

Evolution in the Kitchen with TRIZ

Wolfgang Sallaberger (Congelo, Austria)

Abstract

Banquets with 500-1000 meals, prepared in 11 minutes, are a normal task in banquet business for Chefs in Hotels. These are hard to handle with old “classical” structures and methods. This old fashioned system with its hierarchy comes from the time of the Visionary Master Chef and Culinary Genius August Escoffier (France). Escoffier had the vision that the “Evolution of cooking will go with the changes in Society”. In our time this old system can be a beautiful show but it is not effective for Leadership in Business. At the time of Escoffier it was groundbreaking - where the Classical European Kitchen was developed and defined.

New Kitchens and cooking have to be much more efficient in using space, in crew size and in other factors. These bring to the requirement “more with less” or higher Value. Banquets , Congresses, Meetings, Wedding Ceremonies bring the main Value in large kitchens, but they destroy the innovation and the creative power of the Kitchen Brigade. This paper demonstrates what TRIZ can do to improve the situation.

Introduction

The Current System and Methods before Escoffier



Imagine a Kabuki Theatre ,
where all actors perform
their part at the same time on stage.
CHAOS

This was the situation in kitchen before this man came.

He was named Gentleman Chef and Innovator.

A Calm and Visionary person

Biography under:

<http://en.wikipedia.org/wiki/Escoffier>

Auguste Escoffier

Multiple innovation circa 1900 :

● “Guide Culinary” with 5000 recipes: the bible of culinary!

Standards for current system, dishes and their creation.
Recipe for almost everything.

His work is still a standard in classical European Kitchen.

Systematic innovation and structure building” second part

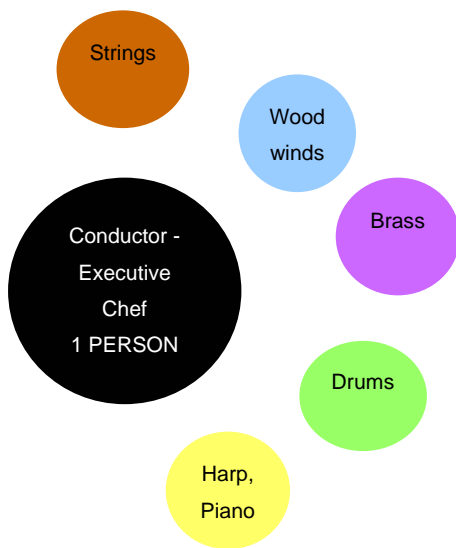
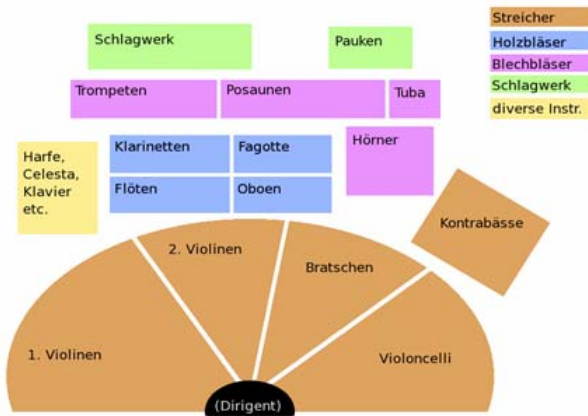
The Current system and methods, the Kitchen BRIGADE, similarities to a Orchestra

● The structure of a „classical“ kitchen brigade and the Structure of a orchestra became SIMILAR

2. Auguste Escoffier, current systems and methods



created and established by Auguste Escoffier (1846- 1935
France)



- instruments = departments
musicians = cooks
- There is a Composer / Recipie
 - A conductor / Executive Chef
 - Musicians / Cooks
 - Audience / Guests
 - Everything is life
 - no 2nd chance for both.

A good menu is a symphony of nature and the seasons.
You can find the 25 original kitchen departments here:
http://en.wikipedia.org/wiki/French_cuisine#Kitchen_brigade

Escoffiers forecast was :
„As the society will change, so the cooking art and style will change, but it will always be cooking art“

Thru structure changes the situation in kitchens today is chaotic again, the Escoffier System now exists only in Books !
WANTED a SOLUTION !

3. My vision and approach

Create new products and methods.
which establish highest standards.
Constant quality in taste and dressing .
Improvement of value in the commercial kitchen
Allow simple Controlling and measuring

My concept, finest food made affordable



AT any TIME

The CD, finest music made affordable



„The Orchestra at every place“ and any time

Hardware, global



At every continent used, also in planes.



Preparation - cooking



Enjoy

Only 3 steps to do
100% control
Equal from 1 to 1000s portions.

Only 3 Parameters:
Time
Temperatur
Humidity

1 Programm = 1 Button

Make it simple, as enjoying a symphony on CD !

Hardware, Cd/dvd player



Insert the CD and enjoy the Orchestra



My vision and approach, Result



A WIN WIN situation

The customer recives high quality,
less stress for chefs
more money for Owners
Make it with something beautiful & elegant



„Karaoke“ version with individual stuffing





„Symphony version“

Final steps for users

- Unpack
- Dress on Plate
- Heat in steam oven
10 minutes
126 °c with steam
- Serve

Equal from 1 or more than 10 vegetable sorts .

My solution with TRIZ

- Definition of the ideal Solution
- Innovation check list for finding the critical department
- Function analysis – Prototype
- 40 inventive Principles
- SLP modell

Inventive Principles used

prior action	Product is frozen
prior counter action	Product is “plate” dressed
strong oxidation	Prepares for homogenisation
segmentation	single units, portions
cut off	harm prevention
rush thru	one effect at short time
flexible films	covers product, protection
round forms	as base for all products
Homogenisation	needed to „glue“ it
Porosity	needed to „glue“ it
Phase exchange	needed to „glue“ it

SLP modell

- What does every organism USE ?
- HELIX
- Animals – Elements - HUMANS



My new TRIZed food machine

3 axis machine.

Similar to static machines used in cookie production, except one part which was improved with TRIZ, not shown here.

Production steps

- Machine creates the „platform“
- Food is dressed like on plate
- Freezing process
- Finishing and Packing

- This machine creates the first mass products and the platforms for complex products



New business models, with food Evaluation by Customers and Users

Places
Anuga food Fair,
<http://www.anuga.de/>
3 other food fairs
in Germany and Austria.

Etria Conference 2007 Germany,

Starwood Hotels Munich,

Germany's largest Hotel,

Own Restaurant,
Cafes with very limited kitchen resources
Hardware Producer Rational
http://www.rational-online.com/JP_jp/
a Convenience Pioneer in Germany Mr. Cammann
<http://www.faktorei.de/>

FEEDBACK of Customers and Users

This is what I have been looking for *
Where can I get these Products
Perfect quality, save handling
Is this for me? It is so beautiful !

New business models, with food : Ideas



NEW Gourmet fast food chains

Vegetarian and vegan main dishes
Airline Caterers, Restaurants,
Banquet business, Catering
Bento Boxes with fusion food content
Dishes with company logos



Garnitures

Conclusion

Problem solving by TRIZ was the comfortable part

I found
New Products
A machine for mass products
In a Market with annual growth of 20%

Dear Reader here end the Presentation Slides

The following pages should explain the problem + solving more detailed. And give some background information.

Escoffier Why did his structures collapse ?



Mount Fuji, at sunrise from lake Kawaguchi

The mountain and the water are separated, as they are on different levels. The water can flow free at the submontane of the Mount Fuji.



Kaprun, Reservoir Mooserboden view, Austria
A water Power Plant in Salzburg.

The water in Kaprun is Caged, on "Top" of the Mountains. If the water is not released to the same level as seen on Kawaguchi Lake.

It will erode the base of the mountains, so these mountains will collapse sooner or later.

They will come down with effects that are known from earth quakes.

With knowledge it is the same, if it is stored or hidden it can not help solve problems.

I often saw how a chef is burning the recipe. Instead of forwarding it to his apprentices or other cooks.

“A good master prepares his students to excel the master, what a weak master who does not allow this”
(Leonardo Da Vinci)

Since Escoffier, there was no such a master as Escoffier. The Chefs did not understand that **Escoffier gave** them **“advise” to innovate and develop**, NOT to COPY him slavish.

The chefs focused on the pure professional skills and knowledge.
They forgot that Escoffier did dedicate wealth of his work to the common good like retired Cooks.
Escoffier had high social skills, he had grandeur.
Today in some famous Chefs Books your read things like:
“cooking is not for dumb people”

What is more a Prejudging than a invitation to join this profession.

Chefs like Wolfgang Puck show that this profession can be a big success story.

The Chef Jamie Oliver gives the message that **“cooking is fun and you develop new skills”**, he also gives important information about foods and production.
Both, Puck and Oliver did share their knowledge, they followed the advise of Escoffier to innovate, in their own way.

TRIZ in the kitchen

My steps:

1. Definition of the Problem : definition of the ideal solution
Has to have a simple handling, to cut off errors.
Market research started at this stage.**

2. Function analysis, by testing the first handmade “prototype” of a vegetable bouquet.
The author learned that it fits perfect to the worldwide used steam ovens (same system like used in planes)

3. Using of the 40 principles to transform harmful process steps into benefit.
Until here the author could not find a “universal” base for a affordable mass product and process.

4. SLP smart little people model
That with the author found the Helix and round forms, the universal pattern to solve the “universal base and mass product problem”

5. Contradiction matrix

Using it to learn more about the possibilities of the SLP result. Important evaluation was made, something unexpected showed up.

Some uniform products allow a strong individual use . (“karaoke version” fig. page 4)

That with it was possible to define the specifications for the “not existing machine” as research did not bring a food processing machine that matches the own requirements.

6. The engineering of the own food proceeding machine:

Engineers did not like TRIZ, but it was already in the product. It was new to engineers so they only used the function analysis model to prove the function.

After receiving the final engineering result, a problem with a part of the machine was detected.

7. This was solved with TRIZ all the TRIZ tools used before where now used again.

Problem definition – function analysis - 40 principles – SLP model – Contradiction matrix.

After using TRIZ the author was able to fulfil the impossible requirement:

“You have to serve and cook for your customers”
Which was the advise of his spiritual master.

This advice was a lesson to learn how to improve the ideal result.

The door opener to the authors TRIZ process was the SOLUTION DEFINITION.

With TRIZ the author could also influence processes, like outsourced engineering done by people that do not use TRIZ.

New business models Environmental requirements.

New business models can be in various cultures.
Thru the use of vegetables it is possible to overcome cultural borders.

Local Quality is a important principle for
Finding the right place/country, with a market size that allows to establish such a emerging business in the best possible way.

If you take a look at the following pictures, you see a static and a dynamic model of traditional armour.

European armour



Static
Protection is strong
Heavy
Focus and horizon are limited.
Overcoming obstacles is a Difficult task.

Japanese armour



Allows quick moves
Dynamic
Light
Bigger horizon and focus
Overcoming obstacles is easier
you still can swim
Protection is not so strong
Combined materials
Sections

To the author examples like this, are important.
As it shows how problem solving is around the world.
This may help to find the right local quality for a innovation.
Thank you for reading.

Thanks to partners and institutions:

Austrian Patent office for IP Value Check
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European TRIZ Society

Dr. Petra Rietsch

Austrian TRIZ Society

Elie Hien Titouolo, Amir Roggel

**The author:
Wolfgang Sallaberger**



- Born 28.8.1972 in Austria
- 9 Years of regular school
- 1987 to 1990: 3 years, traineeship as a cook,
- With exam.
- Total 22 years of practice in 13 different restaurants and hotels
- 1994: first executive chef job
- 1997: continuation of the family restaurant until 2008
- 1998 first contact with Elie Hien, my .spiritual father.
- Until now learning from him, would like to be like that not
- too much, not to less.
-
- 2004: first protected right for a method for the production
- of convenience dishes.
- 2004 . 2005: education as an innovation manager, first
- contact with TRIZ
-
- 2006 presentation at the Austrian TRIZ Congress,
- membership in the Austrian TRIZ Society
- 2007: co-author of the book .TRIZ Appliance and
- further development in non-technical fields.
- edited by Dr.
- Petra Rietsch at Fachultas publishing company, original
- title in German: TRIZ Anwendung und
- Weiterentwicklung in nicht technischen
- Bereichen ISBN
- 978-3-7089-0147-3
- 2007 Presentation at the ETRIA Conference, in
- Frankfurt am Main/Germany, presentation
- available as
- .TRIZ Current Scientific and Industrial Reality,
- by
- Carsten Gundlach, Udo Lindemann and Horst Ried
- ISBN 978-3-89958-340-3
- 2008 start of a project for a Prototype for new food
- creations.
- 2008 Presentation at Japanese TRIZ Symposium
- 2009 Presentation submitted at Trizcon, could not participate

- http://www.aitriz.org/index.php?option=com_content&task=category§ionid=17&id=64&Itemid=126
- 2009 last work as Chef at the Austrian Parliament
- Now: Looking for the right place for my innovation. Also work on new Projects.
- Contact :
- Wolfgang Sallaberger
- w.sallaberger@congelato.at
- www.congelato.at

[http://de.wikipedia.org/w/index.php?title=Datei:Andreas_Groll_Armor_1857_\(2\).jpg&filetimestamp=20081107023304](http://de.wikipedia.org/w/index.php?title=Datei:Andreas_Groll_Armor_1857_(2).jpg&filetimestamp=20081107023304)

Fig. 30.

**Statistic sources used:

WTO Worldwide statistics for 4&5 star Hotels

WTO Worldwide Cruise ship Report

Destatis Data , Statistics Austria ,

Eurostat Data, Austrian Tourist office report

Anuga Foodtec reports and presentations about global convenience Market.

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