators in terms of employment and turnover growth”



Facts, figures & quotable quotes  
Design Council, 1999



‘Innovative solutions’ are beneficial



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## EU – Innovation Score Board





## EU Ambassadors of C&I



The Ambassadors stressed that it would be a fundamental mistake to cut research & development and education spending in the context of the current crisis. For them, **creativity and innovation** are vital tools to tackle Europe's challenges, including demographic change, globalisation, climate change, and the transition of the EU to being a **knowledge-based** society.

Maltese:

**Edward de Bono**

physician, author, originator of term 'lateral thinking'



## Design Innovation & Entrepreneurship?

A Day in Our Life

Waking up....

Noon/early afternoon

Late evening / night



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We continuously interact with man-made artefacts that entrepreneurs create and sell!

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# Innovation?

Do entrepreneurs need to come up with complex products forming part of say a Space Shuttle to be innovative ?

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## Innovative Products ?



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## Innovative Products

### 1900 - A paper-clip



Innovative solution to rapidly bond a number of papers in a non-permanent way.

## Patents?

Used daily in large quantities,  
across the world!



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## Innovative Products

### 1957 - A Frisbee



**Bought annually  
in large quantities,  
across the world!**



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## Innovative Products

- Innovative 'packaging design' that attracts Yoghurt customers (children)
- Motivates users to buy more of the same product!



Sustainable Innovation For an Enlarged EU

Malta, January 2009

[www.mecb.com.mt](http://www.mecb.com.mt)





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## Innovative Products



She was just a middle-aged Abba fan who 'had a dream' – but **Judy Craymer** defied the odds to turn her favourite group's songs into a musical. Now she's a £90m 'dancing queen' !



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**I'm NOT Creative.**

**I was not born creative.**

**You cannot learn how to be creative**

**So ....I can never be an entrepreneur !!!**

# FALSE



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1. Creativity & Innovation Through Design
2. Design Synthesis Methods
3. Exercises
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## Creativity Through Design?

**Basic Problem - In**



**Design process**  
*[ carried out by designer(s) ]*



**Tools & Methods**



**Solution - Out**





## Key Design Activities

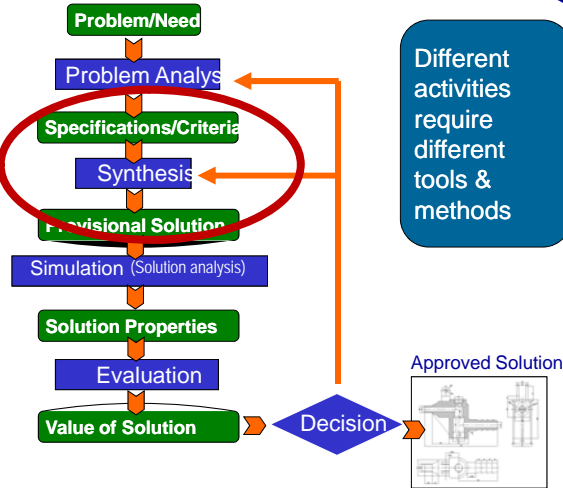
### Designing



Input / Output

Activity

Source: Roozenburg & Eekels



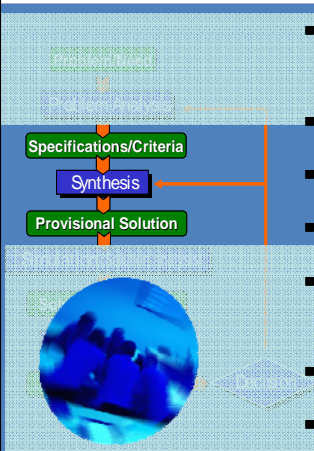
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## Synthesis Tools & Methods

### Brainstorm & Brainwrite Pooling



- Helps stimulate the generation of ideas in 30-45 minutes;
- Involves a group: 6-10 participants;
- 'Wild ideas' are welcome;
- Many ideas are welcome;
- Combination & improvement of ideas;
- BRP - Sketches can be also made;
- Silly ideas later on removed;



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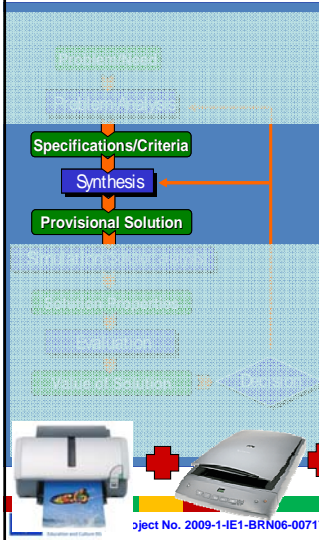
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## Synthesis Tools & Methods



- **S**ubstitute
- **C**ombine
- **A**dapt
- **M**odify
- **P**ut to other uses
- **E**liminate
- **R**earrange

### SCAMPER Checklist



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## Synthesis Tools & Methods

- **S**ubstitute
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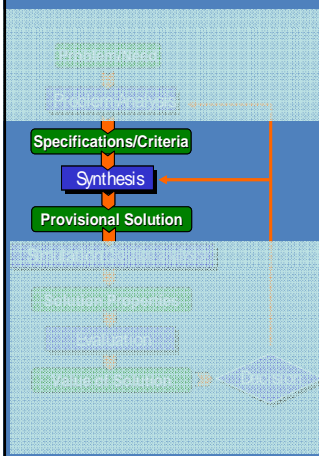
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## Synthesis Tools & Methods

### Analogies Method

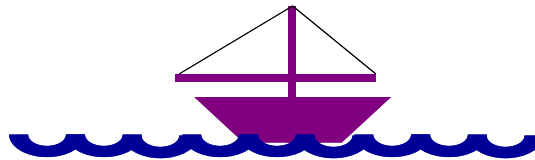
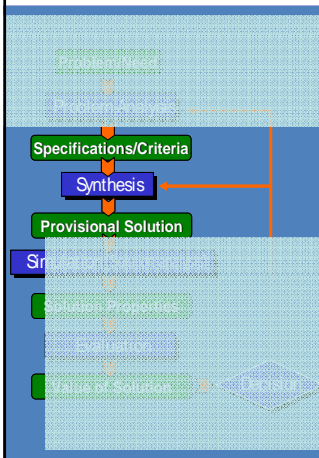


- Two diverse situations exploited for certain similarities;
- Can be applied at different levels:  
*form, function, physical*



## Synthesis Tools & Methods

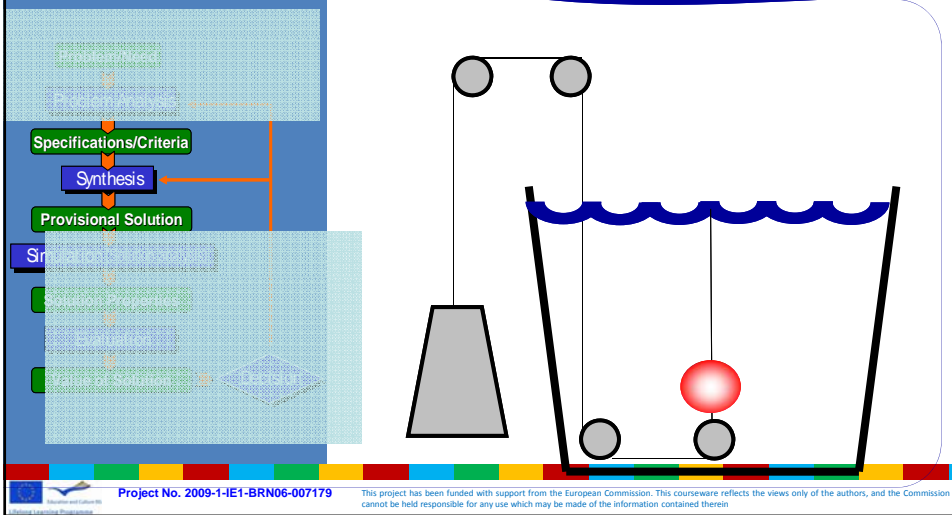
### Analogies Method





# Synthesis Tools & Methods

## Analogies Method

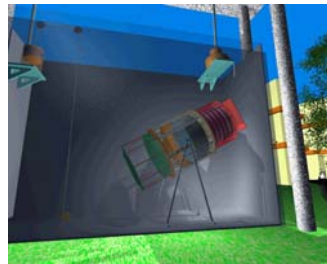


# Synthesis Tools & Methods

## Joe Spiteri Sargent – The Maltese Entrepreneur



“ An innovative way to provide hydroelectric power- worldwide ”





## Synthesis Tools & Methods

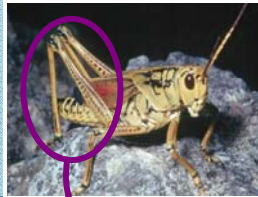
### Synecotics Method

Specifications/Criteria

Synthesis

Provisional Solution

- Aims at stimulating *associative thinking* by forcing the designer to think 'away' from the problem;



'Hydraulic Knees'

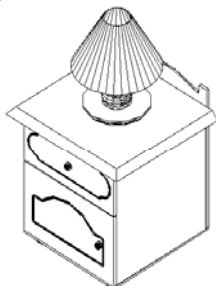


## Synthesis Tools & Methods

### Computer Aided Design



As synthesis tools, CAD allows users to create, modify and share 2D, 3D product geometric models;



Wire-frame Models



Static, Rendered Models





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## 'Warm up' Exercise



- List everything you know on the 'Peacock' you see
- Can you 'force' any properties of the Peacock onto the chair to improve its functional & aesthetic design?
- Can you use SCAMPER on the properties?







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## Group Exercise

**A) How can the problem of waste generated in schools (eg. paper) be exploited to generate funds and/or energy?**

**B) How can a school canteen service be improved both from a school management perspective and also a user perspective.**

**C) How can you improve the marketing & quality of educational services you provide?**



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## Group Exercise

**D) How can the airport checking-in service be improved both for individuals and group check-ins?**

**E) How can in-flight catering meals & trays/package/cutlery be re-designed to make it easier for passengers to eat & air hostesses/stewards to efficiently pick-up afterwards?**

**F) What product and/or service can be provided to help hotel tourists be used to help with BOTH energy saving and energy generating during a holiday?**



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## Exercise Goal

- Each group is to appoint a leader/moderator
- Ideas to be listed on paper by each group
- On one sheet...to report solution(s) generated
- On another sheet ...to report which methods have been used for the idea generation methods & how
- Each group has as a minimum to use at least either the SCAMPER or SYNECTICS method



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## Conclusions



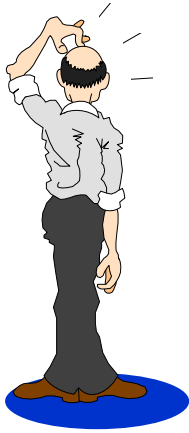
- **Entrepreneurs** need to be creative & innovative
- To be *innovative*, we need to be *creative*. We need to help ourselves engage in *new* 'thinking patterns';
- Our mind is frequently distracted;
- Synthesis methods useful to guide ourselves into new thinking patterns.
- Are these skills being fostered ?

**Realize that through the right tools & methods, you can be Creative!**





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# Questions ?



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