

MOLECULAR GASTRONOMY: RESEARCH AND EXPERIENCE



Brendan Hill

Victorian Government (TAFE)/ISS Institute Fellowship

Fellowship funded by Skills Victoria,
Department of Innovation,
Industry and Regional Development,
Victorian Government



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Executive Summary

This report covers the Fellowship journey of Brendan Hill who observed, studied and experienced the implementation and provision of 'Molecular Gastronomy' cuisine in international restaurants in England, Spain, Paris, Chicago, New York and Singapore.

Molecular gastronomy principles, practices and menu items have captured the imagination of both the chefs and their customers worldwide. Although initially intended to cater for the high end of the gourmet market, molecular gastronomy has been welcomed in many areas of the hospitality industry. Fine dining restaurants, cafés and bistros, function venues, specialist bars, prestigious and mainstream hotels; and even establishments that specialise in pastry and desserts are incorporating this style of cuisine to various degrees into their operations.

Australia has lagged a long way behind the international scene in this cuisine style for many reasons, such as a lack of experience from the industry leaders, inadequate formal training options, and restricted numbers of suppliers for specialist equipment and commodities; as well as limited reference material available in the English language.

This study is a result of a number of skills deficiencies identified by many Victorian enterprises and associations, including Hill and his colleagues at the Gordon Institute of TAFE. Hill's extensive study tour involved eight weeks of work experience in international leading restaurants including the Alinea in Chicago, wd-50 Restaurant in New York, Thierry Marx at Chateau Cordeillan-Bages in Bordeaux, Ozu in Paris and The Tippling Club in Singapore. The Fellow also visited several significant restaurants in the United States of America and Barcelona to experience this cuisine from a consumer's perspective.

This study has enhanced Hill's understanding of molecular gastronomy and has also provided him with the practical skills to utilise the commodities and equipment in this field. The Fellow has accumulated a variety of recipes. Hill will be able to replicate and develop new menus by incorporating these into the menus for theoretical and practical teaching in the Gordon Institute's training restaurants and industry kitchens.

Hill's observations will facilitate exposure of molecular gastronomy to a wide range of student groups including apprentice cooks, full and part-time commercial cookery students, patisserie and hospitality certificate students, as well as the international students at the Gordon Institute of TAFE.

This research will also allow an opportunity for Hill to design and conduct molecular gastronomy workshops for industry professionals and partners, as well as provide consultancy services to interested parties.

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Abbreviations and Acronyms

ACF	Australian Culinary Federation
ACDF	Academy Culinaire de France
ALICIA	Food and Science Foundation
CACl ₂	Calcium Chloride
CAE	Community and Adult Education
CIA	Culinary Institute of America
DE	Dextrose Equivalence
GOT	Geelong Otway Tourism
GIT	Gordon Institute of TAFE
ID	Inside Diameter
IKA	International Culinary Olympics
ISS Institute	International Specialised Skills Institute
MOF	Meilleur Ouvrier de France (French: Best Craftsman of France; national award)
MG	Molecular Gastronomy
PH	Power of Hydrogen – a measure of acidity or alkalinity
PID	Proportional Integral Derivative
SSV	Service Skills Victoria
SWOT	Strengths, weaknesses opportunities and threats
TAFE	Technical And further Education
VET	Vocational Education and Training
WACS	World Association of Cooks Societies
WPTC	World Pastry Team Championship

Definitions

AAA Diamond Rating

North America's premier hotel and restaurant rating system

Agar agar

A gelling agent Kanten/Agar, is derived from Gracilaria (Gelidium species) a bright red sea vegetable

Cloche

A glass bell-like dome used for serving

Colloid

A type of chemical mixture in which one substance is dispersed evenly throughout another

Design

Design is problem setting and problem solving.

Design is a fundamental economic and business tool. It is embedded in every aspect of commerce and industry and adds high value to any service or product—in business, government, education and training, and the community in general.

Reference: 'Sustainable Policies for a Dynamic Future', Carolynne Bourne AM, ISS Institute 2007.

Farinaceous

Gritty, coarse grained material

Guar gum

Guar is a white free flowing powder, completely soluble in hot or cold water to form a tasteless, odorless non-toxic solution. Guar gum powder has five to eight times the thickening power of starch.

Heterosaccharide

A heterosaccharide is a glycoside in which a sugar (saccharide) group is attached to a nonsugar group. Used in such things as pectin

Humectant

Any substance that is added to another substance to keep it moist
solvent

Hydrolyze

Undergo hydrolysis; decompose by reacting with water

Innovation

Creating and meeting new needs with new technical and design styles. (New realities of lifestyle).

Reference: 'Sustainable Policies for a Dynamic Future', Carolynne Bourne AM, ISS Institute 2007.

Definitions

Maltodextrin

A complex carbohydrate consisting of dextrose (glucose), maltose, maltotriose and higher polysaccharides

Phospholipid

Any of various compounds composed of fatty acids and phosphoric acid and a nitrogenous base; an important constituent of membranes

Polysaccharide

A complex carbohydrate

Skills deficiency

A skill deficiency is where a demand for labour has not been recognised and training is unavailable in Australian education institutions. This arises where skills are acquired on-the-job, gleaned from published material or from working and/or studying overseas.

Reference: 'Directory of Opportunities. Specialised Courses with Italy. Part 1: Veneto Region', ISS Institute, 1991.

There may be individuals or individual firms that have these capabilities. However, individuals in the main do not share their capabilities, but rather keep the intellectual property to themselves. Over time these individuals retire and pass away. Firms likewise come and go.

Acknowledgements

Brendan Hill would like to thank the following individuals and organisations who gave generously of their time and their expertise to assist, advise and guide him throughout the Fellowship programme.

Awarding Body – International Specialised Skills Institute (ISS Institute)

The International Specialised Skills Institute Inc is an independent, national organisation that for over two decades has worked with Australian governments, industry and education institutions to enable individuals to gain enhanced skills and experience in traditional trades, professions and leading-edge technologies.

At the heart of the Institute are our Fellows. Under the **Overseas Applied Research Fellowship Programme** the Fellows travel overseas. Upon their return, they pass on what they have learnt by:

1. Preparing detailed reports to government departments, industry and education institutions.
2. Recommending improvements to accredited educational courses.
3. Offering training activities including workshops, conferences and forums.

Over 180 Australians have received Fellowships, across many industry sectors.

Recognised experts from overseas also conduct training activities and events. To date, 22 leaders in their field have shared their expertise in Australia.

According to Skills Australia's 'Australian Workforce Futures: A National Workforce Development Strategy 2010':

Australia requires a highly skilled population to maintain and improve our economic position in the face of increasing global competition, and to have the skills to adapt to the introduction of new technology and rapid change.

International and Australian research indicates we need a deeper level of skills than currently exists in the Australian labour market to lift productivity. We need a workforce in which more people have skills, but also multiple and higher level skills and qualifications. Deepening skills across all occupations is crucial to achieving long-term productivity growth. It also reflects the recent trend for jobs to become more complex and the consequent increased demand for higher level skills. This trend is projected to continue regardless of whether we experience strong or weak economic growth in the future. Future environmental challenges will also create demand for more sustainability related skills across a range of industries and occupations.¹

In this context, the Institute works with Fellows, industry and government to identify specific skills in Australia that require enhancing, where accredited courses are not available through Australian higher education institutions or other Registered Training Organisations. The Fellows' overseas experience sees them broadening and deepening their own professional practice, which they then share with their peers, industry and government upon their return. This is the focus of the Institute's work.

For further information on our Fellows and our work see www.issinstitute.org.au.

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¹ Skills Australia's 'Australian Workforce Futures: A National Workforce Development Strategy 2010', pp. 1-2 http://www.skillsaustralia.gov.au/PDFs_RTFS/WWF_strategy.pdf

Acknowledgements

Fellowship Sponsor

The Victorian Government, Skills Victoria is responsible for the administration and coordination of programs for the provision of training and further education, adult community education and employment services in Victoria and is a valued sponsor of the ISS Institute.

Skills Victoria have recognised the important role TAFE plays in developing the people who will be the future of our industries, and have provided the sponsorship for this Victorian Government (TAFE)/ISS Institute Fellowship in molecular gastronomy. Hill would like to thank them for providing this funding support.

Supporters

Specific Acknowledgement

Hill wishes to thank the former CEO of ISS Institute, Carolynne Bourne AM, and her team (especially Paul Sumner and Ken Greenhill) for supporting this project.

Employer Support

Hill would like to thank Grant Sutherland, CEO, Gordon Institute of TAFE, for endorsing his application to participate in the International Fellowship Programme. He also thanks Soraya Asif, Education Development Officer, Gordon Institute of TAFE, for her professional support in completing this report.

Academic Support

The Fellow would also like to thank Cheryl Jones, Head of School of Tourism, Hospitality and Cookery for her encouragement to apply for this Fellowship .

Institute Mentor

Hill extends a very special thank you to Jan Golden, Executive Director, Education Programs, at the Gordon Institute of TAFE for her encouragement, advice, support and assistance in planning the Fellowship study tour itinerary and liaising with the Institute's staff members and departments to ensure all parties were involved and supportive of the Fellowship Programme.

Those Involved in the Development of the Overseas Programme

Hill would like to thank the following individuals for their generous support in the developmental stages of the overseas Fellowship Programme:

- Raymond Capaldi, Proprietor and Executive Chef, Fenix Restaurant, Melbourne
- Grant Achatzs, Proprietor and Executive Chef, Alinea Restaurant, Chicago, USA
- Wylie Dufresne, Proprietor and Executive Chef, wd-50 Restaurant, New York, USA
- Thierry Marx, Grand Chef, Chateau Cordeillan-Bages Pauillac, Bordeaux, France
- Heston Blumenthal, Chef Patron, Fat Duck Restaurant, Berkshire, England
- Andre Smaniotto, Training Manager, Crown Entertainment complex, Melbourne

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Those Involved in the Fellowship Submission

Hill would like to thank the following individuals and organisations for their assistance in preparing the Fellowship submission:

- Tommy Barr, Cookery teacher at the Gordon Institute of TAFE, Geelong
- Peter Wright, National President of the Australian Culinary Federation, Melbourne
- Simon Parrott, Corporate Chef, Munday Group of Restaurants and Hotels, Geelong
- Ross Ebbels, Proprietor of Athelstane House, Queenscliff, Geelong
- Service Skills Victoria, Melbourne
- Roger Grant, Chairman of Geelong Otway and Tourism, Geelong
- Amanda Zachariah, Geelong Advertiser, Geelong
- Ryan Clift, Chef, View De Monde Restaurant, Melbourne
- Gordon Institute's cookery students, whose questions and enthusiasm for molecular gastronomy inspired this Fellowship.

Australian Organisations Impacted by the Hospitality Industry

Government

- Department of Education and Training
- Department of Human Services
- Department of Primary Industry
- Service Skills Australia

Industry

- Independent restaurants
- Bistros and cafes
- Specialty bars
- Private clubs
- International hotels
- Local hotels
- Function venues
- Holiday resorts
- Luxury cruise liners
- Catering companies
- Patisseries and bakeries
- Commodity manufacturers, wholesalers and retailers
- Farmers and producers
- Cookery equipment manufactures
- Cookery equipment distributors

Acknowledgements

- Crockery and cutlery designers, manufactures and distributors
- Transport companies
- Chemical companies
- Food safety equipment manufactures
- Culinary consultants
- Specialist kitchen designers
- Compressed air, gas and liquid nitrogen producers
- Occupational health and safety protective clothing manufacturers and distributors
- Specialist print media companies
- Food writers, journalists and photographers

Professional Associations

- The Australian Culinary Federation, National
- The Australian Culinary Federation, Victoria
- The Australasian Guild of Professional Cooks
- The Restaurant and Caterers Association
- The Academie Culinaire de France
- Les Toques Blancs Australia
- The Catering Institute of Australia
- The Australian Hotels Association

Education and Training

- TAFE institutes
- Private providers
- Australian technical schools
- Universities

Community

- Community and adult education
- Domestic tourists
- International tourists
- Australian wine and food society
- General dining public
- Community groups and associations

About the Fellow

Name: Brendan Hill

Employment: Gordon Institute of TAFE

Culinary Qualifications

- Certificate of Proficiency in Cookery, Gordon Institute of TAFE, Geelong, 1978
- Diploma of Chocolate and Sugar Confectionery, Technical School for Confectionery, Germany, 1983
- Advanced Certificate of Hospitality (Kitchen Operations), William Angliss College, Melbourne, 1990
- Advanced Pulled Sugar Course, Ewald Notter International School of Confectionery Arts, Zurich, 1990
- Masters Degree in Pastry (Practical), Koln Master School, Germany, 1993
- Intermediate Course in Airbrush Art, Airbrush Venture, Box Hill Customised Sugar Work, 2002
- Customised sugar workshop, Box Hill Institute of TAFE, 2002
- Advanced Chocolate Showpieces Course with world champion Stephane Leroux Savour, Patisserie and Chocolate School, Melbourne, 2003
- World Pastry Forum Certificate, Nashville, USA, September 2008
- Advanced Sugar Work Course with Stephine Klein, France, November 2008

Teaching Qualifications

- Diploma of Technical Teaching, Hawthorn Institute of TAFE, Melbourne, 1986
- Conducting Assessment Unit, Certificate IV Workplace Trainer (Cat 2), Gordon Institute of TAFE, Geelong, 1998
- 4Matt Teaching Program, Gordon Institute of TAFE, Geelong, 2006
- 4Matt Trainer Certification, Gordon Institute of TAFE, Geelong, 2007

Memberships and Associations

- Australian Culinary Federation
- Academie Culinaire de France committee member
- Barwon wine and food society
- 'Tastes of Geelong' (charity event)
- 'World's longest lunch' (charity event)

Hill has over 30 years experience in all areas of the culinary arts. He has represented Australia at the International Culinary Olympics in Europe, the World Masters of Pastry in Stuttgart Germany, the World Cooks' Tour for Hunger in Johannesburg and Pretoria South Africa, and the World Pastry Team Championships in Las Vegas, USA.

While representing Australia, Hill has also won 12 international gold medals. The Fellow also participates as a judge, skills coach and competition trainer in hospitality in Australia and abroad. He is also an author of the book 'The Cooks Book Patisserie Showpieces.'

Aims of the Fellowship

This Fellowship was sponsored by Skills Victoria, Victorian Government, under the International Specialised Skills Institute Overseas Fellowship Programme.

The aim of the Fellowship was to undertake an overseas study programme to acquire skills and knowledge in molecular gastronomy and culinary art.

This programme enabled Hill to gain a thorough understanding of the principles and methods of producing molecular gastronomy cuisine by:

- identifying world leaders in the field of molecular gastronomy
- participating in active learning and acquiring skills and knowledge sets via actual work experience, observation and research, industry visits, discussions and interviews with experts in the field
- increasing network of industry contacts throughout nationally and internationally
- developing a range of industry specific courses and workshops
- compiling and distributing resources to support the delivery of molecular gastronomy courses to a wide range of clients
- developing partnerships within industry, other TAFE institutes, private registered organisations and interested individuals to establish and foster a community of practice for the ongoing development and implementation of this culinary style in the Australian hospitality industry.

The Australian Context

Historical Background

This excerpt is courtesy of 'The Age', reported by Michelle Griffin on September 13, 2003.

Nicholas Kurti, an Oxford physicist and gourmet who discovered how to make meringue in a vacuum pump, coined the term 'molecular gastronomy' in 1992. He founded the biannual cooking conferences at the Ettore Majorana in Sicily, where elite chefs and scientists meet to discuss the physics and chemistry of cooking.

From this comes the interest in applying the techniques of food scientists to fine dining - drying, liquefying, gassing, freezing and generally transforming ingredients into surprising new forms and textures while maintaining the flavours. Early converts include French two-star chef Pierre Gagnaire, who added scallops with liquorice milk to his menu in 1991.

During the mid-1990s, at El Bulli restaurant in Spain, chef Ferran Adria started introducing foams and apple caviars and hot jellied strips of 'pasta' made from agar-agar. The cult of El Bulli began, and foams started to appear on menus in France, the UK and the US.

In 1998, British chef Heston Blumenthal started working on dishes such as bacon-and-egg ice-cream at his Berkshire restaurant, The Fat Duck. In 2001, The British Good Food Guide declared Blumenthal chef of the year, and he was hired to write a cooking column for The Guardian. In 2001, the Michelin Guide declared El Bulli the best restaurant in the world.

The Australian Industry

Every revolution has its leaders, and chefs that influence the culinary world and in this century Spanish chef Ferran Adrià's significant leadership contribution to molecular gastronomy certainly revolutionised this aspect of the restaurant industry.

The Spanish restaurant 'El Bulli', under the leadership chef Ferran Adrià, was awarded the coveted title of the best restaurant in the world several years running and was labelled the 'Salvador Dali of the kitchen' which means 'the world's most innovative chef', 'a truly post-modern chef'.

Adrià, together with Alberto (his brother), Oriol and Arzak (his associates) and Eduardo Gonzales (a translator) provided a three-hour demonstration at the 2001 'Tasting Australia', an extravagant biennial food festival held in Adelaide, South Australia. Many Australian chefs had the opportunity to view this demonstration, attended by approximately two hundred people.

This demonstration consisted of two signature techniques as follows:

- Espumas, or foams, produced by combining flavoured liquids with various stabilising ingredients. Adrià transformed just about any liquid into a stable, dense froth that as it disappears on the palette, releases its flavours of raspberry, parmesan and smoked ham.
- Spherification, which involves preparing an intensely flavoured liquid, or puree base with the addition of sodium alginate, being carefully spooned into a light bath of water and calcium chloride that produces an egg-yolk-like sphere that self-skins to encapsulate the liquid. This completed yolk is then carefully removed from the bath and is rinsed in cold water, and then served as an item on its own or as an accompaniment with another dish.

The Australian Context

Although chef Adrià and his team returned to Spain, they had impressed other chefs with their innovative new cuisine style. Thus, there were a number of chefs inspired by these demonstrations and motivated to replicate these techniques on the menus in the most avant garde restaurants around the globe. Chef Ferran Adrià had produced books on his recipes from 'El Bulli', but they were not generally available as they were only printed in Spanish.

Hill heard about these techniques from colleagues and was interested in finding out more. He became frustrated by the lack of resources available to implement these innovative food ideas in Australia.

The internet has proved to be a wonderful research resource for Australian chefs to seek out the latest developments and information regarding the development of molecular gastronomy techniques from around the world. Valuable information and ideas were shared via internet forums and discussion groups. As a result of this, the products and services were communicated to an eager worldwide audience.

YouTube technology allowed chefs from all over the world to post their creative ideas, experiments and recipes in video format which made the molecular gastronomy cuisine development more accessible to Australian chefs.

The next stage in the evolution was for Australian chefs to seek out the leaders in the field of molecular gastronomy then work abroad to gain first-hand practical experience, and eventually return to Australia with this valuable knowledge.

Identified experts were also invited to Australia as guest chefs and conducted seminars and demonstrations at industry events. From 2004 to 2007, the development of molecular gastronomy in Australia was very slow, but gradually the pace increased due to growing interests and the involvement of innovative chefs, as well as the enthusiasm of the dining public fascinated with this new exciting cuisine style.

It was only natural that molecular gastronomy also attracted its fair share of critics and many established chefs did not subscribe to the new ways of preparing and presenting food by labelling molecular gastronomy a temporary cuisine style. Discussions and debates took place in all areas of the industry as to the merits and shortcomings of molecular gastronomy and the predictable views of 'all or nothing' were evident.

Hill, his colleagues, and many other chefs shared the notion that molecular gastronomy was something that needed to be embraced for its particular attributes and incorporated into the existing traditional and contemporary international hospitality industries. He identified a huge skills and knowledge deficiency in molecular gastronomy techniques and realised that his research would allow him an opportunity to incorporate this technique in industry, training programs, and nationally accredited cookery training packages.

The successful inclusion of molecular gastronomy in Australia was hampered by a lack of first-hand experience and this was identified both by industry and government. There was a risk of losing valuable tourist income from international and domestic tourists who were considering their holiday destinations with a real focus on food and wine services provided. The Australian tourism and hospitality industries needed to keep up with the trends in food service to satisfy an increasingly educated and demanding customer base.

Over the past decade, the United States had taken the inspiration from the Spanish and French pioneers by integrating the skills and knowledge on molecular gastronomy for their most creative chefs.

The Australian Context

Hill found that there were only a small number of restaurants in Victoria that were offering limited molecular gastronomy techniques throughout their menus. They were:

- Fenix Restaurant, Victoria Street, Richmond. Chef Raymond Capaldi
- The Reserve Restaurant, Federation Square (since closed). Chef George Calambaris
- Vue de Monde (Normanby Chambers), Melbourne. Chef Shannon Bennet
- Attica Restaurant, Ripponlea, Melbourne. Chef Ben Shewry
- Interlude, Fitzroy. Chef Robin Wickens
- Royal Mail Hotel, Dunkeld. Chef Dan Hunter

Raymond Capaldi has since closed the Fenix restaurant and is currently working on a major project encompassing a restaurant, a retail outlet and cooking school. Hill envisages molecular gastronomy will feature heavily in this exciting project.

There are other Victorian restaurants that are currently beginning to experiment with molecular gastronomy in their menus. In the Geelong region of Victoria at 'Athelstane House' in Queenscliff, and at 'Pettavel Winery and Restaurant' in Waurin Ponds both are incorporating the techniques in special menus and promotions.

Apprentice chefs have also been displaying basic techniques in cookery competitions, and they have been rewarded for their innovation.

A contributing factor to Hill's application for the Fellowship was the demand for information and training in molecular gastronomy by his apprentice students. Before undertaking this study, Hill had very little knowledge in this area. He was placed in a challenging situation, as he could not provide his students with the information on molecular gastronomy.

One of the major barriers facing the Australian industry is the limited supply and high price of specialist food chemicals and equipment to produce the various techniques. In Victoria, the present distribution of these of chemicals is limited to a few specialist shops and distributors as follows:

- Simon Johnson, Spanish El Bulli texture food ingredients outlet, Fitzroy and Toorak
- Melbourne Food Ingredient Depot, Raymond Capaldi signature ranges of food chemicals outlet, East Brunswick

SWOT Analysis

Strengths

- Ever increasing public demand for molecular gastronomy
- Hospitality industry's eagerness to change
- Good support from industry
- Enthusiasm of other chefs to learn about molecular gastronomy techniques
- Suppliers' positive prospects to add value and expand their product range and services to the industry
- Hill's broad experience in travelling, working and studying abroad enable maximum understanding of skills and knowledge to be brought back to Australia

The Australian Context

- Hill's experience in designing, developing, implementing, teaching, assessing and evaluating specialist skills training programs enable required evaluation of appropriate techniques
- Hill's extensive network of industry contacts in Australia and abroad enabled maximum exposure to overseas experts not available in Australia
- Hill's enthusiasm to learn new skills sets and to pass this information on to others
- Hill's experience as a published author of technical books in culinary science

Weaknesses

- Limited knowledge and experience of molecular gastronomy available within Australian industry and with cookery training providers
- Limited accessibility of special commodities and equipment in Australia
- Increase in costs as a result of reliance on imported equipment and commodities
- Limited time to research and experiment
- Limited knowledge of bio chemistry within the Australian industry
- Language barriers related to Spanish and French resources may limit full use of existing international information
- Small base of practicing chefs in molecular gastronomy in the domestic market
- Existing workload demands resulting in less time for research and development in the area of molecular gastronomy
- Limited resources and technical books published in the English language

Opportunities

- Acquire first-hand knowledge and skills in molecular gastronomy from recognised international experts
- Broaden skills sets by integrating molecular gastronomy in culinary arts into existing programs
- Increase professional networks
- Increase the knowledge of food science and bio chemistry
- Act as an ambassador for the Australian Hospitality Industry.
- Limited competition for molecular gastronomy training in the Australian hospitality sector
- More flexibility with the new training package to incorporate molecular gastronomy into units of competencies
- Add value to existing cookery programs within the TAFE sector such as at the Gordon Institute
- Transfer of new knowledge and skills to cookery students at the Gordon Institute of TAFE, as well as in industry

The Australian Context

Threats

- Skills reform regarding government funding for training could impact negatively
- Competitors' course offerings
- Increased cost of commodities as a result of supply problems for commodities and equipment
- Increased work demands in all areas may limit enthusiasm for innovation
- Other training providers entering the field may be able to move faster than TAFE Institutes to meet industry demands
- Gordon Institute of TAFE's location could be a disadvantage due to travel time and cost for participants
- A change in dining trends and public demand can decrease the interest in molecular gastronomy and could decrease need for training in this area

Identifying the Skills Deficiencies

Definition – Skill Deficiencies

As already established, a skill deficiency is where a demand for labour has not been recognised and where accredited courses are not available through Australian higher education institutions. This demand is met where skills and knowledge are acquired on-the-job, gleaned from published material, or from working and/or study overseas

There may be individuals or individual firms that have these capabilities. However, individuals in the main do not share their capabilities, but rather keep the IP to themselves; and over time they retire and pass away. Firms likewise come and go.

Identifying and Defining the Skills Deficiencies

Preparation of hot and cold stable, edible foams

- Goats cheese foam on mushroom and truffle ragout
- Vanilla foam on chocolate aero mousse

Production of intensely flavoured 'Airs'

- Incredibly light airy style components such as carrot and mandarin 'air'

Produce warm jellies to garnish hot dishes

- Abalone jelly served in a hot seafood consommé

Spherification techniques to produce a variety of fruit and vegetable flavoured 'ravioli'

- These spheres defy belief, intensely flavoured silky purees, enrobed in their own skins, resembling an egg yolk in appearance and texture

'Caviars'

- For all purposes looking like real caviar, but they may be apple, liquorice or beetroot flavoured

Dehydration techniques to achieve flavoured powders and vegetable dusts, pastes and food leathers and crisps

- Artichoke crisps, raspberry leather, cryogenically frozen and pulverised chocolate 'dusts' and chocolate 'soil' used with desserts for texture

Use of a wide range of colloids for texture modification, emulsification of food, including:

- Agar agar – 'spaghetti'
- Carrageenan gum 'for shiny glazes'
- Sodium alginate powder, pectin
- Lecithin, gellan gum, and guar gum

(These are used as binders and setting or partially setting agents for salad dressings, sauces and mousses).

Identifying the Skills Deficiencies

Using gasses to transform textures

- Carbon dioxide charged canisters to create foamed products

Using liquid nitrogen to change the consistency of frozen products

- Makes ultimate sorbets and iced desserts as well as savoury sorbets to accompany meat, game, poultry and seafood dishes
- Producing flavoured iced spheres filled with surprise dessert preparations

Special curing techniques for meats and fish

- To give succulent texture and exquisite flavours for appetisers and hors d'oeuvres

Special slow cooking techniques for meats and fish

- To intensify the flavours and produce incredibly tender items for entrees and main courses using modern vacuum technology

Use of specialised equipment involved in the production of molecular gastronomy menu items, such as:

- Customised syringes for portion control and the production of caviars
- Vacuum machines for degassing commodities, slow cooking purposes and hygienic storage of food items
- Paco jet super blenders
- Gas canisters, and soda siphons
- Food dryers

Menu planning

- Deconstructing menu planning principals
- Designing new menu items
- Reinventing classics
- Serving foods in the correct sequence to achieve harmony and balance for the overall experience

Advanced food science theory

- Observe and understand the practical applications of modern food science principals and practices
- Identify all occupational health and safety requirements involved in the making of molecular gastronomy dishes
- Develop research and experimental skills with emphasis on correct documentation and recording

Identifying the Skills Deficiencies

Presentation, serving and display techniques

- Present foods with high impact via original and novel presentation
- Identify timing constraints involved in successfully serving dishes with multiple components at different temperatures
- Identify suitable accompaniments to augment the dishes
- Select utensils to achieve portion control and consistency in plate design

Innovative crockery and service ware

- Identify and select the crockery, cutlery and serving utensils that best present the different dishes to the diner with the goal of a stunning original presentation
- Enable ease of assessment of quality by the diner
- Maintaining the correct temperature and or condition of the food
- Establishing a list of suppliers of serving and presentation dinnerware for future purchasing requirements

Commodities

- Preparing the list of products required for the preparation of molecular gastronomy menus
- Developing a network of suppliers
- Identifying the correct storage and handling requirements for each commodity
- Describing the quality points for the commodities

Human resource management

- Identifying and eliminating barriers to effective communication, especially in timing requirements with service staff
- Observing kitchen staff to client ratios
- Documenting kitchen organisation and rostering techniques
- Identify kitchen section teams, teamwork and team building techniques
- Observing how motivation and moral is maintained in this demanding environment
- Identifying any learning resources available
- Establishing a community of practice for molecular gastronomy

Recipe development

- Gathering, filing and indexing generic recipes to replicate techniques learned while taking into account copyright legislation

Recording the event

- Compiling a comprehensive written and photographic journal by documenting every stage of the project

Identifying the Skills Deficiencies

Why the Skills Deficiencies Need to be Addressed

This training is greatly needed in Australia. The Hospitality Industry is under huge pressure to provide new styles of cuisine to an ever more educated, well-traveled and experienced local and international dining public.

Through his many discussions with industry colleagues, TAFE teaching staff and students, and members of the 'Barwon Wine and Food Society', Hill found a common and consistent interest in identifying, deploying and developing molecular gastronomy cooking skills into the training of cookery apprentices and certificate students.

Few resources have been available in English, and very few Australian chefs have first-hand knowledge and experience in the total range of molecular gastronomy. Those that do have the knowledge have been quite selective who they transfer it to.

It was important for the Gordon Institute of TAFE, and its partners in hospitality, to gain this knowledge and foster the development of molecular gastronomy for the future benefit of our Tourism and Hospitality Industry. The ultimate objective was to provide the best possible food service choices to our clients. Hospitality, food and wine are some factors that affect the choice of destination of tourists.

The identified skills deficiencies are essential components involved in the design, preparation, cooking, presentation and service of molecular gastronomy cuisine.

They are both stand-alone skills and also more commonly clustered together as holistic skills sets.

The large breadth of skills and knowledge needed was testament to the sophistication and high degree of technical, managerial and organisational expertise required of chefs involved in molecular gastronomy. Nothing new and important has ever been accomplished without enthusiasm.

The International Experience

Overview

The Fellow's study was quite an extensive educational journey and involved:

1. Working in the kitchens of four of the worlds' leading molecular gastronomy restaurants:
 - Alinea restaurant in Chicago
 - wd~50 restaurant in New York
 - Restaurant Chateau Cordeillan-Bages in Bordeaux, France
 - Ozu restaurant in Paris.
2. Visiting a number of others (in the USA and Spain) to experience the molecular gastronomy style of preparing and serving this specialist dining style.

General Comments About the Four Restaurants Hosting the Fellow

Hill found that there were many commonalities shared between the restaurants, such as equipment and commodities. However, each establishment had its own unique style, management approach, and compilation of menus. These differences allowed an opportunity for Hill to experience and acquire a rich tapestry of techniques and philosophies.

Gaining access to the restaurants for work experience was a protracted process, as these establishments were in high demand from chefs from all over the world.

Indeed, Hill had to fit in where and when there was a vacancy as they could only accommodate a limited amount of individuals for work experience at any one point in time. Hill was put on waiting lists and had to wait for several months before a position was available.

Requirements

The mode of operation regarding the work experience was to be totally immersed in the operation of the kitchen. It was by no means learning by observation, but working as a member of the team with all of the responsibilities and pressures associated with the running of a world-class restaurant.

Hill equated this experience to a retired senior sportsperson who had been coaching a local amateur team for many years and then returning and playing in a senior competition. The work rate and workload was incredible. Hill was by far the most experienced and oldest participant at any of the restaurants, with most of the participants between twenty-three and thirty years old.

The days were long, averaging approximately sixteen hours. Although no special consideration was provided to Hill, he was happy to be accepted into the various teams as a valuable contributor.

Tasks were constantly delegated, and constructive criticism conveyed. Advice and instructions were all communicated in the most positive and professional manner. It is interesting to note that all of the establishments provided freshly laundered uniforms each day and excellent staff meals, despite the unrelenting pressure to perform at the highest level.

The International Experience

Alinea Restaurant

Chicago, USA. Chef: Grant Achatz. Duration: 12 days

Hill's first destination for his international study tour was the award winning Restaurant Alinea in Chicago. The chef/owner Grant Achatz is arguably the leading exponent of molecular gastronomy in the United States of America. Alinea was open for dinner service only from Wednesday to Sunday and seated a maximum of 100 people. The meal service was spread over an extended service period of approximately five hours.

Alinea offers two menu formats as follows:

- A twelve course 'Tasting' menu
- A twenty-four course grand 'Tour' menu

Each menu format had the option of wine pairings, with specially chosen premium wines to complement each course available for an additional charge. Approximately 70 per cent of the diners elected to go with the tour option and 30 per cent with the tasting menu. The restaurant was constantly busy and bookings had to be made well in advance to guarantee a reservation.

Alinea attracts chefs from all over America and all over the world for work experience, and there are generally three to four work experience chefs in action at any one time.

Learning Objectives

By the end of the work experience program, the Fellow was be able to:

- use specialised equipment involved in the production of molecular gastronomy products and menu items
- demonstrate competence in the selection, preparation and use of a variety of food additives, binders and stabilisers that are utilised for molecular gastronomy
- prepare and present menu items on the appropriate plates and serving equipment for enhanced presentation and effect
- interpret and replicate recipes currently used at Alinea
- work effectively and safely as part of a team.

Use Specialised Equipment Involved in the Production of Molecular Gastronomy Products and Menu Items

The role of equipment in the new culinary art science of molecular gastronomy is as vitally important as that of the ingredients themselves. To attempt many of the techniques without the correct equipment is fraught with danger and destined for disaster. The cost and availability of the equipment is also a factor in whether or not an establishment will commit to this modern service style.

The range of equipment utilised for various menu items is listed together with supporting photographs in Attachment 1.

Demonstrate Competence in the Selection, Preparation and Use a Variety of Food Additives Utilised for Molecular Gastronomy

A large and ever increasing variety of edible substances were being discovered and developed to provide unique and new taste and textural sensations. The dining public was thrilled to try new things and new experiences.

The International Experience

Many of these substances have been around for a long time, albeit in other industry sectors. Hill observed how these are getting a new life in the fast lane of contemporary cuisine.

The commodities and most common food additives utilised by restaurants in the production of molecular gastronomy which Hill had the opportunity to experiment with or observe are listed in detail in Attachment 2.

Prepare and Present Menu Items on the Appropriate Plates and Serving Equipment for Enhanced Presentation and Effect

A very important part of the molecular gastronomy cuisine style was the presentation, order and sequence of eating each of the courses. An entirely new industry has emerged to provide unique serving, holding and eating equipment, and utensils to enable molecular gastronomy cuisine to be effectively presented for maximum visual impact coupled with stylish practicality.

Chef Achatz has contracted an artist and design professional to join his team purely to create the perfect serving implements for the chef's creations. Every menu change required substantial development time and cost and was attributed to successfully creating the appropriate new serving vessels.

Hill was exposed to a wide range of service ware designed to keep the food safe and secure and in perfect condition for the guest to enjoy. Safety was also a key point to ensure the food servers (waiters) were not in any danger of injury whilst performing their food and beverage service duties.

As a result of the unique nature of the form and fragility of many of the service wares, they required special attention in the form of hand washing and cleaning to avoid damage to them. This meant additional time and labour costs in staff wages and this was carefully included in the final selling price of the menu items.

Interpret and Replicate Recipes Currently Used at Alinea

The Fellow was instructed in the methods of preparation for many of the recipes that were listed on the menu at Alinea. Hill was permitted to copy some of the generic recipes and he was encouraged to participate in the preparation and serving of a wide range of dishes and components. Hill valued the detailed instruction and techniques used to evaluate the quality of the prepared items. Hill realised that he could create lots of variations and derivatives by substituting commodities for others.

A selection of example recipes with supporting photographs from Alinea restaurant are listed in detail in Attachment 3.

Work Effectively and Safely as Part of a Team

The corner stone of any kitchen is teamwork. Hill was impressed with the professional attitude of the entire team, from the cooks to the cleaning staff through to the waiters and office staff.

Hill was delighted to be delegated responsibilities and tasks in each of the teams he joined. This provided an opportunity for action learning and key strategies for fostering this were pre-service and post-service briefings with all staff regarding menu items, changes and customers special needs. In this manner all team members were informed of new developments.

The International Experience

Outcomes of the Alinea Restaurant Experience

The Fellow was very pleased with the results of his work experience at Alinea. Hill's knowledge of the equipment, chemicals, gases, commodities and methods of their use in molecular gastronomy were greatly improved.

Furthermore, Hill's visit at Alinea culminated with the release of Chef Grant Achatz's first book titled 'Alinea'. Hill was able to purchase a copy of this fantastic resource before they sold out.

Additional benefits were the confidence gained, the networking and contacts that Hill maintains and continues to develop.

Moto Restaurant

*Chicago, USA. **Contact Chef:** Homaro Cantu. **Duration:** 5 hours*

The mode of service provided for two dining experiences as follows:

- The ten course option
- The twenty course option

Hill chose the twenty-course option to get to try a wider selection of the chef's signature dishes. Dinner was presented with an edible copy of the evening's menu that included the date and the diner's name and all of the menu items listed in edible inks on a crisp edible parchment. (Hill found this approach very interesting and also delicious).

The succession of courses that followed was excellent, both in their gastronomic virtue and in the creative spin that chef Cantu applies to the presentation of each and every dish.

The waiting staff also played their important part very well as they had to serve the food correctly and explain with knowledge and enthusiasm how to eat the dishes and in what sequence the items were to be eaten. As Chef Cantu had carefully designed the eating experience to be one of perfect harmony, eating one component out of the planned sequence could risk a culinary catastrophe.

A dazzling array of techniques was displayed throughout the evening, combined with classic food matching combinations, and some successful newly created pairings.

A more detailed account and supporting photographs can be found in Attachment 4.

Learning Objectives

By the end of this work experience, Hill was able to participate and experience molecular gastronomy in a leading American establishment from an informed customer's perspective.

Outcomes

Hill was very impressed with the Moto restaurant and Chef Cantu gave Hill a whole new perspective on what was possible to achieve with molecular gastronomy.

Hill's assessment was that Moto would be an excellent restaurant for a work experience placement for any interested parties wishing to extend the findings of this Fellowship in the future.

The International Experience

Restaurant wd~50

New York, USA. **Chefs:** Wylie Dufresne and Alex Stupak. **Duration:** 7 days

The unusual name of this restaurant is derived from the initials of the Chef and the number of the street in which it is situated, wd = Wylie Dufresne, 50 = 50 Clinton Street.

The originally agreed work experience was for only five days, but Hill asked for an extension to seven days as he was really enjoying the experience and learning different applications of molecular gastronomy techniques. Chef Dufresne readily agreed to extend his work experience for the additional two days.

Learning Objectives

By the end of the work experience program, Hill was able to:

- gain further skills and knowledge in the identification, selection and use of a range of ingredients, chemicals, equipment, methods and procedures used for the production of molecular gastronomy menu items.

Hill found wd~50 to be very different establishment from Alinea. This restaurant had a smaller team and smaller restaurant capacity. They also offered different service modes for dinner. Whereas Alinea only provided two set menu options, wd~50 provided a choice of set menus and a la carte dining menus. Wd~50 was also open for lunch and dinner whereas Alinea was only open for dinner service.

Hill's placement was granted specifically for the pastry and desserts department of wd~50. Hill worked with Chef Alex Stupak, one the leading pastry chefs in the USA and the best pastry chef in the molecular gastronomy style in the USA.

Hill's first task was to make the New York style lavish bread, which was a favorite staple item presented to every guest, and it was simply delicious, although very arduous and time consuming to prepare. Hill was then involved in the general preparation of all the desserts.

The attitude and style at wd~50 contrasted greatly to that of Alinea. Alinea operated at all times like an elite military unit, whereas wd~50 was a little more laid back and jovial during the preparation stages. At service times, it transformed to match Alinea, almost in a 'Jackal and Hyde' like change.

The wd~50 team led by chefs Dufresne and Stupak was positively percolating with innovation and everyone was encouraged to contribute ideas for dishes to be trialed. Chef Dufresne was highly educated in food science and employed a chef with previous qualifications in biochemistry and science.

The range of chemical additives and components was extensive and they were used in different ways, mainly more blending of ingredients using one to four different stabilising or binding agents in each recipe. This was done to achieve a particular result, ranging from soft, flexible, fluid gels to firm, brittle and crumbly textures using the same base ingredients and different quantities, ratios and combinations of additives which would not be possible to achieve with only one agent. An example of this was the use of methyl cellulose which is available in many different grades. Many signature dishes took months of development until chef Dufresne was satisfied enough with the end result to place them on the menu.

The International Experience

During Hill's work experience, Chef Dufresne was experimenting on incredibly light, but stable duck foie gras foam, created in a vacuum container. There were many failures, but the kitchen teams were happy to taste the remnants and provide feedback. These failures were not resolved during Hill's work experience time at wd-50 and Hill wonders if it ever worked out satisfactorily.

A very interesting product used at wd-50 that Hill experienced for the first time was 'Activa TG Transglutaminase' (Ajinomoto Food Ingredients LLC).

Transglutaminase bonds amino acids together, fusing the proteins between pieces of meat. It is a naturally occurring enzyme that acts to link proteins. Through this linking, transglutaminase can do the following:

- Cold bond meat pieces, fish or poultry together
- Attach bacon to the surface of meat
- Improve the texture of cheese
- Reduce syneresis (water loss) in yogurt
- Bond fruit and vegetables together.

This fine powder was sprinkled over different fish fillets such as salmon and perch and used to achieve a secured checkerboard pattern when the item was later sliced. This bonded fish could then be cooked as required and still remained together to produce a stunning presentation. This ingredient was also found to successfully bind raw fruits and vegetables together and these also remained securely bonded after the cooking process, which was not possible to achieve with traditional culinary methods.

The highlight of Hill's time at wd-50 was working with Chef Stupak, who coincidentally was the original pastry chef at Alinea Restaurant before moving to New York at the invitation of Chef Dufresne. Hill was impressed with the speed, dexterity and control Stupak had when preparing and serving the desserts. His concentration when plating up the desserts was remarkable. Hill found the consistency and precision of Stupak's creation a sight to behold.

A favorite food additive of chef Stupak was Carrageen Gum in the forms of iota and kappa. These seaweed extracted gum stabilisers rendered mousses and cream based 'set' desserts with a uniquely smooth and delicate melt-in-the-mouth texture.

Chef Stupak has created some of the most interesting and delicious treats served with coffee that Hill has ever experienced. These include such items as Yuzu ice-cream enrobed in a liquid sable and dipped in liquid nitrogen to set it, amazing creamy citrus and chocolate pouches filled with crispy feuillantine, and nougat and chocolate; all absolutely delicious.

Additional information, recipes and supporting photographs from the wd-50 restaurant have been included in Attachment 5.

Outcomes

Hill was able to gain additional experience at wd-50 using the specialist equipment and additional chemicals that were not used in the recipes at Alinea. The team at wd-50 was very supportive of Hill's program and provided comprehensive instruction and advice regarding all aspects of molecular gastronomy. Hill is very appreciative of everybody at wd-50 for their help, and recommends this establishment as an outstanding example of modern culinary art.

The International Experience

Chateau Cordeillan-Bages

Bordeaux, France. Chef: Thierry Marx. Duration: 16 days

Hill is indebted to Chef Andre Smaniotto for arranging this experience.

Thierry Marx is one of the most influential chefs in France. Thierry Marx was voted 'Chef of the year 2006' amongst his peers. This accolade is one of the most prestigious of the profession and is decided by secret ballot conducted exclusively by michelin starred chefs.

Hill was thrilled to be working in a michelin star rated restaurant, particularly with such a creative chef at the helm. Also the head of the kitchen brigade Chef Jean Luc Rocha was a 'Meilleur Ouvrier de France (MOF)', which translates to best tradesman (Master Craftsman) in France in cooking.

Chef Marx was classically trained by the very best chefs in France in the traditions of French haute and regional cuisines, but had his own creative flair that could not be contained. Thus, he followed his heart and chartered his own course, sometimes against the prevailing standards and opinions. It was testament to his hard work and determination to succeed that he enjoys the respect and admiration of the industry and gourmets alike.

The restaurant caters for a maximum of 50 customers for lunch and dinner service. It is not as busy as the American restaurants described earlier in this report.

Its goal was to maintain the quality for the guests of the chateau, who are the main clients. There were four other work experience chefs in the restaurant during Hill's placement, two French chefs and two Japanese chefs.

Hill was initially nervous about the language being a problem, but he was surprised at how much kitchen French he remembered from his earlier days working in Europe. Hill was also so pleasantly surprised at how he was treated by the team. They were even more respectful to him than the American chefs and they seemed to appreciate Hill's experience and age as valuable assets.

Learning Objectives

By the end of this work experience program, Hill was able to:

- use specialist equipment for the preparation and cooking of sous vide menu items
- prepare the spherification technique with various food items
- participate in the preparation, cooking and serving of molecular gastronomy menu items

Use Specialist Equipment for the Preparation and Cooking of Sous Vide Menu Items

The term sous vide is used to describe food items that have been subjected to being sealed in a bag, often under strong vacuum, and cooked at low temperatures.

The low temperature cooking process can be achieved via:

- Temperature controlled water baths with circulator heating pumps to maintain a constant temperature
- Accurate combination style fan forced ovens complete with temperature probes
- Simple pots filled with water and a thermometer to gauge the temperature.

The International Experience

Sous vide cooking techniques have a number of important benefits, which include:

- Well organised, safe, extended storage life
- Slow cooking ensures a tender juicy final product
- Reduces shrinkage
- Less wastage
- Provides for greater consistency and evenness in cooked foods
- Saves time during service.

Several dishes were produced with sous vide techniques as follows:

1. A lamb loin vacuumed packed and placed into a water bath set at sixty degrees celsius for six hours. The product was then cooled rapidly in an ice bath and stored until required. At service time the item was sealed in hot fat and placed in an oven for five minutes to heat through before serving. This method produced a perfectly cooked 'rose pink' tender and juicy lamb loin every time.
2. Fish, particularly salmon, immersed in lightly salted brine for thirty minutes prior to vacuum sealing and then cooked at fifty degrees celsius for twenty minutes. This produced an extremely succulent and tender result and the brining avoided the unsightly appearance of white albumen scum from being expelled during the cooking process.
3. Similar techniques were utilised for poultry, game, shellfish, fruit and vegetables.
4. Another technique was to place raw vegetables and fruits into the vacuum bags with a marinade or liquid flavouring and then vacuum and seal the bags. This would have a remarkable effect on the vegetables and fruits as the pressurised liquids permeated more evenly and thoroughly into the food. These items could then be cooked at low temperatures or served raw as macerated products.

The action of vacuum sealing the items also prevented the oxidation and subsequent discolouration normally occurring when being processed.

The sous vide process relies on absolute adherence to food safety procedures and correct handling, labelling, storage and stock rotation to guarantee safe food. Sous vide is now the fastest growing method for preparing and cooking menu items in fine dining restaurants around the world.

Prepare Spherification Techniques with Various Food Items

This important technique, developed and refined by Ferran Adrià, produces flavoured liquid filled spheres encased in a membrane of its own making. Basically the original method involved adding a small quantity of sodium alginate into a flavoured liquid or smooth puree and carefully spooning this liquid into a solution consisting of water and calcium chloride.

As soon as the puree came in contact with the calcium chloride solution the puree formed a skin and this created a sphere or yolk that could be carefully removed and rinsed and served as a flavour explosion when eaten on its own or added to accompany other food items.

An example of this was basil and crème fraiche mousse accompanied by tomato wine spheres that served as a sauce. The main problem with this technique was that calcium chloride is slightly toxic and thus required a thorough rinse before creating any medical problems.

The International Experience

An alternative method was the use of calcium lactate in place of calcium chloride. It produces the same result, is not toxic and is much safer to use. An interesting variation was to add the calcium lactate to the flavoured liquid or puree and spoon this into a solution of water and sodium alginate. This also produced spheres. Different liquids and purees have a different 'power of hydrogen' (pH) and this has an effect on the quantities required of each chemical agent to achieve good results.

Participate in the Preparation, Cooking and Serving of Molecular Gastronomy Menu Items

Hill worked primarily in the fish, vegetable and pastry sections of the kitchen. This provided him with an opportunity to prepare many menu items under supervision from different section chefs.

One of the most interesting products used was gellan gum that produced a clear gel and can be heated to 130 degrees celsius and then served hot. This was a new concept for Hill and provided him with an opportunity for some creative experimentation.

Chef Marx also had a system that all sections had to create a new dish every Saturday for trial in the restaurant. The dishes were developed, refined and presented for evaluation to chef Marx and the entire team during the week. Feedback was provided and further recommendations were integrated.

The dishes were then served to a tasting panel each Sunday and scored against a rating scale. If the dish scored well, it was then incorporated into the next menu. If the dish did not receive the required score, it was either rejected or returned for further refinement. If the dish was successful, then it was a personal achievement as well as the section team's success. Hill felt that this system had a twofold purpose. It kept the morale and interest of the team and simultaneously took the creative pressure off the chef.

Hill was pleased to contribute to the team by conducting a sugar art demonstration on his day off. This involved preparation of several sugar centerpieces which were later used in the restaurant to decorate the dessert trolley. Chef Marx and his team were delighted with this demonstration and the resulting sugar centerpieces.

Additional information, recipes and supporting photographs have been included in Attachment 6.

Outcomes

This was another excellent learning experience for Hill and he gained a different perspective on molecular gastronomy with the techniques utilised in this restaurant. Hill was pleased with the results of this work experience and he achieved his objectives.

Hill was presented with a signed copy of Chef Marx's new book titled 'Planet Marx'. Chef Marx also invited the Fellow to visit his other two establishments in Paris 'Le Laboratoire' and the Japanese French inspired 'Ozu Restaurant' in Paris. Hill would like to thank chef Marx and his team for the overwhelming support and hospitality.

The International Experience

Le Laboratoire Avec Thierry Marx

Paris, France. Chef: Florian Favario. Head Pastry Chef: Julienne Favario. Duration: Half day

Le Laboratoire is a cooperative venture between, science, art, music and food. Thierry Marx has a test kitchen in the complex where recipe development is carried out and tasting dinners are held for the members.

The complex was only newly opened and unfortunately the restaurant was not completely operational during Hill's visit. However, Hill found the establishment to serve as a catalyst in promoting Chef Marx and his cuisine. Hill found a unique item called 'Le Whiff' that was a chocolate product that he experienced for the first time.

Hill found le whiff was an effective way to curb an appetite or to accompany a cup of coffee: new culinary innovations that involve 'eating by breathing' were developed by the food lab at Le Laboratoire.

Le whiff was available in four flavours:

- Mint chocolate
- Raspberry chocolate
- Mango chocolate
- Plain chocolate.

Hill found this product to be like smoking and as the flavour exploded, it drifted into Hill's mouth and settled on his tongue. Hill tried all four flavours. This was a very creative alternative to the usual chocolates and petites fours with only one or two calories.

Additional information relating to Le Laboratoire is located in Attachment 7.

Outcomes

The visit was very informative, and Hill met Chef Florian who is also the chef of the other establishment Ozu Restaurant in Paris.

Ozu Restaurant Japonais (Japanese)

Paris, France. Head Chef: Florian Favario. Head of Pastry: Julienne Favario. Duration: 2 days

Chef Thierry Marx has a great new restaurant called Ozu, housed within the 'Cineaqua complex', a world-class aquarium in Paris.

Hill began his study at Ozu first by dining at the restaurant and having the eight-course set menu. He found this was an exceptional experience. There was a wonderful combination of traditional and modern Japanese ingredients and techniques that were also coupled with modern French methods and presentation.

Learning Objective

Prepare, Cook and Serve Japanese and French Fusion Menu Items

The wonderful set menu was followed by two days of work experience in the restaurant. Hill was exposed to a wide range of skills that augmented his existing knowledge and experience in Japanese and French fusion dishes. Besides the eight-course set menu, Ozu also offered a la carte dining options.

The International Experience

The pastry chef Julienne Favario had worked in Melbourne at the RACV Club and knew Hill's expertise in sugar work and chocolate. This assisted Hill to achieve his objectives.

The food was not quite as sophisticated as at the Chateau Cordellan-Bages. However, Hill enjoyed the Japanese emphasis. Sous vide techniques were also prominent at Ozu. Chef Julien Favario insisted Hill taste every dish on the menu and so he ate constantly throughout the two days.

Additional information and supporting photographs regarding restaurant Ozu are located in Attachment 8.

Outcomes

Hill gained some valuable knowledge and further developed his skills in preparing Japanese inspired menu items. Hill also learned that Chef Marx, Chef Florian Favario and Chef Julienne Favario would be travelling to Australia in 2009 for the Melbourne food and wine festival as guest celebrity chefs at the Crown entertainment complex. Hill offered his assistance to work with them when they visited in Melbourne in April–May of 2009.

This offer was accepted and Hill worked for four days with chef Thierry Marx and his team at Crown during the festival when they visited. This was a very valuable and interesting experience and undoubtedly added to Hill's understanding and capability in molecular gastronomy.

Restaurant Moo

Hotel Omm, Barcelona. Chef: Josep Roca. Duration: Half day

Spain has been the leading nation in the development and popularisation of the molecular gastronomy food style. Hill had approached several of the top establishments, including the temple of molecular gastronomy Ferran Adrià El Bulli restaurant in Roses, Spain. Unfortunately, Hill was unable to secure a position due to this restaurant being oversubscribed and there was a two-year waiting list to work at El Bulli. Astonishingly, Hill could not even secure a reservation at El Bulli as every service period for the entire season was over booked with huge waiting lists.

Hill was still keen to get a feeling for the base roots of where this exiting cuisine started, so he decided to at least try to gain an insight to the style by traveling to Spain and dining in some of the leading restaurants.

Learning Objective

Participate and Experience Molecular Gastronomy in a Leading Spanish Establishment From an Informed Customer's Perspective.

Hill booked in for lunch at the highly acclaimed restaurant Moo located in the very smart and elegant 'Hotel Omm' in Barcelona. Hill selected the special set menu of signature dishes, as from his experience this was the most effective manner to acquire knowledge and information on a chef's creative style.

Hill found the food was exceptional, presentation stunning, and the flavours exciting and bright on the pallet. The starter was a 'golden egg', made of a crisp blown sugar egg, filled with the most sublime savory egg filling and coated in a veneer of real gold leaf. Hill had never experienced the like of this before and he found the technical precision very impressive.

The International Experience

The foie gras soup with leeches was a great success and the fruit served as an excellent foil to the richness of the foie gras. The pigeon carpaccio was served in a smoke filled glass cloche and it was augmented with a refreshing juniper sorbet. The cloche was removed at the table and the juniper perfumed smoke filled the air.

The dessert was a coffee bean theme and was presented as a giant coffee bean, which yielded the smoothest and richest coffee and chocolate flavours.

Additional information and supporting photographs regarding restaurant Moo are located in Attachment 9.

Outcomes

Hill was very pleased with the quality and innovation displayed with the menu and the presentation was modern, stylish and exciting. It was obvious that the role of the waiting staff was critical to the success of the experience.

Alkimia Restaurant

Carrer Industria 79 08025, Barcelona, Spain. Chef: Jordi Vilà. Duration: Half day

Learning Objective

Participate and Experience Molecular Gastronomy in a Leading Spanish Establishment From an Informed Customer's Perspective

Alkimia was another highly regarded restaurant in Barcelona that had been recommended to Hill. It was located near the Gaudi cathedral. Hill once again selected the set course menu and found it to be really good. There was an emphasis on seafood items and lots of different techniques were evident. Sous vide cooking techniques were evident. In addition, marinating, smoking, pickling and confit style dishes were on offer. The selection of homemade breads was excellent, in particular the potato bread and the thin crispy coca bread.

Hill was particularly impressed with the pickled oysters and braised pork cheek and the shin of young veal, glazed green beans, olives and coconut.

The serving crockery, glassware and cutlery added to the overall presentation of the dishes. Almond ice cream with citrus, basil and orange blossom; and bitter chocolate with raspberry cream and eucalyptus ice cream were two wonderful desserts.

A highlight was the petites fours platter served with coffee. This demonstrated great variety and intelligent combinations along with superb presentation.

Additional information and supporting photographs about Alkimia have been included in Attachment 10.

Outcomes

The unique styling and presentation of the food added impact to the experience. There was certainly an undercurrent of creativity running throughout the Spanish restaurant scene. Hill is very keen to return to Spain at some stage in the future and try the restaurants in and around San Sebastian. The new restaurant by Thierry Marx will soon be opening in Madrid.

The International Experience

Espia Sucre School

Barcelona, Spain. Pastry Chefs: Jordi Butrón and Xano Sager. Duration: Half day

Hill had just enough time to visit the Espai Sucre School, which was a private school specialising in pastry, desserts and confectionary training.

Learning Objective

Compare the School's Curriculum to the Training Packages we Have in Australia

Hill toured the facilities and found them to be first class, lots of marble benches for sugar and chocolate work and a laboratory for experimentation. The school offered a variety of courses ranging from full-time two-year courses, three-month intensive programs and short specific seminars. Hill had the opportunity to speak with a class of full-time diploma students. Many of them were from the USA and they provided very positive comments about the course, its teachers and the facilities.

The morning's lesson was on apples and there was a selection of about twelve different varieties. The students taste tested each variety and identified what characteristics they had and how best to use them in food preparation. The students later prepared a wide range of dishes utilising the different apples. Then another tasting was conducted and the merits of each dish would be discussed in detail.

This facility also hosted several competitions, including the prestigious 'best restaurant dessert in the world' annual competition.

Their programs are fundamentally pastry and confectionary based and they are heavily focused on molecular gastronomy techniques. They also arrange seminars with world leaders in this field to demonstrate the latest techniques, commodities and equipment.

Additional information and relevant photographs regarding the Espai Sucre School have been included in Attachment 11.

Outcomes

Hill was very impressed with the school, its philosophy and vision. He was inspired as a teacher to see a creative environment conducive to learning. The training programs were as creatively composed as the actual desserts that were produced within them.

The Tipling Club

Singapore. Chef/Proprietor: Ryan Clift. Duration: Half day

The Fellow's international study program was all but completed, but Hill's last industry visit before he returned to Australia was to experience molecular gastronomy from the customer's viewpoint.

Singapore is renowned for great food, both the wide variety of cuisine represented with very high standards and the quality of excellence they achieve.

Hill made a booking for lunch at a new first class restaurant and bar called The Tipling Club. It had been open for barely two months, but the word on the street was that it would be a contender for inclusion in the country's best new restaurants.

The International Experience

Learning Objective

Participate and Experience Molecular Gastronomy in a Leading Asian Establishment From an Informed Customer's Perspective

The purpose of Hill's visit was to meet his colleague Chef Ryan Clift who was the proprietor of this restaurant. Chef Clift had previously been the Chef at the Vue du Monde Restaurant in Melbourne, a leading establishment in the local molecular gastronomy scene. Chef Clift had been very supportive of Hill's application for the ISS Institute/TAFE Fellowship.

When Hill arrived at the restaurant Chef Clift was pleasantly surprised and delighted. He personally composed a complementary menu for Hill, and the Fellow was treated to a magnificent meal of ten courses with matching wines. Chef Clift personally prepared and presented each dish.

As a result of an open kitchen design, Hill was able to observe Chef Clift's preparation of dishes. Hill found this experience to be equivalent to an ultimate masterclass 'dinner and show' package.

The dishes included a multitude of molecular gastronomy techniques such as hot jellies, heavenly light foams, flavoured airs, sous vide low temperature cooked meats, poultry and fish, liquid nitrogen frozen products, spherification techniques. Many different stabilisers and emulsifiers were utilised to achieve delicate mouth watering creams, mousses, iced savory and sweet components.

Additional information and relevant photographs regarding The Tippling Club can be found in Attachment 12.

Outcomes

This was a fitting end to the extensive and exhilarating work experience/study tour. Hill thanked Chef Ryan Clift for all of his help prior to gaining the Fellowship, and for the special world-class meals during his visit. The Tippling Club would be a fantastic venue for work experience, especially for individuals to learn and experience molecular gastronomy from a world regarded expert in the field.

Knowledge Transfer: Applying the Outcomes

After Hill's stimulating, experiential journey, he is delighted to integrate molecular gastronomy in cuisine styles related to Australian training programs and packages in consultation with all interested parties. Apprentices and non-apprentice students have the opportunity of actively learning these skills sets in industry, in holistic units of competency at TAFEs, other Registered Training Organisations (RTOs) or via workplace training where necessary.

Depending upon the prevailing packaging rules, molecular gastronomy principals and methods could be introduced as core units of competence or as a series of electives. In this way even if an apprentice is working in an establishment that does not provide molecular gastronomy menu items at present, they will not be left behind, as they could gain the training off-site at an RTO as part of their standard recognised training plan for the Certificate III in Commercial Cookery or as a chosen elective, or even housed in post-apprenticeship courses such as Certificate IV in Commercial Cookery.

This would be a strategic and practical way of guaranteeing the transfer of knowledge is effectively communicated and passed on to the industry. Professional chefs would also be able to attend intensive workshops, short courses and lectures to gain the required skills and knowledge. This would also help to disseminate the knowledge and skill gained by Hill from his Fellowship.

Great opportunities are also available for producers and suppliers of the specialist products and equipment to support the training of chefs and apprentices by providing information sessions and product demonstrations and by sponsoring equipment and products to RTOs to help fully develop and implement molecular gastronomy into our hospitality industry.

Currently, Hill is transferring and utilising the knowledge of molecular gastronomy gained from the Fellowship to the apprentice cooks in his classes at the Gordon Institute of TAFE in Geelong. This is achieved by preparing specials for the restaurant that utilises techniques, commodities or components derived from molecular gastronomy principals and methods. Examples of these menu items include, sous vide cooking of salmon, preparation of warm gels and mousses, utilising agar agar to garnish soups, tomato spherification techniques, soy milk based foams to accompany entrees and main courses, vacuum compression techniques for fruits and vegetable preparations, and liquid nitrogen freezing techniques.

This is particularly useful for special functions and events and Hill has encouraged his students to actively participate in the design, composition, development and implementation of molecular gastronomy dishes onto the menu. Hill also calls upon this knowledge when training chefs and students for a wide range of competitions with techniques including the use of salt brines to marinate seafood prior to sous vide low temperature cooking, producing foams with ICG canisters.

Hill believes that a lot of development work is required to prepare effective learning materials for the delivery of quality programs in this cuisine style, and this will require a lot of input, liaising and cross pollination from experts and interested parties within the industry and training organisations. To this end Hill extends an open invitation to such people to join him in this important developmental phase.

Recommendations

Observations

This Fellowship was a fantastic learning experience for Hill and helped considerably in bridging the original skills deficiencies identified in the forward application section of this report. The Fellowship also allowed Hill to undertake additional learning outcomes identified by his employer such as:

- The 2008 world pastry teams championship and pastry forum in Nashville, USA
- The 2008 Culinary Olympics in Erfurt, Germany
- The Salon de Chocolate exhibition in Paris, France
- Advanced Sugar Course with Stephane Klien in Belfort, France
- Visits to pastry shops in Paris and Bordeaux, France.

These visits were made in between appointments organised for the actual molecular gastronomy study program. The net result was a highly value added and enriched program.

Government

Proposed Action: At the Federal level, Julia Gillard, Minister for Education and Training – and at the State level, Bronwyn Pike, Minister for Education, to support and facilitate the commencement of discussions between the industry, industry associations and industry training boards, industry advisory boards and Service Skills Australia to start the process towards including molecular gastronomy elements of competence into the next training package review.

Proposed Action: To provide financial support for selected TAFEs and other RTOs to acquire the necessary equipment to enable the effective delivery of molecular gastronomy courses, modules or elements of competence.

Industry

Proposed Action: Relevant Industry Associations to implement the following:

- Support the introduction of molecular gastronomy into the training sector by lobbying government agencies, and providing feedback to that end, to industry associations, guilds and organisations
- Support and sponsor RTOs that wish to deliver molecular gastronomy programs
- Commercial establishments that provide molecular gastronomy, be supported to provide the opportunity for chefs and other specifically identified trainers to access their premises to engage in work experience placements
- Design and develop specialist equipment and serving ware to meet the preparation, cooking, presenting and serving requirements
- Encourage farmers and producers to grow organic foods
- Provide information, advice and feedback to government on training needs and skills deficiencies
- To form communities of practice to maintain the dissemination of pooled knowledge and the development and fostering of the acquisition of practical technical skills

Recommendations

- To promote learning by working with selected facilities to host demonstrations and workshops on the subject matter
- Develop competitions to promote chefs and apprentices to acquire new skills
- Cooking competition-marking criteria should reflect the molecular gastronomy skills under innovation and creativity to further encourage its development
- Demonstrations to be conducted for the Australian Culinary Federation at significant trade show venues.

Education and Training

Proposed Action: Educational institutions involved in hospitality programs at all levels to adopt the following:

- Support the development of effective learning resources, and provide improved funding to cooking departments to allow them to fully equip themselves for delivery of programs in this area
- Provide flexible industrial release training options for teachers, in conjunction with industry association selected/accredited commercial restaurants
- Cooperate with other RTOs to achieve nationally accredited courses
- Invite industry experts to give lectures and demonstrations
- All cooking teachers should be encouraged to study the techniques of molecular gastronomy, and all TAFEs with restaurant programs should provide the opportunity for appropriate staff to attend seminars on the subject as an important element of staff development.

Community

Proposed Action: Wine and food societies and dine out groups to encourage restaurants to participate in this cuisine style.

ISS Institute

Proposed Action: ISS Institute to be involved in activities which:

- Assist in the promotion of molecular gastronomy skills acquisition via its network of industry, government, educational and community contacts
- Facilitate the delivery of demonstrations and workshops to further develop the interest and understanding of molecular gastronomy
- Continue to promote the master artisan concept
- Collaborate with industry partners such as Crown Casino, other training providers, private colleges, and individuals such as Chef Andre Smaniotto, to create effective resources to be incorporated into future training packages, as either core or elective units of competence.

Recommendations

Additional Recommendations for Future Fellows

- Potential Fellows need to take all appropriate steps well in advance by researching and securing mandatory documentation requirements such as visas and work permits
- To save money and increase the duration or scope of the study program, thereby increase the learning, the Fellow recommends that future Fellows consider utilising the international youth hostels organisation for their accommodation requirements.
The hostel facilities were all very good and they are located in the best areas of cities and towns next to all services and public transport. They are safe and have friendly and helpful staff. Hostel reservations are easily booked online and the savings will be approximately 60%-70% off hotel bills
- This Fellow recommends purchasing a small digital voice recorder, to assist in recording their activities throughout the program. These recordings can then be recalled at a later date and converted into text for the purposes of preparing the Fellowship report
- It is essential to communicate with senior management within the Fellow's employment organisation to ensure support in terms of meeting deadlines, acquiring resources and general assistance so that the study tour program is planned effectively and efficiently by successfully achieving all of the identified learning outcomes of the project
- Fellows are encouraged to network with current and past Fellows to help them in all areas of the program and to use the relationship that exists between past and current Fellows, so that Fellows can help each other throughout the journey and assist in maintaining focus, motivation and adherence to deadlines set for all official reporting requirements and responsibilities.

References

These are excellent resources utilised by Hill and will provide additional information for chefs', teachers and students.

- *Under Pressure: Cooking Sous Vide*
Thomas Keller, Artisan 2008. ISBN 978-1-57965-351-4
- *Alinea*
Grant Achatz, Ten Speed Press 2008. ISBN -13 978-1-38008-928-9
- *The Big Fat Duck Cook Book*
Heston Blumenthal, Bloomsbury Publishing Plc 2008. ISBN 978 0 74758369 1
- *A Day At El Bulli*
Ferran Adria, Phaidon Press Limited 2008. ISBN 978 0 7148 4883-9
- *Planet Marx*
Thierry Marx, Editions Minerva, April 2007. ISBN 2-8307-0915-2
- *Molecular Gastronomy Exploring The Science Of Flavor*
Hervé This, Columbia University Press 2005. ISBN 978-0-231-13312-8
- *Kitchen Mysteries*
Hervé This, Columbia University Press 2005. ISBN 978-0-231-14170

Note: Several chefs from around the world are in the process of compiling and completing recipe books utilising molecular gastronomy methods, and these are eagerly awaited.

Attachments

Index to Attachments

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Attachments

Attachment 1: Equipment

Specialised Equipment Involved in the Production of Molecular Gastronomy Products and Menu Items

The role of equipment in the new culinary art science of molecular gastronomy is as vitally important as that of the ingredients themselves. In fact, to attempt many of the techniques without the correct equipment is fraught with danger and destined for disaster.

The cost and availability of the equipment is also a factor in whether or not an establishment can and will commit to this modern service style.

Listed on the following pages is the most common equipment utilised for the production of molecular gastronomy in all of the restaurants where the ISS Institute Fellow worked. The innovative chefs in these restaurants are looking to the world of science for inspiration, and to adapt the technology and customise it to the kitchen. No doubt new techniques will flow from the cross pollination of these two fields of endeavour.

Standard Digital Circulator – Model 7306

The Proportional Integral Derivative (PID) microprocessor temperature controller provides precise temperature control and greater temperature stability. The 2-speed pressure (simplex) pump minimises turbulence in small tanks and provides higher flow and greater uniformity in large tanks. An adjustable flow director accepts ½ inch (13 mm) Inside Diameter (ID) tubing for external circulation.

These machines are used to cook foods at very low temperatures in liquids, holding the required exact temperature for hours at a time. The food is generally placed in bags and vacuumed sealed sous vide style. The pump circulates the heated liquid to maintain the right temperature. The result is a meat, fish or poultry item that is incredibly moist and tender.



Standard Digital Circulator – Model 7306



Standard Digital Circulator – Model 7306

Attachments

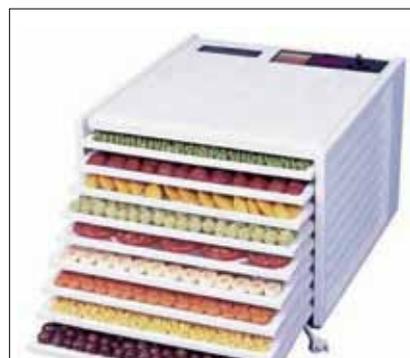
Induction Cook-tops

MCxx00G series counter top, single burner, induction cook-tops represent CookTek®'s flagship range of induction cook-tops. They offer enhancements such as finer resolution control via 0-100 power settings, a greater number of temperature settings, an intuitive touch sensitive control panel, digital timer (with alarm only or auto-power off functionality), and keypad lockout to temporarily prevent others from changing cooking settings.

Induction cook-tops are extremely powerful and use much less energy than conventional cook-tops.



Induction Cook-top



Excalibur Food Dehydrator

Excalibur Food Dehydrators

Dehydrators are utilised extensively in the kitchens of molecular gastronomy restaurants. Many different preparations are dried and then some are cooled and served cold. Some warm directly from the dehydrator and others are dried first and then baked or even deep-fried to produce crisp wafers from fruits and vegetables.

Pacojet High Speed Processor



The Pacojet is another vital piece of equipment in the preparation of molecular gastronomy menus. It is particularly effective in creating heavenly ice creams and sorbets.

The flavoured mixture is placed in the canisters, frozen and then placed on the Pacojet and blitzed to form the smoothest, lightest iced desserts.

The Pacojet is also excellent for preparing savoury items, mousselines and pastes. Pacojet have a wide range of attachments and resources including an operation manual and recipe books.

Pacojet High Speed Processor

Attachments



The components of a Pacojet system



Vitmix Vita-Prep 3 Blender VM10089

- 2.0 litre container with wet blade
- Designed for food preparation in commercial kitchens
- Variable speed, 1000 – 24000 rpm
- 3+ Peak HP Motor with large cooling fan
- Power, 10 amps, 1300 – 1500 watts
- Spare jugs, VM1195 – Optional
- Dimensions, 203 x 229 x 510 H

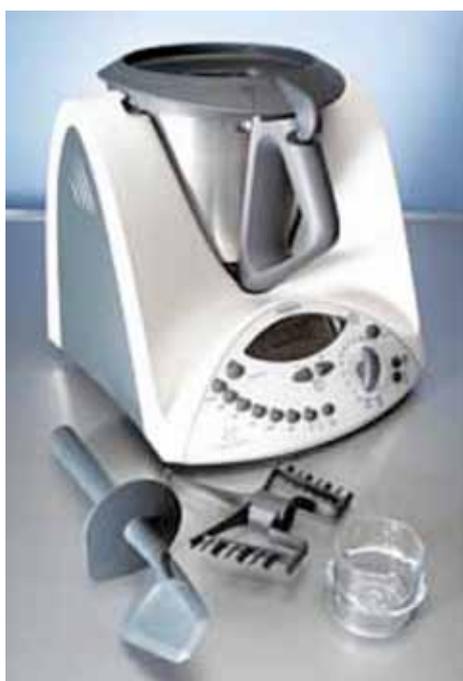
Vitmix Vita-Prep 3 Blender VM10089

Attachments

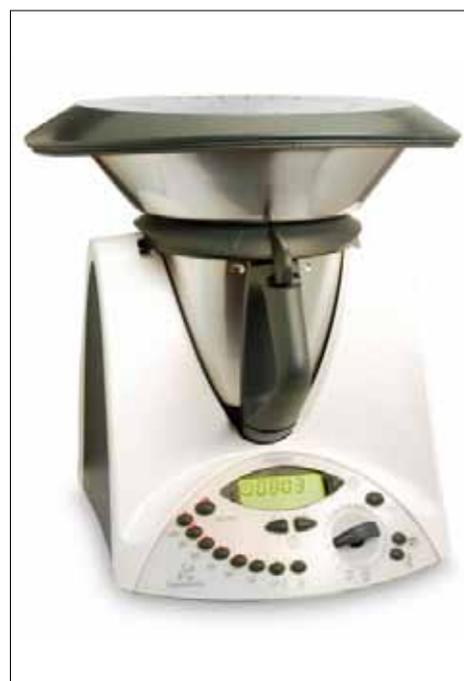
Vita-Prep high-speed blenders are essential tools to disperse powdered gums and thickeners into liquids, greatly reducing the time and the problems normally associated with this process, such as lumps, incomplete dissolving, and a particle size that is too coarse.

Thermomix TM 31

A product of more than 40 years of German design and innovation, the Thermomix unites the functions of over ten appliances in one compact unit. The Thermomix has an amazing ability to chop, beat, mix, whip, grind, knead, mince, grate, juice, blend, heat, stir, steam and weigh food. It is ideal for complex recipes where colloids have to be carefully mixed and heated.



Thermomix TM 31



Thermomix TM 31

Vacuum Machines

Vacuum machines have several uses. First, for general storage; but more importantly, for sous vide cooking in conjunction with a Circulator. Food items can also be placed in a bag, with marinades, dressings, sauces, seasonings or wines added and vacuumed, to facilitate the flavour penetrating into the menu item.

The percentage of air removed can be selected and in some cases gas (CO₂) can be flushed into the bags and sealed to provide additional shelf life and food safety.

Vacuum machines are essential for the cooking process called 'sous vide', which is an integral part of molecular gastronomy. Vacuum packed fruits, such as different types of melons and apples, can be compression treated to achieve interesting textures for sweet and savoury uses.

Attachments



A vacuum machine

Salmon portions are vacuum packed, and then slow cooked according to the desired recipe. A common process conducted before the vacuum sealing stage is to soak the salmon in salt brine. This helps to retain the colour of the salmon during cooking

Meats such as pork can be vacuum sealed with flavoured liquids and left marinating in the bag prior to cooking.

Attachments



Salmon portions that have been vacuum packed



Pork that has been vacuum sealed

Smoke Machines

One of the latest developments is the smoke machine, used to pump smoke into serving vessels, or bags to perfume foods with smoke. A multitude of different effects can be produced by using different commodities to produce the smoke. It is also a stunning presentation to serve food under a smoke-filled cloche and lift it at the table, so that the diner gets the fragrance as an additional sensation.



Smoke Machine

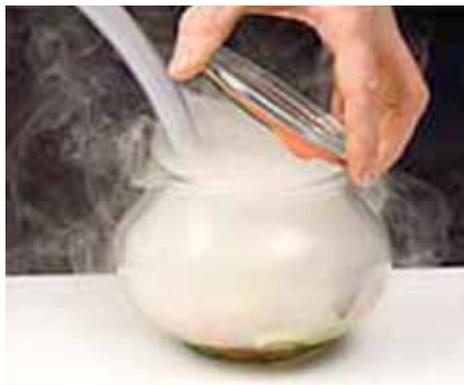


1. Chef filling the funnel with desired material



2. Igniting with a blow torch to make the smoke

Attachments



3. Pumping the smoke into a container and sealing it



4. Filling a cloche with smoke and serving



5. The liquid smoke formed can be retrieved for later use



6. Liquid smoke being used to flavour other menu items

Thermo Whip™

The ISI company's Thermo Whip is the first food whipper with thermal capabilities. The Thermo Whip, with its patented technology and added flexibility, with an additional pinch of innovation, will prove invaluable!

First, it can keep contents cold for up to eight hours, without refrigeration. Second, it can keep ingredients hot, without the need to reheat, for up to three hours. Third, you can take the Thermo Whip with you wherever it's needed, buffet, catered event, whatever. Fourth, it can be used to help free up limited refrigerator space, keep it filled with what you need, to save unnecessary steps. Perfect for creating and storing delicate soups, sauces, gravies, whipped items and of course excellent for modern foams, spumes and airs.

Soda Chargers

Soda chargers contain eight grams of CO₂ (carbon dioxide); one charger is used per bottle fill. They are leak proof and have no expiration date. Generally made of 100% recyclable steel, coated with a water-soluble lacquer.

Attachments

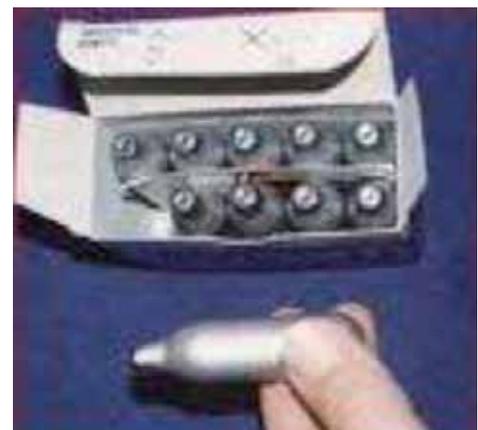
A special solvent-free cleaning method used before filling ensures pure, clean CO₂. It is important to have plenty of these soda canister charges on hand, as they tend to be used up quickly.



Thermo Whip food whipper



Soda chargers



Soda chargers

Ohaus JR-300 Ruby Jewelry Scale, 300 g x 0.1 g

The ingredients, gums and colloids must be measured exactly for each recipe to obtain best results. Even minute quantities or errors can have a significant effect on the final dish. These tiny but highly accurate scales are invaluable when weighing up components for various recipes.

Attachments

Features:

- 300 gram capacity with 0.1 gram readability
- Weighs in grams, ounces, pennyweight and troy ounces
- Sleek, low profile design saves counter space
- Low battery indicator and energy saving auto off feature

This rugged, dependable scale is attractive and versatile with easy operation, higher weighing capacities, long battery life, and great performance.



Ohaus JR-300 Ruby Jewelry Scale, 300 g x 0.1 g

Gastrovac – The Vacuum Revolution

The Gastrovac is a compact appliance for cooking and impregnating in a vacuum. It is patented in over 160 countries and developed with the Universidad Politécnica de Valencia and the cooks Javier Andrés (La Sucursal Restaurant, Valencia) and Sergio Torres (El Rodat Restaurant, Jávea).

It functions by creating an artificial low pressure, oxygen-free atmosphere, and considerably reduces cooking and frying temperatures, maintaining the texture, colour and nutrients of the food. Moreover, the Gastrovac creates the 'sponge effect'. When the atmospheric pressure is restored, the food absorbs the liquid around it, allowing infinite combinations of foods and flavours.

Attachments



Gastrovac – The vacuum revolution



Nitral – a tool to cook with nitrogen

Nitral – a Tool to Cook with Nitrogen

Consists of a container designed by the Alicia Foundation (Food and Science). It is especially recommended for preparations using liquids at very low temperatures, such as nitrogen.

Nitral is 100% stainless steel to prevent cracking. Its inner coating is made of rubber and Teflon to minimise liquid evaporation and temperature transfer.

Green Star Juicer

Regarded as the most versatile juicer on the market, it can turn almost all fruit and vegetables into juice or liquid quite effortlessly. It is also an excellent tool for making almond or date flours, walnut or vegetable pastes, and sauces made with different combinations and of all kinds.

As well as its great blending capacity, it has the efficiency of its patented magnet system that creates a magnetic field resulting in the concentration of minerals being increased and oxidation reduced, so that the juices and liquids maintain their nutritional values, and do not lose a lot of flavour.



Green Star Juicer



Green Star Juicer

Attachments

Superbags

The Superbag is a revolutionary bag. It is a porous filter manufactured in an inert, flexible and heat-resistant material suitable for cooking, and it adapts perfectly to different containers.

The Superbag is ideal for preparing consommés, making stocks and, in general, cooking large quantities of ingredients. During these processes it reduces the amount of water the cook needs to use and saves a great deal of time since there is no need to strain or clarify consommés.

Sizes:

- 1.3 litres of 100 microns/1.3 litres of 250 microns/1.3 litres of 400 microns
- 8 litres of 100 microns/8 litres of 250 microns/8 litres of 400 microns.



Superbags



Superbags

Caviar Spherification Tool Kit

These syringes are used to evenly deposit the flavoured liquid into a calcium or alginate bath to form tiny spheres, generally called 'caviar', for use in garnishing dishes. Larger spheres, up to the size of egg yolks can be achieved by using demi-sphere spoons to portion the mixture.



Caviar Spherification Tool Kit



Caviar Spherification Tool Kit

Attachments



The result of using the Caviar Spherification Tool Kit

Attachment 2: Selection, Preparation, and Additives

Selection, Preparation and a Variety of Food Additives Utilised for Molecular Gastronomy

A range of the most commonly used food grade chemical additives that are available are described on the following pages. It is by no means a complete list, as new variations of products are arriving on the cuisine scene all the time. These were the ones that Hill was exposed to throughout his Fellowship tour.

The information under the heading 'How Molecular Gastronomy Works – Colloids' (below) gives a simple explanation to some of the most common techniques used by molecular gastronomy exponents to create dishes, or components of dishes, with interesting or unique textures or characteristics.

A 'colloid' is a type of chemical mixture in which one substance is dispersed evenly throughout another. The particles of the dispersed substance are only suspended in the mixture, unlike in a solution in which they are completely dissolved. This occurs because the particles in a colloid are larger than in a solution

How Molecular Gastronomy Works – Colloids

Type of Colloidal System

- Foam
- Solid foam
- Solid gel
- Emulsion
- Solid emulsion

Attachments

Description

- Foam – gas dispersed in a liquid
- Solid foam – gas dispersed in a solid
- Solid gel – solid dispersed in a liquid
- Emulsion – liquid dispersed in a liquid
- Solid emulsion – liquid dispersed in a solid

Example

- Foam – whipped cream beer foam
- Solid foam – marshmallow
- Solid gel – gelatine-jelly
- Emulsion – milk, mayonnaise, cream
- Solid emulsion – butter, cheese



Example – milk is an emulsified colloid of liquid butterfat globules dispersed within a water-based fluid



Molecular gastronomy Ingredients in the modern restaurant pantry

Incorporating Hydrocolloids Into the Base Components of a Recipe

The procedure for blending most of the hydrocolloids is to place a portion of the liquid into the Vita-Prep and blend on 'medium high' to form a vortex. The weighed out amount of additive is then carefully sprinkled into the centre of the vortex and the speed is increased to maximum for approximately 30 seconds to 'shear in' the mix.

The resulting slurry can then be added to the residual mixture and mixed thoroughly, allowed to form a gel, or heated through if required prior to completing a recipe.

Attachments

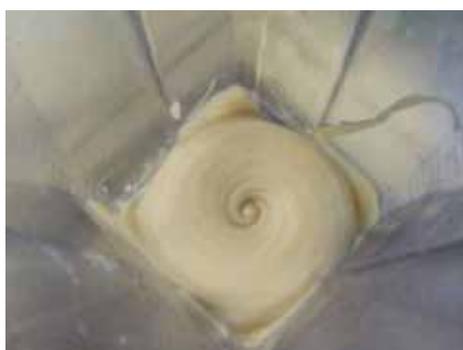


A chef happily demonstrating a Vita-Prep super blender



A selection of popular food additives

The Vita-Prep super blenders are powerful high-speed machines, and are perfect for incorporating hydrocolloids and other food additives into mixtures to avoid lumps and problems with dissolving, and to achieve an even dispersion or emulsification.



This view is looking down into the Vita-Prep blending jug. You can clearly see the vortex formation where the powder was added



Lecithin – ‘Lecite’

Lecithin – ‘Lecite’

A natural phospholipid derived from soybean, lecithin is partially water-soluble, and an emulsifying agent that helps fat and water stay together. Therefore, it is often added to foods, such as chocolate, cheese, margarine, and salad dressing. It has health benefits, such as reducing cholesterol levels. It is often added to flavoured liquids and then bar mixed to create foams that are spooned onto dishes to give added presentation and texture.

Attachments

Guar Gum

A water-soluble powder obtained from plant mucilage (*Cyanopsis tetragonoloba*).

Guar is a white free flowing powder, completely soluble in hot or cold water to form a tasteless, odorless, non-toxic solution. Guar gum powder has five to eight times the thickening power of starch.

It is mainly used in pharmaceuticals as a binder in tablet mixtures, thickener, and emulsifier in food products, such as cheese spreads, ice cream and other frozen deserts. The water-soluble portion (85%) is called 'guaran' and consists of 35% galactose, 63% manose with the balance being protein.

Maltodextrin Powder

A slightly hygroscopic fine white powder, produced by spray drying partially hydrolyzed food grade wheat starch. It has a Dextrose Equivalence (DE) of 18.20.

Maltodextrin is a complex carbohydrate consisting of dextrose (glucose), maltose, maltotriose and higher polysaccharides.

Maltodextrin is used in a wide variety of products, stretching from bodybuilders, animal trainers (horses and greyhounds) to pharmaceutical manufacturers. Tapioca maltrodextrin (N-zorbit M) by National Starch is a popular product used to make powdered oil and fat products such as white truffle powder, and olive oil powder.



Maltodextrin powder



Agar Agar powder

Agar Agar Powder

Also known by its Japanese name, Kanten, Agar is derived from Gracilaria (*Gelidium* species) a bright red sea vegetable (*Gelidium purpurascens*). This product has a gel-strength of 1000.

Due to its high gelling properties agar agar powder is considered the king of gelling agents. Excellent as a thickening agent for doughnuts, marmalade and jam, jelly, cheese, puddings, gelatin fruit desserts, meat products, bakery fillings and icings, dry and canned soups and ice cream.

Attachments

Natural agar agar is unflavoured, producing a firm, clear jelly and is rich in iodine and trace minerals. It has mild laxative properties. Agar agar has strong setting properties and unlike gelatin, which requires refrigeration to set, it will set at room temperature after about an hour—although it is advisable to store dishes gelled with agar agar in the fridge, as it is a high protein food. Powdered agar can be substituted for the same quantity of unflavoured gelatin in recipes.

Typical usage level is ½ percent agar in water.

The gelling ability of agar agar is affected by the acidity or alkalinity of the mixed ingredients. More acidic foods, such as citrus fruits and strawberries, may require higher amounts of agar agar. Some ingredients will not set when mixed with it at all, such as chocolate, spinach, kiwi fruit (too acidic), pineapple, fresh figs, paw paws, papaya, mango and peaches, as all contain enzymes which break down the gelling ability (although cooked fruit seems to lose this effect).

For a firm jelly you require approximately two teaspoons of powder or two tablespoons of flakes per pint (600 ml) of liquid.

Genu® Pectin Yellow Type D Slow Set-Z

Yellow pectin is a heterosaccharide gelling agent derived from the cell wall of plants. Under acidic conditions, pectin forms a gel, and it can be used as an edible thickening agent in processed foods. The thickening affect of pectin is mainly utilised where food regulations prevent the use of cheaper gums or where the 'all natural' image of a product is essential.

This slow-set type is high ester pectin extracted from citrus peel. It has a low setting temperature and is used as a gelling agent in high sugar products. Typical applications are in jams and jellies with soluble solids of 65–75%. The level of usage is from 0.3% to 1%. The pH range to form gels is around pH 3.0.

Calcium Chloride

Calcium Chloride (CaCl_2) is a compound of calcium and chlorine. It is a salt that is solid at room temperature and is highly soluble in water.

Calcium chloride tastes extremely salty and is used as an ingredient in some foods, especially pickles, to give a salty taste while not increasing the food's sodium content. It can be used in many other ways and forms, such as in sports drinks as an electrolyte or in the production of many cheese varieties such as brie and stilton.

In molecular gastronomy it is used in combination with sodium alginate and sodium citrate to create spheres, caviar, pearls or ravioli. Ferran Adria, who created the concept in his world famous restaurant, El Bulli, first introduced this idea. The idea being that a liquid is thickened with sodium alginate and submerged in a bath of calcium chloride to create spheres, also know as the process of spherification. Ferran showcased his new concept on the restaurant menu in the form of his famous rock melon caviar, and mango and tea ravioli.

Calcium Lactate

Calcium lactate is a white crystalline salt created by the action of lactic acid on calcium carbonate. In molecular gastronomy it is used as a solidifier and in reverse spherification, which allows foods with high calcium content to be made into spheres or caviar.

Attachments

Calcium lactate is also often found in aged cheeses. Small crystals of it precipitate out when lactic acid is converted into a less soluble form by the bacteria active during the ripening process.

It can be added to fresh-cut fruits such as cantaloupes to keep them firm and extend their shelf life, without the bitter taste caused by calcium chloride, which can also be used for this purpose.

Sodium Alginate

Sodium Alginate, a natural product with the chemical formula $\text{Na C}_6 \text{H}_7 \text{O}_6$, is derived from the cell walls of brown algae. It is used in the food industry as a thickener, to increase the viscosity of liquids and as an emulsifier.

Ferran Adria who created the concept of spheres/pearls in his world famous Restaurant El Bulli in 2003, first introduced the use of sodium alginate in the restaurant industry. The idea being that a liquid is thickened with sodium alginate and submerged in a bath of calcium chloride to create spheres, also known as the process of spherification.

Lecithin

The French scientist Maurice Gobley first discovered lecithin in 1805 named it 'lekithos' after the Greek word for 'egg yolk'. At the time, eggs provided a primary source of commercially produced lecithin. Today, the majority of lecithin used in food applications is derived from soybeans during the production of soybean oil.

Lecithin is used in the commercial market as an emulsifier and antioxidant. A great example of its use is in chocolate, where it is used to emulsify the cocoa and cocoa butter and keep it from separating.

In the molecular gastronomy kitchen it can be used for many creations, one such example being foams or airs. A small amount of lecithin is added to a liquid and, with the aid of a frothing attachment on a hand held mixer, air is incorporated into the mixture. After allowing to set for a minute the foam or air created can be spooned onto any sort of dish or used in any way imaginable.

Xanthan Gum

Xanthan gum, also known as E415, was first discovered by Allene Rosalind Jeanes and her research team at the United States Department of Agriculture. At the time of discovery Allene was in charge of screening a large number of biopolymers for their potential uses.

One of the most remarkable properties of xanthan gum is its capability of producing a large increase in the viscosity of a liquid by adding a very small quantity of gum, on the order of one percent. In most foods, it is used at 0.5%, or even as low as 0.05%. The viscosity of xanthan gum solutions decreases with higher velocity rate. This means that a product subjected to a form of movement, whether from mixing, shaking or even chewing, will thin out, but once this movement velocity is removed, the food will re-thicken back to its original viscosity.

In foods, xanthan gum is most often found in salad dressings and sauces. Also used in frozen foods and beverages, xanthan gum creates the pleasant texture in many ice creams. Since the gluten (found in wheat) must be omitted, xanthan gum is used to give the dough or batter a stickiness that would otherwise be achieved with the gluten.

Sodium Citrate

Sodium citrate is a saline like compound and slightly tart in flavour. Sodium citrate is used for flavour or as a preservative and acidity stabiliser. Sodium citrate is employed as a flavouring agent in certain varieties of club soda or soft drinks, such as those with lemon-lime and citrus in them, contributing to their tart tastes. In ice cream, sodium citrate prevents the fat molecules from coagulating together to give a smooth, even texture.

In molecular gastronomy it is used in combination with sodium alginate and calcium chloride to create spheres, caviar, pearls or ravioli. In the process of achieving spherification some solutions may be too acidic, for example passion fruit juice or orange juice. With the addition of sodium citrate it is possible to better control this acidity, thus reducing the impact of the solution on the final product.

It is also possible to use sodium citrate to enhance products made from invert sugars, such as glucose and isomalt, which have no real flavour of their own. By adding a small amount it will enrich the flavouring agent added to the sugars. Therefore, in items such as wafers adding sodium citrate will add a slight tart flavour.

Sodium Citrate + pH Kit

This pH kit includes sodium citrate and pH indicator strips. To regulate pH, add sodium citrate until a neutral pH (6–7) is reached to facilitate spherification.

Genulacta® LP-41 Iota Carrageenan

A natural hydrocolloid, carrageenan is a natural extract from specific red seaweed species that are farmed and processed. It is used as a suspending and emulsifying stabiliser, thickener, binder, and gelling agent. This type is standardised with sucrose. It functions mainly as a gelling agent in (typically hot) milk desserts. The level of usage ranges from 0.15% to 0.35%

Genugel® LC-5 Carrageenan

A natural hydrocolloid, carrageen is a natural extract from specific red seaweed species that are farmed and processed. It is used as a suspending and emulsifying stabiliser, thickener, and binder and gelling agent. This type is mostly iota with some kappa. It is used for water gels.

Genugel® CHP-2 'Kappa' Carrageenan

A natural hydrocolloid, carrageenan is a natural extract from specific red seaweed species that is farmed and processed. It is used as a suspending and emulsifying stabiliser, thickener, and binder and gelling agent. These outstanding properties make it a very versatile ingredient, finding more usage in meat. Typical applications include cooked cured ham, poultry roll, and turkey breast. This refined kappa type is soluble in hot water at temperatures above 140 degrees fahrenheit. It is soluble in a cold-water medium when mixed with sodium salt. The same is true for both conditions when the medium is milk. The usage level is 0.3-0.6%.

Kelcogel® F Gellan Gum – 'Gellan'

A water-soluble polysaccharide produced by fermentation, this gelling agent can be used alone or in combination with other products to produce a wide variety of interesting textures. Extremely effective at low use levels in forming gels (0.05%), F gellan gum is fine mesh, low acyl and forms hard, non-elastic, brittle gels and fluid gels. It is recommended for dry mixes and high solid applications.

Kelcogel® LT100 Gellan Gum

A water-soluble polysaccharide produced by fermentation, this gelling agent can be used alone or in combination with other products to produce a wide variety of interesting textures. Extremely effective at low use levels in forming gels, LT100 gellan gum is high acyl and forms soft, very elastic, non-brittle and fluid gels.

Methyl Cellulose K4M FG

Methylcellulose forms a gel when heated, and melts into liquid when it cools. This is analogous to gelatin, only backwards. This feature can improve a food if it undergoes heating at some point in its processing or preparation and needs stability at cooking or processing temperature (eg preventing a sauce from thinning out or a filling from boiling out). It is used as a binding agent for foods that need to keep their parts together.

Products such as pasta, vegetarian burgers, onion rings, and formed potato products are all improved by its binding strength. This is due to its cohesive nature at low temperatures and the structural integrity of the gel at higher temperatures.

It is the only food gum that truly lowers the surface tension of water. This means it makes water wetter, allowing for easier whipping, more efficient emulsification, and film formation. This is great if you make emulsions, like whipped toppings, sherbets, and salad dressings. This K4M food grade type has medium-high viscosity (4,000 mPas) and forms a soft gel at 158–194 degrees fahrenheit. Its optimal hydration temperature is less than 85 degrees fahrenheit. Its main functions are hot cling, salt/sugar tolerance, air entrainment, water binder/thickener, viscosity control (hot or cold), moisture retention, and lubricity. Popular applications and uses include:

- Glazes and sauce performance
- Dairy and sauce ingredients
- Excellent overrun control
- Provides freeze/thaw stability
- Boil out control in bakery fillings
- Aiding low-fat and gluten-free baked goods
- Aiding 'mouth feel' of low-fat foods.

Methyl Cellulose SGA7C – 'Metil'

Methyl cellulose forms a gel when heated and melts into liquid when it cools. This is analogous to gelatin, only backwards. This feature can improve a food if it undergoes heating at some point in its processing or preparation and needs stability at cooking or processing temperature (eg preventing a sauce from thinning out or a filling from boiling out). It is used as a binding agent for foods that need to keep their parts together.

Products such as pasta, vegetarian burgers, onion rings, and formed potato products are all improved by its binding strength. This is due to its cohesive nature at low temperatures and the structural integrity of the gel at higher temperatures.

It is the only food gum that truly lowers the surface tension of water. This means it makes water wetter, allowing easier whipping, more efficient emulsification, and film formation. This is great if you make emulsions, like whipped toppings, sherbets, and salad dressings.

Attachments

This Super Gelling A7C food grade type has medium-low viscosity (700 mPas) and forms a very firm gel at 100-114 degrees fahrenheit. Its optimal hydration temperature is less than 50 degrees fahrenheit. Its main function is for hot gel strength. Popular applications and uses include:

- Binding matrix foods
- Egg white replacement
- Soy veggie patties
- Improves succulence and juicier texture.

Pure-Cote®

Pure-Cote® modified food starches are unique, low-viscosity starches that provide excellent film-forming and adhesive properties. They form clear, flexible films with excellent sheen that are fast drying and flavour free.

They function as strong binders for seasonings on snacks and cereals and as smooth, glossy coating agents for confections and baked goods. It can be used to form fruit leather.

Versawhip 600K

A natural ingredient based on proteins of dairy or vegetable origin. It exhibits exceptionally consistent whipping performance and is widely used in sugar confectionery products. Used to replace egg albumin or gelatin with the advantage of having no egg flavour at all and producing more stable foams. It can be used for hot or cold foams.

Simplese® 500 Whey Protein Concentrate

All natural, free-flowing whey protein concentrates powder that is readily rehydrated with no special processing required. It is a multi-functional, versatile product that provides significant functional benefits in a wide range of full-fat and low-fat food applications. It contains 35% whey protein, usually used in natural and processed cheese, cream cheese, and frozen desserts.

It is a natural dairy ingredient and can be labelled as whey protein concentrate, milk protein, or dairy proteins.

Sosa Gelcrem Corn Starch Substitute

This cornstarch substitute is a colourless thickener that gives a creamy texture (like confectioners' cream). It has stable viscosity in the oven and is stable in acidic mixtures.

It can be applicable in all types of liquids. In smaller quantities it can be used to make soups, such as cream of vegetable.

Sosa Glycerin

Glycerin is an emulsifier that facilitates the union of fat molecules with water. It prevents the formation of fat bloom on confectionery and truffles. It is applicable to all types of products with water content, and it is particularly recommended for use in water-fat mixtures. It prevents ice creams from drying out or being too sweet. Glycerin serves as humectant solvent and sweetener, and may help preserve foods.

Attachments

It is also used as filler in commercially prepared low-fat foods (cookies, cake, and candy), and as a thickening agent in liquors. Glycerin also serves as a whey, along with water, to preserve certain types of leaves. Glycerin is also used as a sugar substitute. In this regard, it has approximately 27 calories per teaspoon and is 60% as sweet as sucrose. Although it has about the same food energy as table sugar, it does not raise blood sugar levels, nor does it feed the bacteria that form plaque and cause dental cavities. This glycerin can be used in hot or cold mixes.

Sosa Inulin

Inulin is a specific type of dietary fiber that is naturally found in hundreds of common foods such as leeks, artichokes, asparagus, onions, garlic, bananas, wheat, rye, and chicory root. Inulin has excellent nutritional and functional characteristics and can be used to replace fat, flour, and sugar.

Inulin has several health benefits: it promotes a healthy digestive system, helps manage diabetes, and improves bone health. Inulin also improves flavour and texture. Its taste is comparable to sugar and can be used as a sugar replacement.

Activa TM TG Transglutaminase from Ajinomoto Food Ingredients LLC

Transglutaminase is a revolutionary new way to improve existing food products or allow 'out of the box' thinking in making new food products.



Two different types of fish bonded together using Activa Transglutaminase.



The bonded fish, sliced through and served on pickled rice as sushi.

Transglutaminase is some times referred to as 'meat glue'. Transglutaminase bonds amino acids together, fusing the proteins between pieces of meat. It is a naturally occurring enzyme that acts to link proteins.

Through this linking, transglutaminase can do the following:

- Cold bond meat pieces, fish or poultry together
- Attach bacon to the surface of meat
- Improve the texture of cheese
- Reduce syneresis (water loss) in yogurt
- Many other applications.

Attachments

Transglutaminase is a protein that is made by a fermentation process. Fermentations are widely known throughout the food industry and many well-known foods and beverages are produced by fermentation. Various forms of transglutaminase are found in animals, plants and microbes. Transglutaminase from fermented sources tend to be easy to use in many different food systems.

Attachment 3: Alinea Restaurant

1723 North Halsted Road, Chicago (located in the Lincoln Park area), Illinois 60614



The outside of Alinea restaurant, Chicago



The interior of Alinea

Attachments



Chef Grant Achatz

Chef Grant Achatz realised a lifelong dream by opening Alinea in Chicago in May 2005. The restaurant received extraordinary attention from day one, and was nominated by the James Beard Foundation as the 'Best New Restaurant in America' that same year.

Under chef Achatz' leadership, Alinea has received worldwide attention for its hypermodern, emotional approach to dining. Alinea has received four stars from both the Chicago Tribune and Chicago magazine. Achatz was named the 'Next Great American Chef' by The New York Times in (September 2005). In October 2006, Alinea received 'Five Diamonds' from AAA, and Ruth Reichl of Gourmet magazine declared Alinea the 'Best Restaurant in America' in its twice-per-decade list of America's Top 50 Restaurants.

Chef Achatz has appeared on the Today Show, CBS, Sunday Morning, The Food Network, The Discovery Channel and PBS, and has been featured in dozens of periodicals around the US and from as far away as Sweden, Finland, Great Britain, Spain, Italy, the Philippines, and France.



Chef Grant Achatz



Chef Grant Achatz

Attachments



The interior of Alinea



Alinea dining room

Alinea is open for dinner service only, Wednesday to Sunday, and seats a maximum of 100 people.

The meal service is spread over an extended service period of approximately five hours.

Alinea offers two menu formats:

1. A 12-course Tasting menu
2. A 24-course Grand Tour menu.

Each menu format had the option of wine pairings for an additional charge, with specially chosen premium wines to complement each course available. Approximately 70% of the diners elected to go with the 'tour' option and 30% went with the 'tasting menu'. On the following page is the tour menu that was offered when the Fellow was gaining his work experience at Alinea. The restaurant was constantly busy, and bookings had to be made well in advance to guarantee a reservation.

Alinea attracts chefs from all over America and all over the world for work experience, and there are generally three to four work experience chefs at Alinea at any one time.

Attachments



Waiter service

Grand Tour Menu, September 7th 2008

Menu Item	Description and Wine Pairing
Steelhead Roe	<i>Smoked salmon, grape, celery</i> Cocktail of Jane Ventura cava with aloe pulp juice, sauternes and vermouth
Lemon Grass	<i>Oyster, sesame, yuzu</i>
Tomato	<i>Basil, mozzarella, olive oil</i> Domaine Sigalas, Assyrtiko, Santorini Greece 2007
Rouget	<i>Artichoke, garlic, bottarga</i> Fruhirth Scheurebe, Steiermark, Austria 2006
Yuba	<i>Shrimp, miso, togarashi</i>
Chicken Liver	<i>Bacon, caramelised onion, vin santo</i> Hans Reisetbauer 'Apfel Cuvee' Schaumwein Trocken, Austria.
Watermelon	<i>Green coriander, tamari, bonito</i>
Oxalis Pod	<i>Sweet, hot, sour, salty</i>
Pork	<i>Mastic, rosemary aroma</i> Reisetbauer 'Apfel Cuvee' with Christian Drouin Pommeau de Normande
Short Rib	<i>Guinness, peanut, fried broccoli</i> Paolo Bea montefalco Riserva 'Pipparello' Umbria 2003
Hot Potato	<i>Cold potato, black truffle, butter</i>
Lamb	<i>Potato, sunflower, sweet spice</i> Clos Dominic 'Vinyes Altes' Priorat, Spain 2004

Continued...

Attachments

Fried Egg	<i>Paprika parsley</i> Primitivo Quiles Fondillion 'Solera 1948 Gran Reserva' Alicante, Spain
Foie Gras	<i>Fig, coffee, tarragon</i> Hans Nittnaus Zweigeit Beereauslese, Burgenland, Austria 2005
Rhubarb	<i>Ginger, basil</i>
Transparency	<i>Of raspberry, rose petal yogurt</i>
Cobia	<i>Tobacco, radish, cedarwood</i> Fonthill 'Sea air' Verdello, McLaren Vale, South Australia 2006
Nasturtium	<i>Abalone, ginger, eggplant</i>
Alaskan King Crab	<i>Popcorn, butter, baby corn</i> Chereau – Carre Muscadet Comte letoup de Chasseloir, Ceps Centenaires, Lore 2003
Wagyu Beef	<i>Maitake, smoked dates, Bliss Elixir</i> Solena 'Domaine Danielle Laurent' Pinot Noir, Willamette Valley, Oregon 2004
Black Truffle	<i>Explosion, romaine, parmesan</i>
Duck	<i>Foie gras, mole flavours</i> El Maestro Sierra Oloroso '15 años, Jerez ,Spain
Bacon	<i>Butterscotch, apple, thyme</i>
Sweet Things	
Strawberry	<i>Violet, nicoise olive</i>
Dry Shot	<i>Pineapple, rum, cilantro</i>
Sorrel	<i>Honey, fennel, poppy seeds</i> Braida di Giacomo Bologna Moscato D'asti Vigna Senza Nome, Piedmont 2007
Whole Wheat	<i>Almond, apricot, chervil</i> La Tunella Verduzzo Friulano, Colli Orientali del Friuli 2005
Malt	<i>Cherry, cashew, vanilla fragrance</i>



The Alinea logo



An outside view of Alinea restaurant

Attachments



Waiter service



Alinea's first dining room



Alinea entrance hall

A Day in the Life of Alinea – A Personal Account, 7th September 2009

The kitchen team officially commenced work at 11.00 am in the morning, but most arrived at 10.00 am. Clean uniforms are provided to all staff every day and two tea towels; these were as valuable as gold. Kevin, the baker, had been working all night and was shaping the goat butter into perfect quenelles using a dedicated machine. The Fellow was assigned to a section of the kitchen, generally the pastry area, and the Chef de Partie (leader of that department) would allocate the tasks to the team based on the number of bookings for the day and the amount of preparation required to meet the demand.

Teamwork was paramount, almost to a religious degree. The kitchen brigade (team) was comprised mainly of young chefs from America and they were highly skilled, very dedicated and passionate about all things involved in the culinary arts. The Fellow was initially quite nervous, as this was a very high standard restaurant with a cuisine and production style that was completely new to him. The teams were used to having guest chefs in their kitchen for work experience, and had a strategy of 'buddying' them with an experienced member.

This was very effective, as the experienced chef would guide the visitor through the basic tasks. They were very supportive and displayed great coaching skills and patience in their demonstrations and explanations of the cutting edge techniques and production methods.

Attachments

Deadlines were constantly being placed upon the team, to achieve the seemingly impossible—to be perfectly ‘set up’ for the evening service. There was little time for small-talk, only very brisk work-related dialogue was used, almost as if to conserve energy for the long day’s culinary journey into the night.



The Alinea kitchen team

At exactly 1.00 pm each day the entire kitchen team would stop all preparation and cooking, no matter what the progress was on a specific task, and completely strip down and clean and polish the entire kitchen until it was gleaming. This was done in a military fashion. Everybody knew their part and everybody shared the tasks evenly. Oddly enough this normally dull and arduous task was surprisingly upbeat and seemed to lift moral to an even higher level.



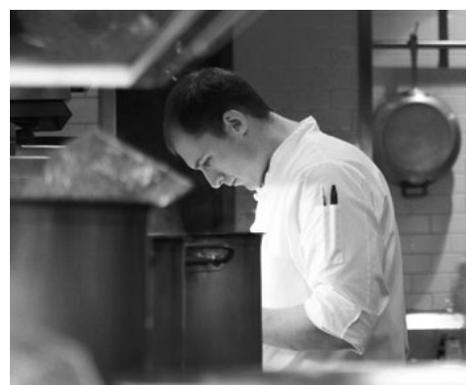
The Alinea kitchen team: frantic on the inside, but calm on the outside

Attachments

After a brief address by the sous chefs on the day's progress it was back into the preparation until the 3.00 pm staff meal. The staff meal was more like a function. It was very important and had to be of a high standard. Each section was called upon to provide components for the meal, entrees, main courses, vegetarian options, vegetables, farinaceous dishes, accompaniments, salads and dessert. The entire staff of Alinea was approximately fifty people, made up of: chefs, servers, cleaners, office administration, managers, and kitchen porters.



David Beran, sous chef at Alinea



David Beran, sous chef at Alinea



Nathan Klingbail, sous chef at Alinea



Nathan Klingbail, sous chef at Alinea

The chef asked the Fellow if he could help organise the staff meal and provide the dessert, and he decided to make pavlova with vanilla cream, sliced bananas and fresh passion fruit coulis; an Australian classic. It was a lot of work to be completed in a very short time. With 15 minutes to go before serving the staff meal, the sous chef was very concerned and was pacing up and down the kitchen like an expectant father. He knew the consequences of being late, and was telegraphing his anxiety to everyone without uttering a single word!

The Fellow completed the pavlovas only just on time, and was given very positive feedback by the staff. The head chef personally thanked him for a wonderful dessert (he had two helpings). The staff requested that Hill prepare the dessert every day, but the chef said that he was here to learn not just to prepare staff meals.

Attachments

From 3.30 pm to 5.30 pm the work intensity increased, and people were under real pressure to be ready on time. The camaraderie was tremendous, everybody helped each other with the common goal to be ready to create culinary magic for the 90 guests due to arrive that evening.

From 5.30 pm to 6.00 pm the Kitchen was once again completely stripped down and washed and scrubbed clean. From 6.00 pm to 6.15 pm, those chefs lucky enough to be ready could have the luxury of going outside for a quick coffee or cigarette, but most chefs remained at their stations, checking and rechecking all of their preparation and equipment. Experience had taught them that it was better to be safe than sorry.

Supervisors checked off preparation lists and tested and tasted everything for the required quality. Any necessary fine-tuning and corrections were relayed to the chefs for immediate attention. Heaven help anybody that was not ready!



The dynamic duo: chef Achatz on the right and sous chef Beran on the left

At 6.30 pm Chef Grant Achatz arrived in the kitchen. He was received like a demi-god, the faces of the chefs following him as he toured the kitchen and quietly and politely greeted everyone. The faces of the chefs emoted admiration, yes, you would expect that, and respect of course. Reverence was there, but also an extra element, rarely shown by any team towards their leader, and it was as close to love as could be explained.

Attachments

The Fellow had worked in many good restaurants with exemplary chefs and great kitchen teams; they all have one thing in common, a single-mindedness for the pursuit of excellence in culinary art. But Alinea was different to any other establishment Hill had ever worked at, or even heard of in his career. Not only was Chef Achatz their guiding light as a chef, but he was an inspiration to them as a man.

Many had worked by his side through his courageous battle with cancer, or had been told of his strength of purpose and dour resolve to survive by those who saw him first hand battle through the debilitating therapy and still come into work and perform long hours. Hill was introduced to chef Achatz as *"Brendan from down under"*.

"Clear the pass" was bellowed by chef Pikas, and that signalled that the start of service was imminent. One of the servers (waiters) was assigned the responsibility of controlling the docket board and calling the dockets to the different departments in the kitchen and controlling the servers to ensure that the correct food was delivered to the required table.

This was a huge responsibility and only two people had proved themselves capable and skilled enough to handle this seemingly impossible task. Many had tried and failed, as you only had limited chances to prove yourself. If you 'lost it' it would seriously jeopardise the entire service. It required the memory of a card shark, the concentration of an air traffic controller, the dexterity and skill of a juggler, the resolve of a regimental sergeant major, the eye of a micro surgeon, the voice projection of an opera singer, the ear of a sonar operator, the intuition of a physic, and all rolled up with the cool and confident charm.

At 6.45 pm *"four tours – one no shellfish"* was called out and answered by a chefs' chorus of *"four tours – one no shellfish"*. The kitchen sprang to life. The sense of urgency was spiralling upwards. Teams worked with practiced skill to achieve outstanding food that was presented in stunning fashion on unique service ware.



Alinea chefs at work

Attachments

The guests were arriving as usual in three groups; the early birds, then in dribs-and-drabs throughout the evening, then the late shift (a lot of celebrities and musicians came in later with many not arriving until 10.00 pm or 11.00 pm).

The service was going very well, Hill was preparing the desserts and assisting with the starters.

At 8.30 pm Chef Pikas walked up to the Fellow with a very stern expression on his face and said in a very loud and assertive voice *"Stop right now, you are finished! Go down and get changed"*. Hill was confused and asked what was wrong, chef Pikas repeated, *"You are finished, go and get changed"*. Hill was shattered, he looked towards his supervisor, sous chef David Berhan who glared at him, shook his head and pointed to the door.

Hill went out the door and down stairs to the change rooms and changed into his street clothes, He was very upset and felt like walking out, but felt he had to find out what he had done wrong to deserve being sent home, so he decided to confront chef Pikas. Hill re-entered the kitchen and walked up to chef Pikas. Although he could feel everybody in the kitchen looking at him, Hill said *"Chef Pikas, with all due respect, what did I do wrong to get sacked?"*

Chef Pikas stared at Hill and said, *"What the hell are you talking about you crazy Aussie"*, then a beaming smile appeared across his face, and he said in a staccato tempo *"Chef Achatz has invited you to dinner in the restaurant"*. Hill was astonished; he could not believe what he had heard! Chef Pikas repeated, *"Chef Achatz has invited you to dinner!"*

The Fellow heard the whole team laughing around him; they said later that the look on his face was priceless. Hill realised he was not appropriately dressed to dine in such an exclusive restaurant, and said he can't go out there dressed like this, Chef Pikas said *"You are right, you look like rubbish. Go and get changed into a clean chef's uniform and come back"*.

Hill returned in a crisp white uniform and was lead into the restaurant and seated with one of the other 'trainees', Mr Hacky, from Sweden. Neither of us could believe the honour and privilege given. Over the course of the next six hours Hill and Hacky were treated to the full 24-course tour menu with all the matching wines and listed accompaniments.

The servers (waiters) were incredible. Their product knowledge and service skills were quite remarkable. Hill was very impressed with the servers, he had never before witnessed servers with as much passion and skill as the chefs in the kitchen, and it was the only place he had ever seen where the servers actually worked as hard and as long as the Chefs.

The food and service was remarkable, and the wine pairing was perfectly matched to each course. They were pinching themselves in disbelief at their good fortune. This experience would have cost in excess of US \$450.00. At 2.30 am the glorious banquet concluded, Hill and Hacky were lead back to the kitchen, where the team was still in the process of cleaning and sanitising the entire kitchen.

Hill thanked the team for the wonderful dining experience, and that he felt humble, inspired and delighted all at the same time. Offers to assist the team with the cleaning were flatly refused by chef Pikas and he advised us to enjoy the experience, go home and have a good night sleep because tomorrow was going to be full-on.

Attachments

As Hill walked to the subway through the gentle Chicago rain, he was oblivious to the cold, protected some how by an inner warmth, it was hard to believe that it had all really happened. It had been like a dream, and now, he was back to reality, catching the late subway with all the night owls and revellers, each with their own destination.

The night porter at the hostel greeted him with a smile; he asked how was your day? Hill smiled unashamedly as he replied “*one of the very best ever*”, the porter smiled and raised his eyes impossibly high. Hill thought to himself how could he possibly convey the magnitude of the experience to anybody other than a chef.



View from the dining room service passage into the Alinea kitchen



View from the dining room service passage into the Alinea kitchen

Recipes from Alinea

Hot Potato, Cold Potato, Black Truffle, Parmesan

Potato soup

100 g (3.5 oz) yukon gold potato

225 g (7.9 oz) black truffle juice

500 g (1 lb 1.6 oz) heavy cream

25 g (.9 oz) white truffle oil

5 g (.2 oz) kosher salt

Method: Peel potato and cut into ½ inch (1.3 cm) dice. In medium saucepan, bring potato and truffle juice to a boil over high heat. Reduce heat to a simmer and cook for about 20 minutes, or until potato is tender.

Add cream, return to a simmer, and then remove from heat. Transfer to blender and blend until smooth. With blender running on high speed, add truffle oil in thin, steady stream. Add salt and blend briefly. Strain through chinos into covered container. Refrigerate for at least eight hours.

Potato Balls

1 medium yukon gold potato, unpeeled

450 g (15.9 oz) clarified butter

Attachments

Method: Using ½ inch (1.3 cm) parisienne scoop, scoop out balls of potato flesh. In small saucepan, cook clarified butter and potato balls over medium heat for about 20 minutes, or until tender. Butter will bubble, but balls will not brown. Remove from heat and set aside in pan until needed.

Butter

30 g (1.1 oz) unsalted butter, very cold

Method: Cut butter into 1/8 inch (3 mm) cubes, dip knife in hot water and wipe dry before each cut. Freeze until needed.

Parmesan

30 g (1.1 oz) parmesan cheese

Method: Cut parmesan into small chunks about 1/8 inch (3 mm) wide.

Chives

3 chives

Method: Cut chives on bias into ½ inch (1.3 cm) lengths.

Truffles

2 fresh perigord black truffles

Maldon sea salt

Method: Using mandoline or truffle slicer, cut truffle into very thin slices.

To Assemble and Serve

Pierce side of paraffin bowl with stainless-steel pin. Slide one parmesan chunk, one butter cube butter, and one chive length onto pin, spacing them about ¼ inch (6 mm) apart.

Fill paraffin bowl about halfway with potato soup. Refrigerate bowl. Gently reheat potato balls in clarified butter. Remove soup-filled bowl from refrigerator. Slide one hot potato ball onto pin, and drape ball with one slice of truffle. Top with salt flake.



Attachments

Black truffle Explosion, Romaine, Parmesan

Black Truffle Gel

Eight ½ gelatin sheets
 400 g (14.1 oz) black truffle juice
 7 g (.2 oz) kosher salt
 120 g (4.2 oz) butter, cut into ½inch (1.3 cm) cubes
 20 g (.7 oz) white truffle oil

Method: Immerse gelatin sheets in ice water for five minutes, or until pliable. Gather gelatin, squeeze out excess water, and reserve for later use. In a medium saucepan, bring truffle juice and salt to a simmer. Remove from heat, whisk in the butter, one cube at a time, and then add truffle oil and gelatin and stir until dissolved. Fill hemispheric moulds, each one 1 inch (2.5 cm) in diameter, ¾ full with truffle mixture. Refrigerate for about two hours, or until set. Remove half spheres from moulds. Press two half spheres together to form complete spheres. Return to refrigerator.

Pasta Dough

200 g (7.1 oz) 00 flour
 6 egg yolks
 3 whole eggs
 10 g (.4 oz) whole milk
 15 g (.5 oz) olive oil
 340 g (12 oz) cornmeal

Method: Mound flour on work surface. Using fingers, create a 'well' in centre of mound. In large bowl, whisk together egg yolks, two whole eggs, milk, and oil. Strain the egg mixture through chinos then carefully pour strained mixture into the flour well. Using a fork, slowly pull small amounts of flour into liquid, mixing until flour absorbs liquid, before adding more. Repeat until liquid is completely absorbed.

Mixture will be sticky and shaggy. Knead dough on lightly floured surface for about 15 minutes, or until smooth and dry. Shape into a ball, scatter cornmeal in a thin, even layer on sheet tray. Assemble pasta machine on large, lightly floured surface. Cut dough into quarters and cover with a damp towel. Set rollers on pasta machine to setting number 10 (most open position) and pass remaining dough quarter through rollers. Continue to pass dough through rollers, progressively narrowing setting to number 8, number 6, and number 4, until you have a long, thin, smooth sheet of pasta. Add flour to dough and work surface as needed to prevent sticking. Finally, pass dough through machine twice at setting number 2.

Assembly of the Pasta Explosions

Lay pasta sheet on work surface. Lightly beat remaining egg in small bowl. Brush pasta sheet lightly with egg wash. Set truffle spheres on pasta sheet in rows of three, leaving three inches (7.6 cm) between rows and position them on top half of sheet only. Fold bottom half of pasta sheet over top half, and press pasta around truffle spheres by hand, working quickly to prevent dough from drying out.

Using flat side of round cutter, slightly larger in diameter than each truffle sphere, press top and bottom pasta sheets together to seal.

Attachments

Using sharp side of cutter cut out each pasta round. If any seal appears broken, reseal with flat side of cutter (broken seals will leak filling). Place truffle-filled pasta rounds on prepared trays and refrigerate. You will need 8 spheres. Reserve remaining dough and spheres for another use.

Truffle Slices

1 perigord black truffle
1 head of romaine lettuce

Method: Remove and discard outer leaves of romaine lettuce. Remove four unblemished leaves from head. Cut out stems and then cut remaining portion of each leaf into two strips each four inches (10.2 cm) long by one inch (2.3 cm) wide. Line sheet tray with double layer of paper towels. In medium sauté pan, bring butter, water and salt to a simmer over medium heat. Add romaine strips and cook for three minutes, stirring occasionally. Drain on prepared sheet tray.

Parmesan Slices

60g (2.1 oz) parmesan cheese, at room temperature

Method: Using mandoline, slice cheese into eight pieces ½ inch long by ½ inch wide by 1/16 inch thick (1.3 cm by 1.3 cm by 0.2 mm).

To Assemble and Serve

25 g (.9 oz) butter
50 g (1.8 oz) water

Method: Fill medium stockpot with water and bring to a simmer. In medium sauté pan, bring butter, water, truffle slices, and wilted romaine to a simmer. Add eight truffle explosions to simmering water and cook for three minutes. Using slotted spoon, lift out explosions and transfer to sauté pan. Turn explosions over, rounded side down. Drape one truffle slice and one wilted romaine strip over each explosion. Transfer explosions to spoons, and lay one slice of parmesan on top of each explosion. Set spoons in anti-plates.



Attachments

Chicory and Toasted Coriander Foccacia

1400 g bread flour

25 g toasted and ground (course) coriander

14 g chicory granules (ground fine)

80 g extra virgin olive oil (EVOO)

40 g sugar

20 g fresh yeast

720 g water

50 g salt

400 g levain (starter)

To Prepare the Dough

Method: Start with water, EVOO, and fresh yeast. Add flour and sprinkle in chicory and sugar. Mix on low speed for a minute and a half then add levain starter (optional, both yeast and levain can be used in some breads). If not using a levain, add another five to ten grams of fresh yeast, and reduce the salt by five grams.

Mix on low speed again for one minute to incorporate levain. Add course ground coriander and salt. Mix for an additional 30 seconds to incorporate spices. Turn mixer to medium speed (the next speed up) and allow mixing for four and a half minutes, turning dough by hand or pulling dough off the dough hook as necessary. Allow the dough to ferment for at least two hours, the longer the better, and the 'colder' the water the better, if you have the time (if limited on time, a little warmer water will do). Choose your desired shape.

Allow loaves to rise, usually about an hour to an hour and a half; the same rule applies concerning your temperature levels for all of your dough fermentations. Bake in a hot oven 210 to 220 degrees celsius and cook to a golden brown. Brush with EVOO and sprinkle with salt. Allow to cool.



Attachments

Compressed Watermelon Mock Sushi

This is a very simple dish, but it is very effective and can be presented in many different ways and combinations. The following recipe is how it was presented during the Fellow's work experience at Alinea.

The Watermelon

Method: Cut the watermelon into 2 cm thick planks, and remove any seeds. Place the watermelon into vacuum bags, and add half a cup tamari soy sauce together with an optional 20 ml of mirin.

Vacuum pack the watermelon to approximately 90% vacuum and seal, then leave for 20 minutes to impart the flavours. Remove the watermelon from the bags and drain.

To Assemble and Serve

Cut into desired size cubes 2 cm x 2 cm and place onto a metal spike server and coat one side with powdered bonito. Decorate the top with a thin slice of fresh wasabi, slice of pink pickled ginger lime zest and coriander flowers. This item is presented on a small plate and the diner is encouraged to remove it with their mouth in one bite to engage all of the flavours and the unique texture all at once.



Looking down on the Compressed Watermelon Mock Sushi from above



Antennae used to serve at Alinea



Antennae used to serve at Alinea

Attachments

Tomato Tasting Plate

Basil Sorbet

Four litres water

1000 g glucose

100 g trimoline (invert sugar)

20 g super neutrose

750 g blanched basil leaves

200 g sugar

30 g salt

Method: Add all ingredients into a pot, except the basil leaves, and bring to the boil, then skim and place the syrup into a bowl and cool.

Pick the basil leaves and blanch in boiling water then refresh in ice water. Drain and squeeze dry.

Place 500 ml of the cold syrup into a Vita-Prep with the squeezed basil and blend to a very fine consistency.

Pass through a fine strainer and add the rest of the syrup.

Churn in an ice cream machine or freeze in Pacojet beakers and Paco-jetise when required.

Tomato Rocks

100 g tomato powder

75 g bread crumbs

75 g olive oil powder (100 g N-Zorbit maltro dextrin+125 g olive oil)

Method: Combine all ingredients together, Press into silicon rubber moulds to set. Carefully unmold when required.

Blis-8 Gel

500 g Blis-8 solerl vinegar

9 sheets gelatine

Method: Soak the gelatine in cold water till softened, drain and melt over double boiler, add to the vinegar, pour into a mould and allow to set. When firm cut into small squares.

Tomato Balls

300 g tomato water (1 kg tomato chopped and strained over night)

50 g basil

30 g garlic

12 g agar agar

2 sheets gelatine

Attachments

Method: Dice the tomatoes and add a little salt, then place in cheesecloth-lined sieve and allow to drain over night.

Soak the gelatin in cold water until soft, drain and then melt over a double boiler.

Finely dice and paste the garlic, and finely chop the basil, and then add flavourings to the tomato water.

Add the agar and slowly bring to a simmer.

Gently simmer for five minutes and then add the gelatin and stir through. Season to taste.

Strain into sphere moulds or tiny balloons and allow to set.

Pickled Shallots

100 g water

100 g white wine vinegar

100 ml white wine

100 g sugar

100 g finely bruinois of shallot

Method: Mix all liquids together and add the sugar then bring to a simmer

Pour over the chopped shallots and allow to infuse

Store until needed.

Mozzarella Foam

2500 ml water

750 g mozzarella curd

40 g salt

30 g soy lecithin

6 each of yellow, green and red organic tomatoes

Method: Melt the curd in the water add the salt and blend, then pass through a strainer

Add the soy lecithin and stick blend

Scoop up the foam and drop into liquid nitrogen to form a frozen Mozzarella cloud

Cut the tomatoes into neat cubes, and reserve off-cuts for the tomato water

Carefully remove the fleshy seeds, in one piece, from the tomatoes and reserve.

To Assemble and Serve

Spoon a little swirl of pickled shallots on the base of a bowl or plate, then spoon a little tomato water around the plate.

Attachments

Arrange three cubes of sherry vinegar gel and three tomato balls around the plate.

Add four pieces of fresh tomato dice, and tomato seed pulp.

Place a quenelle of basil sorbet in the centre, and add a few tomato rocks.

Stick-blend the mozzarella foam mixture, scoop off the foam and drop into liquid nitrogen to produce a frozen cloud.

Place on top of the salad, and decorate with some micro basil leaves.



Tomato tasting plate served at Alinea. Liquid nitrogen is used to produce a frozen cloud.

Bacon, Butterscotch, Apple and Thyme

Double Smoked Bacon Slices

Freeze the bacon, then cut into 2 mm thick slices and place on racks to dry in a dehydrator set at 80 degrees celsius for three to four hours.

Butterscotch

250 g sugar

150 g glucose syrup

375 g heavy cream

Attachments

Method: Place the sugar and glucose in a pan and cook to a light caramel (at 177 degrees celsius), then add the cream and mix well, before reheating to 116 degrees celsius. Pour onto a silicon matt lined tray to cool and then place in a piping bag with a fine round nozzle.

Apple Leather Ribbons

2 granny smith apples halved and cored

Method: Cut apples in half and place on a silicon mat lined tray, then bake at 190 degrees centigrade for 30 minutes or until soft. Cool and remove the flesh, discard the skin, puree the apple flesh and pass through a fine strainer. Lightly oil acetate sheets and wipe off excess, then spread apple puree 2 mm thick and place sheets in a dehydrator set at 70 degrees centigrade for 45 minutes or until fruit leather texture is achieved. Cut into 3 mm wide strips.

To Assemble and Serve

The bacon should be crisp enough to be carefully handled. Starting about half way down the bacon, pipe a thin thread of the butterscotch around and around the bacon till it reaches the bottom. Wrap strips of the apple fruit ribbons around using the butterscotch as adhesive. Season with finely ground black pepper and attach a small sprig of tender young thyme. Thread the bacon onto the spike and attach it to the 'bow stand'.



Bacon, butterscotch, apple and thyme served on the 'bow stand' at Alinea

Attachments

Yuba Soy Milk Sheets

225 g dried soybeans

1250 ml water

Soy milk

Method: Place the soybeans in a large bowl, cover with water and soak overnight. Drain the beans and discard the water. Place the soaked beans and measured water into a high-speed blender such as a Vita-Prep 3, and process for two to three minutes to obtain a smooth mix. Place in a large pot and bring to the boil, stirring to avoid burning on the base, then turn down low and simmer for ten minutes, skim when required. Strain the soy milk into a clean saucepan.



Showing the various stages of making the Yuba soy milk sheets

Attachments

Yuba Sheets

Method: Line trays with lightly oiled silicon paper. Cook soymilk over low heat for six to eight minutes until it forms a skin on the surface. Very carefully remove the skin from the surface and place on the paper, then allow a few minutes to pass until another skin is formed.

Repeat this process until you have approximately ten sheets. Allow to dry for 30 minutes and then roll up to form a spear. Dry for several hours or preferably overnight. Deep-fry in hot oil and season as required. Yuba sheets can also be used like spring roll pastry, filled with a variety of fillings and later fried or baked.

Raspberry Transparency

Raspberry Juice

200 g water

450 g castor sugar

1150 g raspberries

Method: Crush raspberries and place in a pot with the water and sugar. Heat and simmer gently for ten minutes. Pour into a triple muslin lined sieve and leave overnight to drain.



Raspberry Transparency

Attachments

Raspberry Transparency Sheets

500 g raspberry juice

7 g NH Pectin

15 g rose water

Candied rose petals (optional) blanched in 1:1 syrup and dried for 24 hours.

Method: Place the raspberry juice in a pan with the rose water, blend in the NH Pectin with a stick blender, and bring to boil, keep at simmer for five minutes. Remove from heat and rest five to ten minutes, skim strain into container and chill over ice until equal to room temperature.

Pour onto lightly oiled acetate sheets and shake to achieve a flat even coating, pour off excess, and sprinkle with crushed rose petals. Dehydrate for six hours at 42 degrees celsius, tear of pieces and scrunch up, place on clean oiled sheet and dry for six hours at 52 degrees celsius until crisp.

To Assemble and Serve

Place in a clamp and serve as a separate course or as a garnish.



Raspberry Transparency



Raspberry Transparency

Attachments

Caramelised Onion Sheet Parcels

800 g sliced onions

100 g lard or duck fat

250 g water

10 g ultratex 3

5 g salt

Method: Fry or roast till golden caramel colour, then drain excess fat, this should yield approximately 500 g caramelised onions. Blend onion and water in a Vita-Prep, shear in the ultratex 3 and the salt, blend until smooth, pass through a strainer.

Spread thinly and evenly onto lightly oil polished sheets of acetate. Place in dehydrator for four hours, remove and cut into even squares. Bake in a moderate oven and shape around a square mould to form a cup.

To Assemble and Serve

Fill with creamed foie gras or duck liver mousse, or any other savoury filling.



Attachments

Sorrel Sorbet with Honey Fluff

This was one of the set desserts during the Fellow's visit. It is comprised of many different components.

The Sorrel Sorbet

2 litres water
 350 g sugar
 1 g salt
 150 g glucose powder
 Four sheets leaf gelatine
 10 g super neutrose
 15 g stab 2000 stabiliser
 Five bunches of sorrel
 Lemon juice to taste

Method: Blanch the sorrel in boiling water for ten seconds, refresh in ice water to retain colour and then squeeze out excess water. Place leaf gelatine into cold water to soften. Place sugar, water, salt, glucose powder in a pot and stir to until simmering, then simmer for five minutes, cool, add the stab 2000 and blend.

Place 500 ml of syrup base in a Vita-Prep and add the blanched sorrel, then blend until extremely smooth. Dissolve the gelatine over a double boiler and add it to the syrup base, mix all ingredients together, add lemon juice to taste and strain into clean containers. Churn in an ice cream machine or pour into Pacojet canisters, freeze and then Paco-jetise.

Honey Fluff

75 g water
 250 g honey (1)
 250 g honey (2)
 6 g versa whip
 2 g salt

Method: Mix all ingredients together except the second lot of honey. In a mixer, beat the mixture until it is light and thick. Slowly pour in the second batch of honey, beat for ten minutes or until a very light and firm foam is produced. Place in dry, airtight containers and seal until needed (can be kept for several hours before use, but then needs to be re-beaten by hand).

Fennel Jam

1750 g finely diced fennel
 1150 g sugar
 60 g yellow pectin
 22 g citric acid
 3,300 ml water

Attachments

Method: Mix the sugar pectin and acid together, then place the water in a large pot, add the sugar acid and pectin and bring to the boil, stirring all the time. Add the diced fennel and simmer gently for one hour. When it gets thicker reduce the heat and cook until the fennel is tender. Remove from the heat, cool and place in bags and then vacuum. Store in refrigerator until needed.

Fennel Crumble with Fennel Bread Base

460 g butter
 227 g castor sugar
 1 teaspoon salt
 680 g plain flour
 30 g ground fennel seeds

Method: Mix butter and sugar until light and creamy, then add the flour, salt and fennel seeds. Mix till smooth, roll out on silicon paper approximately one centimetre thick and bake at 170 degrees celsius until golden brown, then cool and crush.

Crystallised Poppy seeds

400 g sugar
 600 ml water
 300 g poppy seeds

Method: Place sugar and water in a pan, heat until dissolved, simmer to hard crack stage, add the poppy seeds and stir until crystallised.

Tapioca Malto Dextrin

Method: Combine the crushed fennel bread with the crystallised poppy seeds and add a little malto dextrin. Store in an airtight container until needed.

Poppy Seed Milk Foam

60 g black poppy seeds toasted
 60 g white poppy seeds toasted
 300 g sugar
 1500 ml milk (or soy milk)
 500 ml heavy whipping cream
 20 g soy lecithin

Method: Toast seeds, add the milk and sugar and heat to dissolve add the cream and bar mix, strain and cool to 60 degrees celsius then add the lecithin and mix well. Place in a deep container and Bamix to produce foam when needed.

Attachments

Yogurt Nitro Foam

150 g water
150 g sugar
Three sheets gelatine
1500 g yogurt

Method: Place sugar and water in a pot and bring to a simmer, then remove from heat. Bloom gelatine in cold water, and when soft add it to the yogurt and stick-blend. Fill a Thermo Whip canister 2/3 full and charge with two shots. Shake well, spray directly into liquid nitrogen, allowing 20 seconds to set firm, then remove with a scoop and place on frozen tray in the freezer till needed.

Chamomile Tea Base for Pate de Fruit

2 litres water
600 g sugar
4 g salt
1 pinch of saffron
40 g chamomile tea

Method: Place all ingredients except chamomile in a pot and bring to the boil. Add the chamomile and allow to infuse for three minutes, strain through muslin cloth.

Chamomile Pate de Fruit

2 litres chamomile tea
200 g sugar
30 g citric acid
60 g NH pectin
200 g trimoline (invert sugar)
200 g glucose syrup

Method: Heat the tea, mix the sugar acid and pectin together, whisk into the tea, then add the invert sugar and glucose and boil for 90 seconds. Place into bags and vacuum, then seal and store in refrigerator until needed.

Chamomile Tea Glass

1500 ml water
300 g sugar
1 pinch saffron
60 g chamomile organic flowers

Attachments

Method: Simmer to produce syrup, add the chamomile and steep for three minutes. Strain the tea through a muslin cloth, then weigh out 1200 g of above tea base and place in Vita-Prep blender and shear in 150 g of pure coat. Spread on oil polished acetate and place in dryer for 12 hours, then tear off pieces and replace on trays and dry again.

Herb Garnishes

Micro sorrel leaves

Micro red sorrel leaves

Micro fennel leaves

Micro bronze fennel leaves.

To Assemble and Serve

Select a wave style plate, and place a spoon of fennel crumble on the plate. Place two dollops of whipped honey-fluff on either side of the centre of the plate. Spoon a small amount of fennel jam near the honey-fluff, then spoon a little chamomile pate de fruit around the plate. Decorate these items with the micro herbs. Scoop a large quenelle of sorrel sorbet and place it end-on standing in the fennel crumble on the plate. Place several pieces of nitro yogurt against the sorrel sorbet to support it. Stick blend the poppy seed milk foam, scoop off foam and dress next to the sorrel sorbet, then place a piece of chamomile glass on the top, and serve.



Attachments

Attachment 4: Moto Restaurant Industry Visit

Contact – Chef Homaro Cantu



The interior of Moto restaurant

In this restaurant, liquid nitrogen and lasers are as important in the kitchen as stoves and ovens. Goat cheese might be served as 'snow', and the salad course could take liquid form. For diners, the only guarantee is that each dish is a surprise.

He teaches his employees *"to think like mad children"*, says chef Homaro Cantu, whose enthusiasm for testing the limits of the forms food can take seems limitless. The ultimate goal is to get people to remember every course for the next ten years. He can appreciate the value of traditional food, but in his professional life, he likes to play.



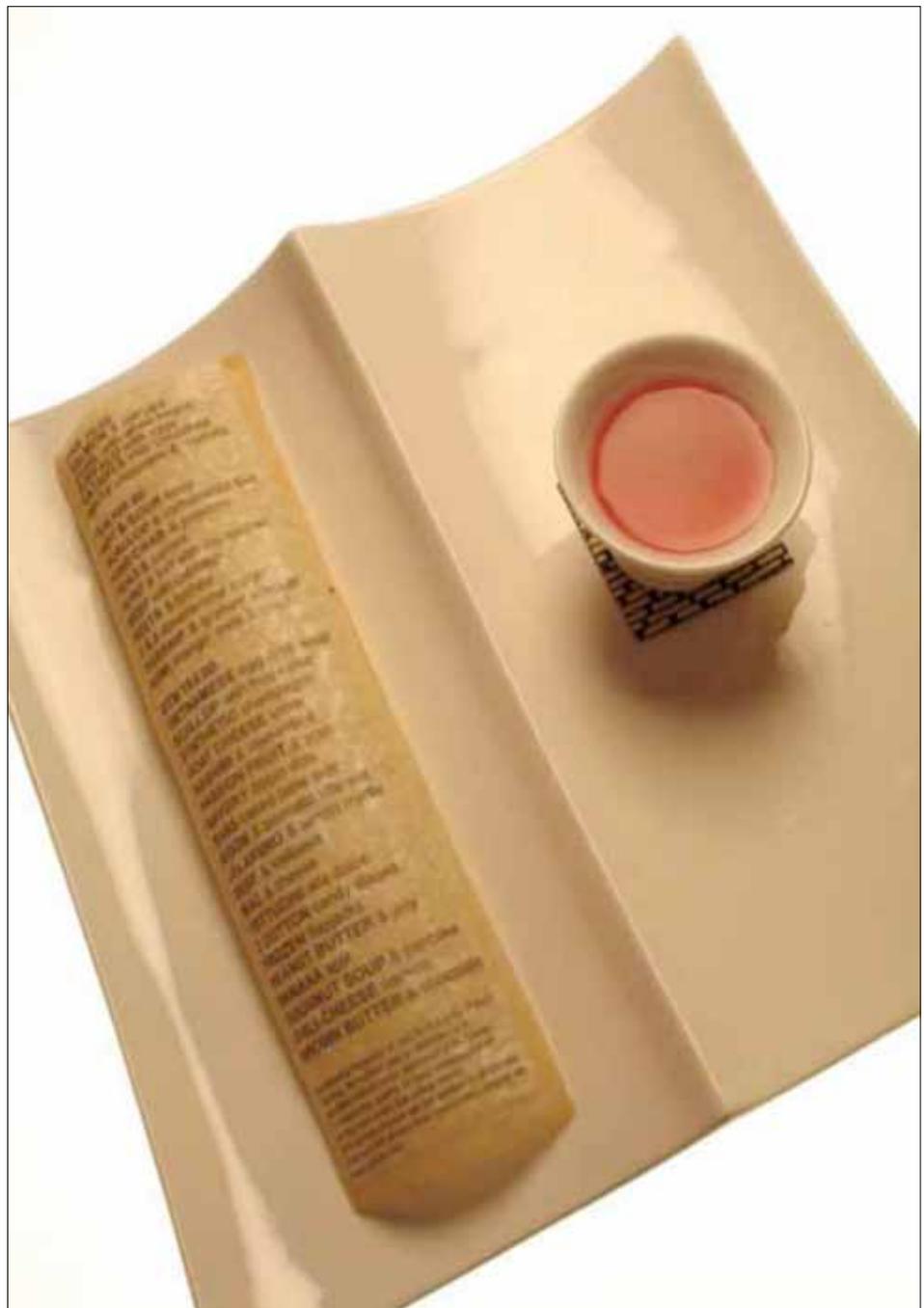
Chef Homaro Cantu



Chef Homaro Cantu

Attachments

The 20-course menu for each service is printed on edible paper with flavoured edible inks. It is informative, crisp and very delicious.



The edible menu at Moto

Attachments

The edible paper is made from soya bean and potato starch and is placed in a special modified Canon i560 inkjet printer (which he calls the 'food replicator' in homage to Star Trek) that prints flavoured images onto the 'paper'.

The print cartridges are filled with edible reduced food colour inks derived from carrot, tomato, beetroot and purple potatoes. The printouts are flavoured by dipping them in a powder of dehydrated soy sauce, squash, sugar, vegetables or sour cream, and then they are frozen, baked or fried.

This novel technique could be utilised for dynamic marketing purposes, aimed at corporate clients looking for something different, or other memorable events.

Chef Cantu is not one to rest on his laurels as he is currently working on presenting levitated dishes using superconductors and even plans to incorporate helium into dishes to achieve gravity defying presentation.

The Fellow very much enjoyed the dining experience at Moto restaurant; the cuisine was unusual to say the least. It is very much a dinner and show package, with options of a 10-course meal experience or a 20-course meal extravaganza.

Hill chose the 20-course option to really get exposure to chef Cantu's style. The menu descriptions were very intriguing, humorous and understated, but the dishes themselves were seriously good combinations of unusual commodities, with dramatic and original presentation ideas.

Molecular gastronomy techniques were strongly featured throughout the menu, spherification and liquid centres were included, as were nitrogen frozen items. Heavenly light textures were achieved using a variety of gums and colloids.

The service staff were extremely professional and highly skilled which seems to be an essential requirement of these restaurants.

Moto Restaurant Menu

- Edible menu with summer truffle
- Liquid center scallop
- Kalamata and feta
- Greek salad liquefied
- Nitro sushi roll
- Loaded baked potato gnocchi
- Biscuit creme brulee
- Ants on a log with foie gras
- Seared buffalo hot wings
- Cuban missile crisis
- Fresh from the garden
- Smoked brisket and cornbread
- Roadkill of fowl

Attachments

- Fajita with aromatic utensils
- Vodka tonic
- White chocolate and peanut
- Blueberry cake and ice cream
- Powdered peach doughnut
- Chocolate and fluff
- Cafe con leche



Edible cutlery at Moto

Even the cutlery at Moto works in with the theme. Fresh herbs are placed into the special coiled handles the deliver a fragrant aroma to set the taste buds in the right direction.

Where will it all end!Or has it only just begun?

There was only one other couple in restaurant Moto on that evening, which was very surprising, and limited the atmosphere expected. Next door to Moto the owners have a second restaurant called Otom (Moto spelt backwards). This restaurant is very different in style to Moto, being more of a bistro/cafe style of food service, and that night it was packed with 65 guests.

This business model is not unknown and often the bistro acts in a supportive role for the main area of passion for the chef, the fine dining restaurant.

Attachments

Attachment 5: Restaurant wd~50

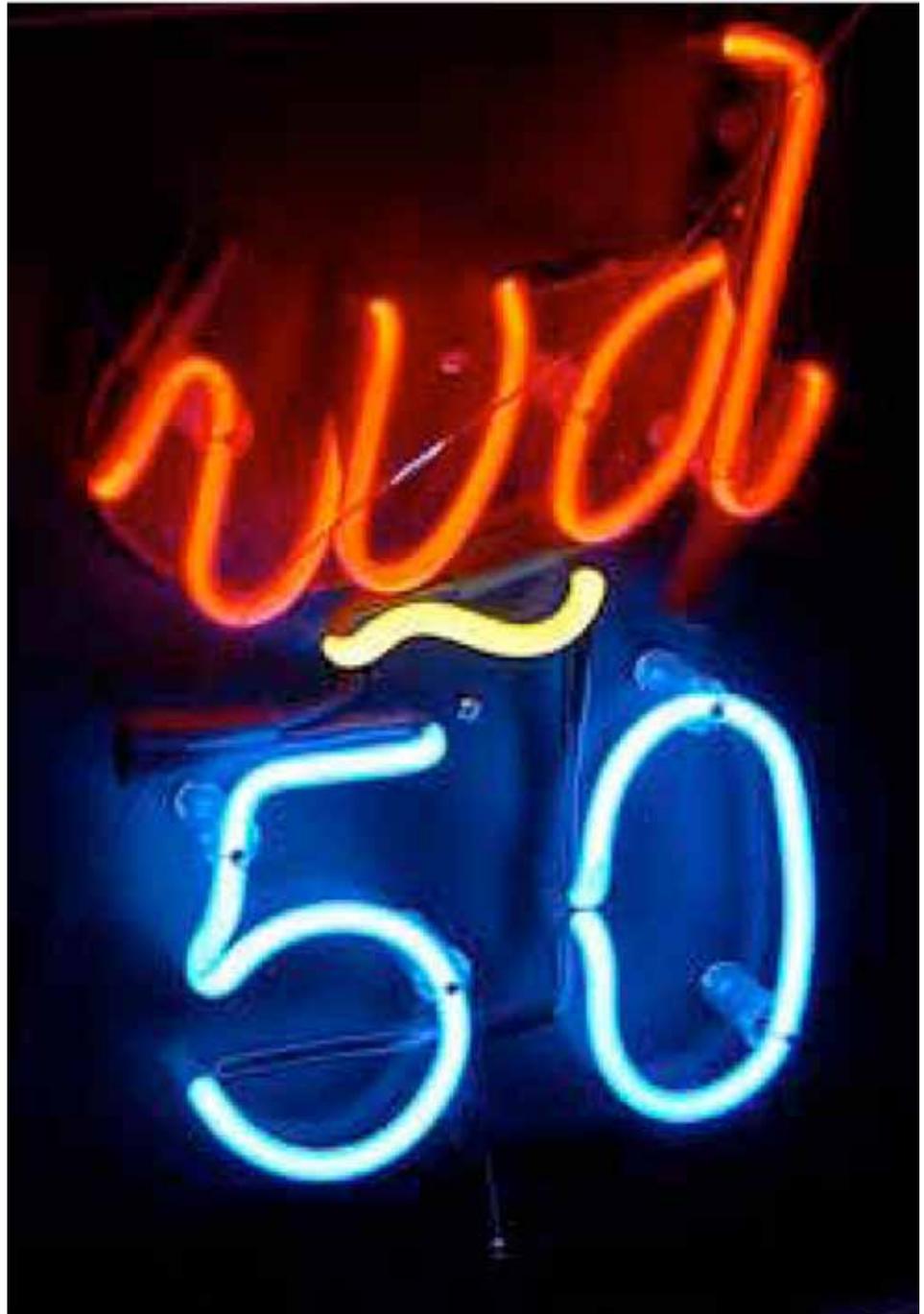


The outside of wd~50 restaurant



The wd~50 kitchen

Attachments



The neon sign for wd-50

Attachments



Chef/Proprietor Wylie Dufresne, wd~50



Chef Wylie Dufresne backstage

In 1977 Wylie Dufresne moved to New York. After college he enrolled at the French Culinary Institute in New York and was then employed at Jo Jo's from 1994 to 1997. Wylie was hired to work on the opening of Jean Georges, eventually becoming the sous chef. In 1998 Dufresne was hired as 'chef de cuisine' at Vongerichten's Prime restaurant in The Bellagio, Las Vegas.



Dufresne at work backstage

Attachments

In 1999 he left Prime to become the first chef at 71 Clinton Fresh Food, a 30-seat restaurant on Manhattan's Lower East Side where his father Dewey was a partner. The restaurant's mission was 'fine dining in a casual atmosphere'.

The restaurant was a great success and garnered much favorable press and attention in spite of a Lilliputian kitchen. Dufresne opened wd~50 (named for the chef's initials and the street address), a 70-seat restaurant with a state-of-the-art kitchen, in April 2003, on Clinton Street on Manhattan's Lower East Side. His partners in the venture are chef Jean-Georges Vongerichten and restaurateur Phil Suarez.

Chef Dufresne's cuisine continues to evolve in terms of technique, utilising ingredients and equipment that have created a menu notable for its innovation as well as flavour.

The restaurant prides itself on the fact that the cooks all work in a collaborative fashion, continually experimenting and sharing ideas.

Chef Dufresne and wd~50 have been honored by the following:

- James Beard Award, nomination in 2000
- Rising Star Chef (while employed as the chef at 71 Clinton Fresh Food), 2002
- Wd~50 named 'Best New Restaurant', 2004
- Chef Dufresne named 'Best Chef, New York City', 2008 and 2009.



Chef Alex Stupak, Pastry Chef, wd~50



Chef Alex Stupak

Attachments

After graduation from the Culinary Institute of America (CIA) chef Alex Stupak moved to Chicago where he became roundsman (or tournant) at Tru restaurant. Within fourteen months he was offered the position of sous chef at The Federalist in Boston.

However, a twist of fate landed him in the position of pastry chef. Fascinated by innovation and technique and seeking an environment that supported his vision, chef Stupak returned to Clio to become the restaurant's first pastry chef. Boston Magazine awarded him the title of 'Best Pastry Chef' in 2003, and in the following year, Food & Wine Magazine hailed him as 'a visionary'.

In 2005, Chef Grant Achatz asked chef Stupak to be the pastry chef at Alinea. The restaurant's opening was a highly anticipated event in the industry, galvanising Alex to excel with his menu. He was then asked to recreate his magic on-air, making appearances on broadcasts including The Today Show, Colameco's Food Show, and The Discovery Channel. The recently published Alinea cookbook includes several of chef Stupak's recipes.

An invitation from Wylie Dufresne to take on the mantle of pastry chef at wd~50 fulfilled chef Stupak's combined ambitions to cook in New York and to work in an environment that fostered his creative vision; he joined the team at wd~50 in August of 2007.

Chef Stupak was victorious on Iron Chef in 2008. Pastry Art and Design named Alex 'One of the top ten pastry chefs in America' in October of 2008, and shortly thereafter, Vogue's food critic, Jeffrey Steingarten, deemed him 'an unstoppable font of new ideas'.



Jon Bignelli, Sous Chef, wd~50

Born in Connecticut, January 31, 1978, Jon Bignelli graduated from James Madison University with a Bachelor of Arts in Cultural Anthropology in 2004. Though he has no formal culinary training, Bignelli was raised in a family that sat down to meticulously prepared dinners every night.

Bignelli's father had lived in France and enthusiastically introduced the family, including Bignelli, to the joy of cooking and dining well. Chef Bignelli has also been fortunate to work with the following chefs during his career thus far, Jerry Hayden (Amuse), Marcus Samuelson (Aquavit) and Nils Norón (Aquavit).

Bignelli was promoted to the position of sous chef at Aquavit.

In March 2007, chef Bignelli joined wd~50 as roundsman and was promoted to sous chef a year later. Sous chef Bignelli particularly relishes the opportunity that wd~50 affords its cooks to collaborate on the creation of new dishes and the pleasure of seeing those ideas come to life.

Attachments



The magnificent kitchen at wd~50, ergonomically designed, well organised and packed with the very latest state of the art equipment



Private dining in the wine cellar



The wd~50 bar is located to the right of the entry doors



The dining room with a view into the kitchen

The minimum requirement to dine in the wine cellar is \$1,400.00 (based on the total cost of food and beverages, excluding tax and gratuity). 8.625% sales tax and a 22% service charge will be added. To confirm all reservations, a 50% deposit is required. The minimum charge is calculated as follows: if you choose to dine a la carte for ten people, your food bill would total \$1,250.00, the remaining minimum requirement can be made up with cocktails, wine, bottled water, tea, coffee, or after dinner drinks.

Wd~50 offers the a la carte menu at \$125.00 per head, a choice of two items per course at \$90.00, a choice of three at \$100.00, and a choice of four at \$115.00.

The prix fixe selections are made from the regular menu. The tasting menu is available for \$155.00 per head and a wine pairing is offered at an additional \$75.

All prices are quoted in US Dollars.

Wd~50 was quite different from Alinea, it was still busy all day but was a little bit more relaxed during the preparation stages. However, as soon as service started it was 100% focus from everyone. The food was excellent and very creative, and chef Dufresne and pastry chef Stupak were always discussing new ideas and food chemistry science. It was fascinating to listen to them talk and develop new concepts for future menus. They are passionate professionals, and lead a team of like-minded young staff. A highlight of the Fellow's work experience at wd~50 was working with pastry chef Stupak who was recently awarded the prestigious 'Top 10 pastry chefs in America award', acknowledging his skill, talent, creativity and vision.

Attachments

Chef Alex Stupak is in high demand as a celebrity chef in his own right, demonstrating his desserts at prestigious shows through the United States.

Recipes that the Fellow was Involved in Creating During his Stay at wd~50

New York Style Lavosh Bread

2136 g water
104 g compressed yeast
2936 g hard flour
60 g salt
16 g sugar

Method: Mix water and yeast in a mixer, then add the flour and mix on speed 1 for one minute, then add the salt and sugar, turn to speed 2 and mix for ten minutes.

Spray a large bowl with oil and add the dough, prove until double in size, then knock back and scale into pieces of between 225 g and 250 g. Shape into balls and ray up, then place in the refrigerator for several hours.

Remove the dough from the cool-room and spray oil onto the back of a metal tray. Stretch the dough out to very finely cover the tray, and seal the edges.

Spray with milk and season with a little finely ground sea salt and finely ground white pepper, then sprinkle with sesame seeds.

Bake in an oven set at 380–400 degrees fahrenheit. Break into large pieces and store in airtight containers until needed.

To Assemble and Serve

Serve in a breadbox and ensure the lavosh is freshly made. This lavosh is an excellent appetiser, and is a feature of the wd~50 restaurant.



Attachments

Almond Ice Cream ‘Rocks’ with Bitter Yogurt and Honey

To Assemble the Almond Ice Cream Rocks

Almond ice cream

Almond glaçage

Almond nougatine

To Dress the Dish

Bitter yogurt sauce

Honey fluid gel

Micro lemon balm sprigs (24 each)

Dried lychee slices

Bitter foam

Minced dried apricot (10 dried apricots will be sufficient)

For the Almond Ice Cream

690 g Milk

166 g cream

5 g guar gum

40 g non-fat milk powder

20 g dextrose

20 g trimoline (invert sugar)

140 g sugar

1 g bitter almond essence

Method: Combine the milk and cream in a pot and bring to a boil. Transfer the boiling mixture to a blender. And add the remaining ingredients and blend until homogenised. Cool the mixture in an ice bath and refrigerate for 12 hours. Process the mixture in an ice cream machine and store in a freezer until needed.

For the Almond Glaçage

400 g almond flour

180 g all purpose flour

180 g dark brown sugar

220 g unsalted butter

4 g kosher salt

50 g almond oil

Method: In a food processor combine the almond flour, all purpose flour, dark brown sugar together and pulse. Dice the butter and pulse into the almond flour mixture. Spread the mixture across a parchment lined sheet pan and bake in a 300 degree convection oven until golden brown (approximately 25 minutes). Allow the mixture to cool and transfer to a food processor along with the kosher salt and almond oil; process the mixture until it liquefies. Hold the mixture at room temperature until needed.

Attachments

For the Almond Nougatine

250 g sugar

100 g water

2 g salt

50 g honey

250 g 'skin-on' almonds (roasted & chopped)

Method: Combine the sugar and water in a pot and boil. Add the honey and salt and continue to boil until the syrup reaches 158 degrees celsius. Remove from heat and stir in the almonds. Pour the mixture out onto a nonstick baking mat and allow cooling for six hours. Break the nougatine into small pieces and coarsely chop in a food processor. Hold the nougatine in an airtight container until needed.

To Form the Almond Ice Cream Rocks

Place the ice cream into a piping bag fitted with a large straight tip. Using a pairing knife, pipe and cut off one inch cylinders of ice cream directly into a liquid nitrogen bath; continue until you have 40 pieces.

Using a fork, dip the ice cream pieces into the almond glaçage and roll in the almond nougatine; continue until all the ice cream pieces are enrobed and store the rocks in a freezer until needed.

For the Bitter Yogurt Sauce

250 g thick Greek yogurt

25 g honey

1 drop quinine essence

Method: Combine the ingredients in a bowl and whisk together until smooth, then reserve under refrigeration until needed.



Attachments

Petit Fours

The petit fours at wd~50 were amazing, such as the yuzu ice cream enrobed in liquid sable and dipped in liquid nitrogen to set it, amazingly creamy citrus flavour and texture.



More Creative Desserts by the Chefs at wd~50

The chocolate pouch made famous by chefs at wd~50 is filled with crispy feuillantine, nougat and chocolate original, interesting and delicious.



The chocolate pouch made famous by wd~50

Attachments

Another stand out dessert comprises yellow Jasmine custard log, piped milk foam, quenelle of roasted almond ice cream, caramel glass. It is a masterpiece of flavour and texture combinations.



Yellow jasmine custard log

A classic of chef Stupak's is a dessert of flexible chocolate mousse, amazingly light and flexible consistency with rich chocolate flavour and an elegant tender, smooth melt-in-the-mouth texture.

This dessert is a hallmark of chef Stupak's creative design, and made him famous. To achieve this unique result Chef Stupak experimented for months, blending different gel bases to finally produce the effect he desired, and this is typical of many of the dishes created at wd~50.



Flexible chocolate mousse

Another dessert is comprised of a petite warm coconut cake, coconut crème foam, diced coconut gel cubes, and brown butter sorbet. The moist warm coconut cake is matched perfectly with the rich refreshing quenelle of sorbet, with the coconut gel cubes adding further interest and contrast.

Hill liked the fluid presentation and plate design style that chef Stupak employed with all of his desserts; it was a highlight of the Fellow's time at wd~50.



Petite warm coconut cake, coconut crème foam, diced coconut gel cubes, and brown butter sorbet



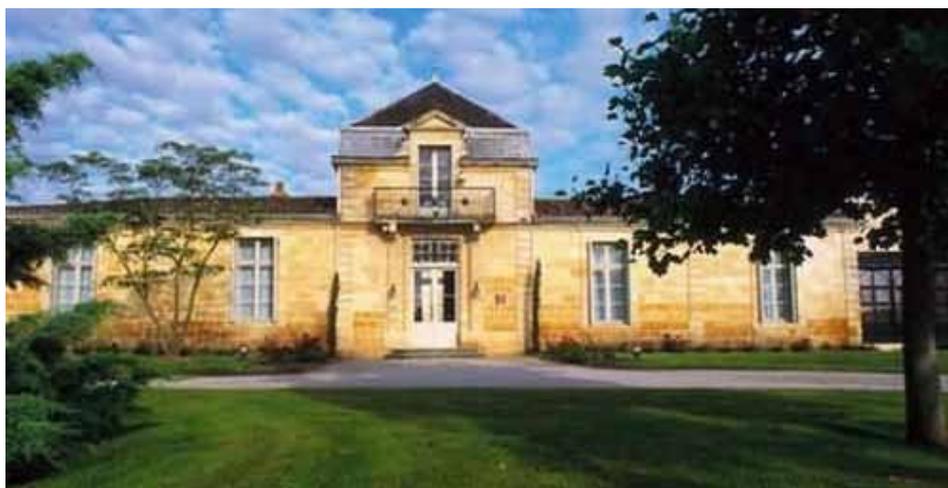
The photo to the left shows a refreshing pre-dessert of yogurt with candied capers, fresh thyme leaves and nitro frozen honey; a joy to behold and a delight to eat.



Attachments

Attachment 6: Restaurant Thierry Marx

Chateau Cordeillan-Bages



The Chateau Cordeillan-Bages



The Chateau Cordeillan-Bages



One of the wines served at the Chateau Cordeillan-Bages



Chef Thierry Marx

In October 2006 at the Lido in Paris chef Thierry Marx was voted 'Chef of the year' by his peers.

This accolade is one of the most prestigious of the profession and is decided by secret ballot, exclusively by Michelin starred chefs.

Chef Marx is a busy man with new restaurants and business ventures opening around the globe, and he is in constant demand as a celebrity chef and demonstrator for the most prestigious culinary events worldwide.

Attachments



Chef Jean-Luc Rocha 'Meilleur Ouvrier de France' (MOF)



A view of the Chateau Cordeillan-Bages restaurant that seats approximately 50 guests in luxury.

Chef Marx has an outstanding chef to assist him in running his kitchen. In 2007 chef Jean-Luc Rocha won the prestigious award of 'Meilleur Ouvrier de France' ('Best craftsman of France'), which allows him the right to wear the national colours of France (red, white and blue) on his collar.

Chef Rocha, who also won the first prize for the Lucien Vannier trophy and second prize for the European trophy of the 'Hauts de France' on the same day, is also a highly creative chef and a brilliant teacher and motivator.



A signature dish of The Chateau Cordeillan-Bages. This is a retake on the classic Bordeaux Beef dish with carrots



Another signature dish: calamari mousselines wrapped in warm red pepper gel with internally dressed salad, on crispy pork rind

The Fellow arrived at the Chateau in the late afternoon and reported to the kitchen. Chef Rocha greeted him and showed him around. Hill asked where in the kitchen he would be working that night and chef Rocha said, "Not tonight you just relax and observe".

Attachments

It was fascinating watching the team prepare for service, all speaking in rapid French and Hill was a little worried about the possible language problems. Luckily both Thierry Marx and Jean Luc Rocha speak a bit of English, and the other chefs wanted to practice their English as well. Hill eventually realised that he remembered a lot more kitchen French than he thought he did, it was a pleasant surprise after 25 years.

Language can pose big problems in a busy kitchen employing many international staff, and can cause a lot of stress and frustration, but a willingness to communicate from both parties ensured it was never an issue.

As you would expect being in the Bordeaux region there is an astonishingly good wine list to match the cuisine.

The Fellow was excited to start work and experience working with the cuisine style of Thierry Marx. The kitchen was very well fitted out with a huge combination induction stove and oven set up. There was a huge chilled butchery and preparation room, ideal for ensuring the quality and freshness of the food during the preparation stages.

There were many sous vide items (food vacuumed and slow cooked in plastic bags) and techniques being utilised in the kitchen.

One dish used was lamb loins cooked in a circulator for eight hours at 63 degrees celsius, which were then chilled until required. At service time the chefs just seasoned and seared the meat and placed it in the oven for three minutes.

The result was a perfectly cooked, tender, juicy piece of lamb every time, from an approach that saves time during service and maintains consistent quality.

The first dish Hill was asked to help with was a classic Thierry Marx signature dish called 'Risotto de Soja'.

It required precision cutting of soybean sprouts into even lengths five millimetre long to replicate the size and appearance of rice. This was a very tedious process, and needed 100g of soybean rice per serve.

A sauce was made from sliced shallots cooked in white wine to which porcini mushroom essence was added, then mascarpone cheese, soymilk and oyster juice. This was simmered for five minutes strained and placed into a siphon with one cartridge of gas and reserved until service.

At service time a small amount of butter was heated in a pan and the soy rice was added and cooked for one minute, seasoned with salt and pepper, then a sliced truffle was added and the oysters cut into pieces.

Everything was then heated through to just warm, and spooned into a glass serving bowl. The foaming sauce was sprayed on top using the siphon, and finally garnished with a slice of truffle.

This dish tasted amazing and the texture of the soybean rice was wonderful. This innovative dish highlights the Thierry Marx creative, measured, perfected style.

Another dish the Fellow worked on was called 'Stone Age Sea Bass'. Fresh sea bass were delivered whole; they are a beautiful, impressive looking fish carefully filleted and cut into portions. The portions were seasoned with cocoa powder and wrapped in parchment paper and then encased in special local red clay.

Attachments

When required the clay fish parcels were placed in a very hot oven for eight minutes and then served with an amaranth biscuit case filled with a potato and white truffle foam, and a chocolate vinegar. The waiters served this dish to the diner and broke open the parcels at the table.

The presentation of the food at Thierry Marx was very impressive and the serving dishes were made of glass hand blown in Japan. When the food was presented on them, it looked like it was floating on transparent pillows.

Thierry Marx likes to use ingredients in out of the ordinary ways, vegetables featuring as desserts, for instance one of the desserts was based on turnips or even turnip tuiles, and another example was crisp sugar-dusted eggplant tuiles served as a garnish to a dessert.



Chef Thierry Marx - truly at the cutting edge of cuisine

One of Chef Marx' best ideas was to challenge each party to create a dish every week to be tasted by all the chefs on Saturday. After tasting and discussion chef Marx would refine and correct the dishes and then present them to eight local diners for tasting on Sunday.

The dishes would all be judged and scored and the results tallied, and if a dish was judged to be excellent then it would be utilised on the next menu or used as a special.

This was a great way of keeping the staff motivated and using their collective creativity to help augment the menus. If a chef's dish made the cut, then it was a source of great pride to them personally and also to their team.

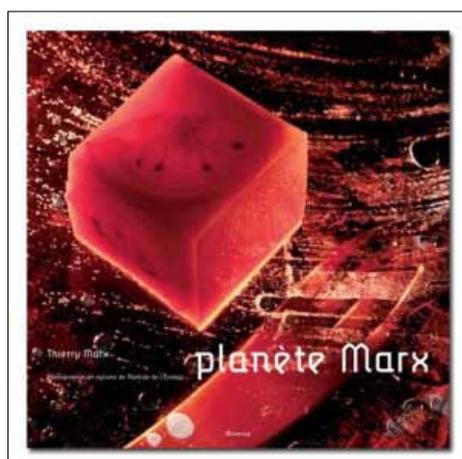
This practice should be encouraged in more restaurants to allow for personal growth in a supportive environment.

Attachments

The kitchen team consisted of about 12 full-time aid staff, and four or five work experience 'stagies' (visitors). During the Fellow's time at the restaurant there were three Japanese 'stagies', two young French 'stagies' and of course Hill from Australia.

The kitchen team was very friendly and helpful—they all wanted to travel to Australia and work. The Fellow was allowed to work in the different areas of the kitchen and was instructed in how to use different, food chemicals and techniques to achieve great dishes.

Hill was encouraged to try every dish on the menu, and this was a fantastic learning experience, working with regional produce of such high quality (such as preparing fresh snails), and cooking with a multitude of different mushrooms, and seafood dishes were a highlight.



The cookbook released by chef Marx called 'Plannet Marx'.



Sugar showpiece created by Hill

Chef Marx had just released a cookbook called 'Planet Marx' that gives detailed recipes for many of his signature dishes. The book is a compilation of great recipes and chef Marx' philosophy. Chef Marx presented Hill with a signed copy at the end of his 'stagie' at the Chateau.

Hill was directed to work in the pastry section and this was a very enjoyable time at Thierry Marx. The pastry team was young and extremely talented. The head pastry chef Pierre was only 26 years old but had worked with many of the best pastry chefs in France. Pierre was very interested in sugar work and wanted to give a demonstration and workshop for the pastry chefs, the only time available was on our day off.

Hill asked if he could join in and it was agreed. Pierre was surprised to find out that the Fellow had some experience in sugar work, and Hill did a demonstration, producing several sugar show pieces. These really impressed all of the pastry chefs and also Chef Marx. Hill felt very pleased to be able to give something back to the team and demonstrate some skills that he had developed that were new to them.

Chef Marx suggested that Hill go to Paris after his 'stagie' at the Chateau, and visit his new venture, the futuristic experimental kitchen called 'Le Laboratoire', and then work a few days in his other restaurant Ozu in Paris. This was a very generous and exciting opportunity for the Fellow to extend his research and work experience.

Attachments



Green tea ice cream with eggplant tuiles served at The Chateau Cordeillan-Bages

Attachment 7: Le Laboratoire

Paris, France

The entrance to Le Laboratoire in Paris: a visionary place combining progressive science, art, literature, design, and of course cooking.



The outside of Le Laboratoire, Paris, France

Attachments



The entrance of Le Laboratoire, Paris



A table at Le Laboratoire

The small dining room with a capacity of approximately 12 people—Members of Le Laboratoire can book a table for their guests to try the latest creations from the test kitchen of Thierry Marx.

There are several sittings offered and the format of the menu is a modern style bento box filled with creative temptations. The head chef is chef Florin Favario who also Presides over Ozu.

Unfortunately, the dining room was booked out when Hill visited, but he was shown around and viewed several art installations which were really fascinating.

Attachments



An art installation at Le Laboratoire



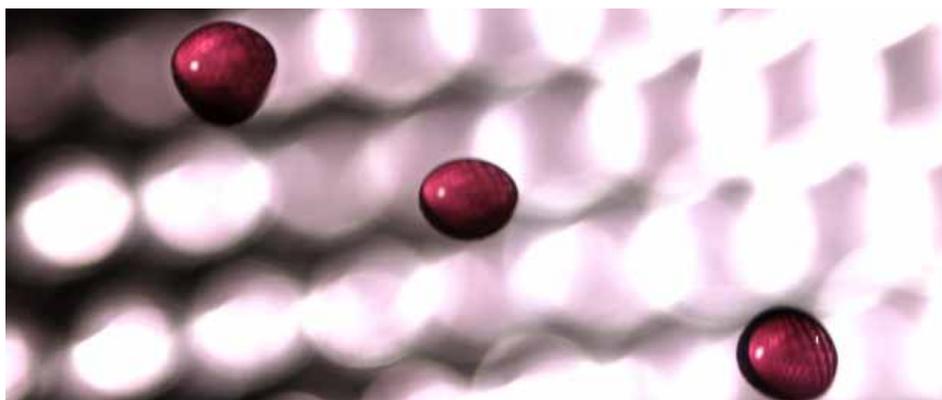
A Le Whif multi pack



Two single Le Whif inhalers

A very interesting product had just been released and the Fellow was asked to try it. It is called 'Le Whif', a chocolate product like no other Hill had ever experienced. Le Whif is a terrific way to curb your appetite or to accompany a coffee, inhaled chocolate is just the beginning.

New culinary innovations that involve eating by breathing are being developed by the Foodlab at Le Laboratoire.



Attachments

The entrance and coffee shop area of Le Laboratoire are two spots where guests can walk in off the street and see new products and of course try a great coffee and take a Le Whif.

Le Whif was available in four flavours, Mint chocolate, Raspberry chocolate, Mango chocolate and Plain chocolate.

It was a bit like smoking in the product; it drifted into your mouth and settled on your tongue and the flavour explodes.

The Fellow tried all four flavours and they were all excellent. A very creative alternative to the usual chocolates and petits fours, with only one or two calories.

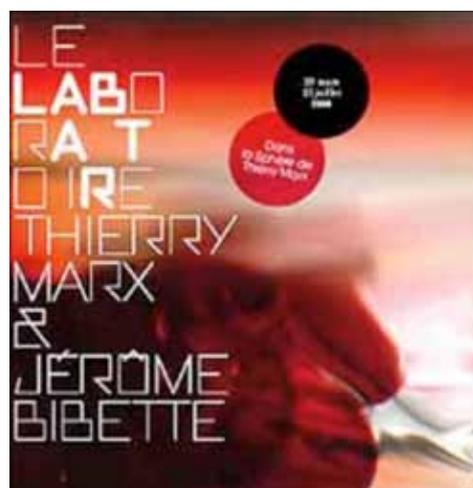
The set up at Le Laboratoire was amazing. The reference library was great, you could log on to the computer and call up any of the thousands of research documents and videos and play them on a big screen for groups or at private stations.



Entrance area of Le Laboratoire



Coffee shop area of Le Laboratoire



The 'Two Michelin starred' chef whom Thierry Marx collaborated with to invent this new form of flavour encapsulation is the colloid physicist Jerome Bibette, while art and science students at Harvard University worked to invent a way of eating by aerosol. Le Whif (www.lewhif.com) is a revolutionary new way of eating chocolate – by breathing it. Imagine, chocolate without the calories!

Le Whif is available in multi packs and can be obtained over the internet. At the time Hill visited, a pack of six was approximately ten euros when purchased from Le Laboratoire, which translated to approximately \$A24.00 for a pack of six or \$A4.00 for each.

Attachments

How to Le Whiff



Step 1



Step 2



Step 3



Step 4



Step 5

STEP 1

Hold Le Whif horizontally. It is important to keep Le Whif flat when opening so that the chocolate does not fall out.

STEP 2

Open by pulling and twisting both ends of Le Whif in opposite directions. It will click twice. The second click should leave Le Whif about a centimetre longer.

STEP 3

Place the long, open, chocolate coloured end of Le Whif, which has the thin opening, between your lips. For best results, keep the Le Whif logo facing up.

STEP 4

Breathe in ever so gently and briefly. Do not breathe too hard or long the first time. Doing so may tickle the back of your throat and cause you to cough.

STEP 5

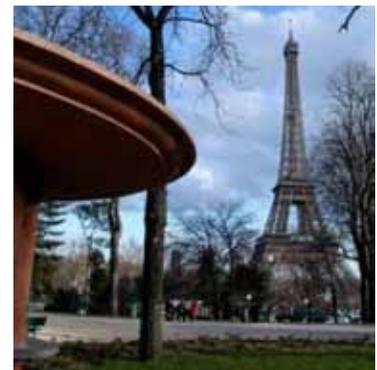
Continuing to keep Le Whif horizontal, hold Le Whif in front of you and close by pushing both ends together to return to the original closed position. You can get 4 uses out of each Whif.

Attachment 8: Ozu Restaurant Japonais (Japanese)

Paris, France



The entrance of the 'Cineacqua', the world-class aquarium in Paris. Ozu is housed within this complex.



The brilliant view from the entrance of the Aquarium, located very close to the Trocadero stop

Attachments



The entrance is stunning at night, with thousands of lights greeting the guests.



Different views of the unique decor in the Ozu restaurant



A view of the restaurant, with the huge aquarium glass wall featured throughout the restaurant

Thierry Marx has a great new restaurant called Ozu, housed within the 'Cineaqua complex', the world-class aquarium in Paris. The restaurant is named after the famous Japanese film director Yasujiro Ozu, whom Chef Marx has great respect for. In the restaurant a huge screen continuously shows Ozu's classic films.

When you first enter the restaurant you are flanked on your left by a row of samurai guards. Your eyes are then drawn to the captivating ever-changing underwater seascape. Ozu has a unique atmosphere, particularly at night and is very popular for corporate events, and special wine and food promotions.

Attachments



The samurai guards, as you first enter the restaurant, stand in contrast to the ever-changing underwater seascape



This is the table that the Fellow was seated at when he dined at Ozu

When the Fellow dined at Ozu he was seated at a table with a wonderful view of the aquarium. Hill chose the special set menu. This proved to be a wise choice as it provided all of the very best elements of the menu and was of an extremely high standard and actually, not overly expensive considering the quality of the food and wine.

Attachments

Some of the dishes were prepared with techniques that were similar to those at the Chateau Cordeillan-Bages but with slight variations, others were quite different. There was a strong modern Japanese influence, with a top Japanese sushi and sashimi chef involved.

Ozu 'A La Carte' Menu

Starters

- Low temperature cooked Onsen Tamago egg served with melting turnip
- Marinated red tuna zuke upside down sushi
- Crispy Soft Shell Crab with sancho pepper vinaigrette, rocket and wasabi
- Sea-eel and apple ravioli
- Sea Bass Carpaccio flavoured with Yuzu

Fish

- Black Cod marinated in white miso, vegetable and nori millefeuille
- Caramelised cuttlefish, smoked potato mousse, cuttlefish ink
- Seared scallops, soya risotto, black sesame seed nougat
- Salmon, celery semolina, beetroot vinaigrette

Meat

- Conical chicken with shitake mushroom stuffing, asparagus
- Slow-cooked sweet soy duck, turnip confit cream with Yuzu honey, lemongrass steamed vegetables
- Grilled fillet of beef, sancho pepper sauce, crunchy rice
- Confit of pork belly, smoked tea noodles

Ozu Wine

- A selection of 3 glasses of wine plus 1 glass of Ginjo to accompany your meal

Ozu Desserts

- Granny Smith – structure and de structure
Slice of green apple, lemongrass, Granny Smith sorbet, apple cube
- Mister green tea
White chocolate, green tea, grapefruit
- Ozu chocolate collection n°1
Morello cherries, pepper
- Belle Helene pear
Pear, chocolate, almond, vanilla
- Ozu dessert selection
Ozu dessert tasting assortment plate

Attachments

Ozu Special Set Menu

- Low temperature cooked Onsen Tamago egg served with melting turnip and soya milk emulsion
- Marinated red tuna zuke upside down sushi
- Caramelised cuttlefish, smoked potato mousse, cuttlefish ink
- Seared scallops, soya risotto, black sesame seed nougat
- Black Cod marinated in white miso, vegetable and nori millefeuille
- Grilled fillet of beef, sancho pepper sauce, crunchy rice

Pre-dessert

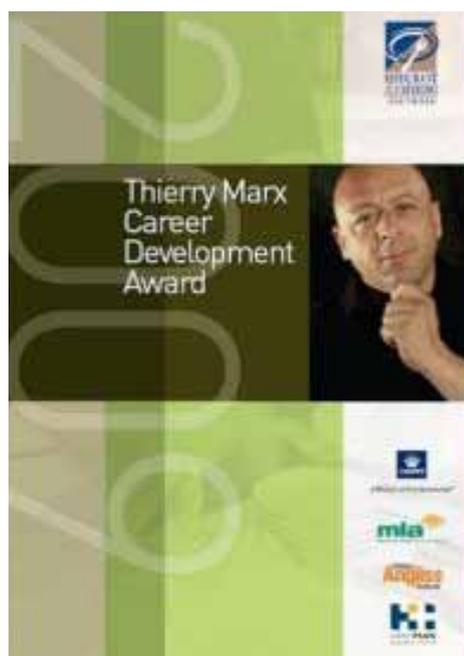
- Raspberry, luychee and rose water layered creams

Dessert

- Granny Smith – structure and de structure Slice of green apple, lemongrass, Granny Smith sorbet, apple cube

Hill worked at Ozu for two days and he thoroughly enjoyed it .The kitchen was lead by the two Favario brothers, head chef Florian, and head pastry chef Julienne.

The team was much smaller than the team at the Chateau Cordeillan-Bages, with only six chefs. This meant that the Fellow was more involved in the preparation, cooking and serving of the meals.



Thierry Marx Career Development Award publicity material

Chef Florian insisted that the Hill try all of the dishes on the menu. He would prepare these throughout the day and bring them over for Hill to taste.

Pastry chef Julienne did the same with all of the desserts; Hill could not believe how generous and supportive the French chefs were to him. Thierry Marx and Julienne were scheduled to attend the upcoming Salon de Chocolat and demonstrate signature dishes with chocolate. They chose their modern interpretation of the French classic dessert, Pears Belle Helen. Hill assisted with the recipe testing and preparation of the desserts in readiness for the exhibition.

Thierry Marx has a special relationship with Australia. He founded the Thierry Marx Career Development Award which provides two apprentices the opportunity to work in his restaurants in Bordeaux, and Paris.

Attachments

This is a priceless experience for the lucky award winners, and shows Chef Marx' dedication to passing on his knowledge to the next generation.

Apprentices had to apply, and give a career path for their future, and design and produce a three-course meal. A panel of industry experts would then select the finalists, and visit the applicant's restaurant, interview the apprentice and their employer and taste the menu. The winners would be chosen and presented with the prize at an award ceremony.

The Fellow was invited to be a judge for the 2009 program.

Attachment 9: Restaurant Moo



Antonio Gaudi's 'La Pedrera' is one of Barcelona's most famous buildings

Although Hill was unable to secure a 'stagie' at the famous EL Bulli restaurant in Spain, he was keen to visit Spain to find out why they were so creative and progressive and why the French feared them so much.

Hill travelled to Barcelona to try the cuisine first-hand at some of the cities best-known molecular gastronomy restaurants.

The first place on the agenda was the trendy Hotel Omm located in the very heart of Barcelona. Several chefs had recommended it as a must-visit destination. Ultra stylish and chic, everything about this cleverly designed hotel oozed class, elegance, and sophistication. Inside were several bars and a bistro, but Hill was more interested in the fine dining restaurant with the unusual name 'Moo'.

Attachments



Hotel Omm located in the very heart of Barcelona.

Attachments



Restaurant Moo Barcelona's creative team of Chefs Marcel Gorgori and Josep Roca



Hotel Omm



Chef Jordi Roca

Chef Jordi Roca is the next generation coming through this restaurant's development program, ensuring the creative vision of Josep Roca will continue.



The Moo kitchen ready for service



A view of the restaurant



Detail of the table setting at restaurant Moo



Stylish dessert presentations

Attachments

Restaurant Moo Menu

Gourmet menu 85.00 Euros

- Golden Egg
- Smoked pigeon carpaccio with juniper ice cream
- Foie gras soup with lychees
- Red mullet with 'samfaina' and green pepper
- Suckling pig with honey and soya
- Coffee bean

Wines that harmonise 25.00

- Marfil Generòs Sec Solera. Agrícola Alella / G /
- Alella / Pansa blanca Gewürztraminer Spätlese 06.
- Rebholz / D / Pfalz / Riesling
- Colliure 06. Rectorie / T / Colliure / Grenache
- Bassus Pinot noir 07 / T / Utiel-Requena / Pinot noir



A Golden Egg being created



A Golden Egg being created

The Golden Egg was a signature dish of Moo and required the utmost skill.

The caramel was blown like glass with a blowing technique, to achieve a thin isomalt and golden 'sugar glass' eggshell.

The egg was then filled with the most uniquely textured, soft cooked egg and secret ingredients.

Attachments



A Golden Egg being created



A Golden Egg being created

The smoked pigeon carpaccio with juniper ice cream was very interesting. The waiter entered the dining room with a glass cloche filled with smoke.

It was presented at the table with all due pomp and ceremony, the cloche lid was removed, and the rich aroma and juniper fragrance of the smoke was pungent but refreshing at the same time—a real 'wow' factor.

The effect was brilliant, the smoke delicately permeated the thin slices of pigeon and the juniper ice cream was a stroke of genius, it highlighted the pigeon breast perfectly and, combined with the theatre of delivery, culminated in a very memorable dish.



A waiter delivering the smoked pigeon carpaccio

Attachments

The foie gras soup was heavenly, rich, smooth and unctuous on the palate, and the selection of house-made breads was a perfect accompaniment, with the traditional local potato bread being a stand out. The addition of lychees to the foie gras soup was another example of chef Josep Roca's inspirational food pairings; it was a triumph.

The 'Coffee Bean'd' dessert: fine crisp couverture shell filled with coffee and chocolate creams and sprayed with chocolate to achieve the velour texture, with coffee granita. Superb petits fours and hand-made chocolate were serve with the coffee.



The 'Coffee Bean'd' dessert

Attachment 10: Alkimia Restaurant

Barcelona



The exterior of Alkimia restaurant

Attachments



Alkimia restaurant



Alkimia restaurant



Chef Jordi Vilà

Alkimia was another restaurant highly recommended to Hill for its modern, creative cuisine and enthusiasm for molecular gastronomy techniques.

Internationally renowned as a creative, culinary asset with the highest potential within the new Spanish cuisine movement; chef Jordi Vilà thinks his expertise in traditional cooking heritage, his playful use of diverse preparation techniques, his self-imposed standards of excellence and his tireless nonconformity, has been able to generate a new corpus of cuisine. This cuisine, with intelligent links to memory and daring foresight, takes us to an unusual universe of colours that 'alchemically' transform the finest raw ingredients into new classics of contemporary 21st century cuisine.

Born in 1973, he started in the kitchen out of pure passion. At just 15 he broke the mould in Barcelona's Baixas patisserie and studied at the Escola Joviat in Manresa.

His professional career has led him to different restaurants such as Casa Irene, Neichel, Vivanda, Joan Piqué and Jean Luc Figueras. In 1998 he opened his first business together with his partner Sònia Profitós, the Abrevadero restaurant in Barcelona.

Attachments

It was there that the legend of a colourful and complex way of understanding traditional Catalán cuisine was born. In 2002, already known as one of the 'great young talents', Vilà opened Alkimia, solidifying his national and international reputation.

In 2005 he received the Michelin star and the award for Best Pâtissier, with a rating of 8.5, from the Lo Mejor de lo Gastronomía (The Best Cuisine) guide.

Alkimia Menu

- Coca (light thin bread) of anchovy with roasted vegetables and truffle butter
- Amberjack marinated with summer tomatoes, cottage cheese, nectar of strawberries
- Pickled oysters with glazed cheek, sauté spinach
- Wild mushrooms morels stuffed with meatball, pine nuts
- Egg bonbon with potatoes, quince, sausage Iberian pork with cheese, asparagus
- Beet Prawn 'a la mano'
- Red mullet with seawater
- Shin of young veal, glazed green beans, olives, and coconut
- Almond ice cream with citrus, basil and orange blossom
- Bitter chocolate with raspberry cream and eucalyptus ice cream

Price 68,00 €



Alkimia kitchen

Attachments



The petits fours

The presentation of the petits fours was really something special the frozen chocolate truffles were exceptionally fine, and the Fellow was impressed with the liquor fruit shot glasses. They really worked as a refreshing finale to a great dining experience.



Table settings at Alkimia

Overall, Alkimia was a well worth the visit, stunning presentation coupled with intelligent and innovative dishes.

Attachments

Attachment 11 Espai Sucre Restaurant

Barcelona, Spain (Incorporating the Espai Sucre School)



An example of the modern desserts produced by the Espai Sucre school

The Espai Sucre restaurant was quite small, but it was very popular, and so it was constantly fully booked. It seemed to have found a niche market in Barcelona.



The Espai Sucre restaurant

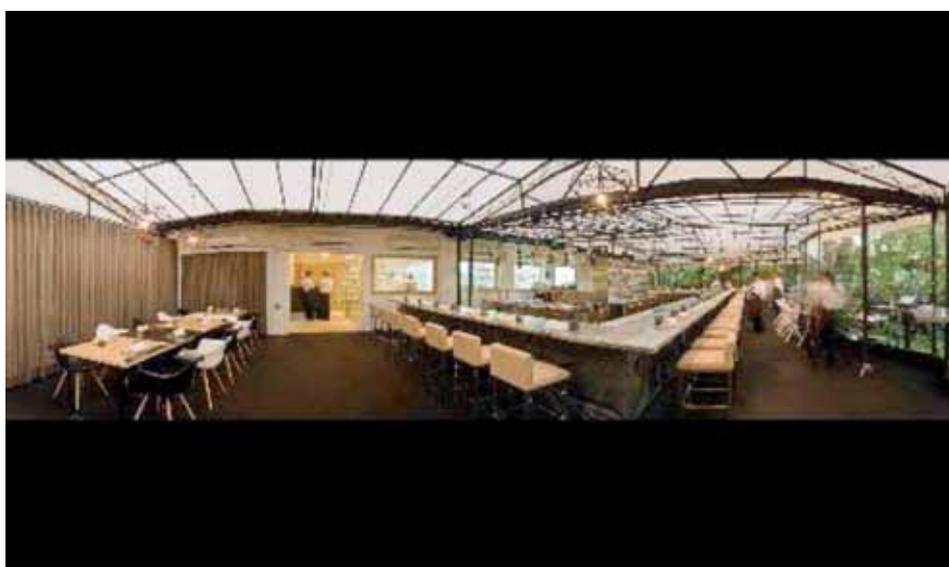
Attachments

A small number of savoury dishes complemented the sweet offerings, with the set menus being particularly popular.

The 'big dessert' menu was considered to be the way to best taste the style of the place.

Attachment 12: The Tippling Club

Singapore



The Tippling Club



The Tippling Club bar

The Tippling Club's famous bar, was voted the best bar in Singapore for originality and style. The design is very novel and striking with the bottles suspended from the ceiling. Suspended like magic from the metal cage.

The Fellow had planned a brief stop-over in Singapore on the way back to Australia, obviously to break the long journey but more importantly to visit a colleague and friend, chef Ryan Clift, proprietor of the very fashionable and brand new restaurant called 'The Tippling Club'. This is located approximately 20 minutes out of the centre of Singapore in the popular Dempsey Hill restaurant area.

Chef Clift was previously the chef at the View De Monde restaurant in Melbourne, run by Shannon Bennet, and was a great supporter of Hill and helped to arrange his Fellowship work experience at wd-50 in New York.

Attachments

The Tippling Club is rapidly becoming a leading light on the Singapore cuisine scene, enjoying extensive media attention and picking up many awards and an ever increasing number of both local and international customers/patrons singing its praises. Chef Wylie Dufresne from the wd~50 restaurant has worked as a guest chef for the Food Asia gourmet summit.

The Fellow was treated to a personal dinner and show as chef Clift gave him a one-on-one demonstration of how each dish was prepared. This was not only a superb way to end the Fellowship travels, but was also an absolute privilege.



Partners Matthew Bax (left) and chef Ryan Clift (right). Bax is responsible for the bar and waiter service, and chef Clift is the chef de cuisine and creative maestro in the kitchen.

The Fellow went to The Tippling Club for a quick lunch, and booked under a different name, as he wanted to surprise chef Ryan and thank him for his assistance in setting up what had been an inspiring Fellowship.

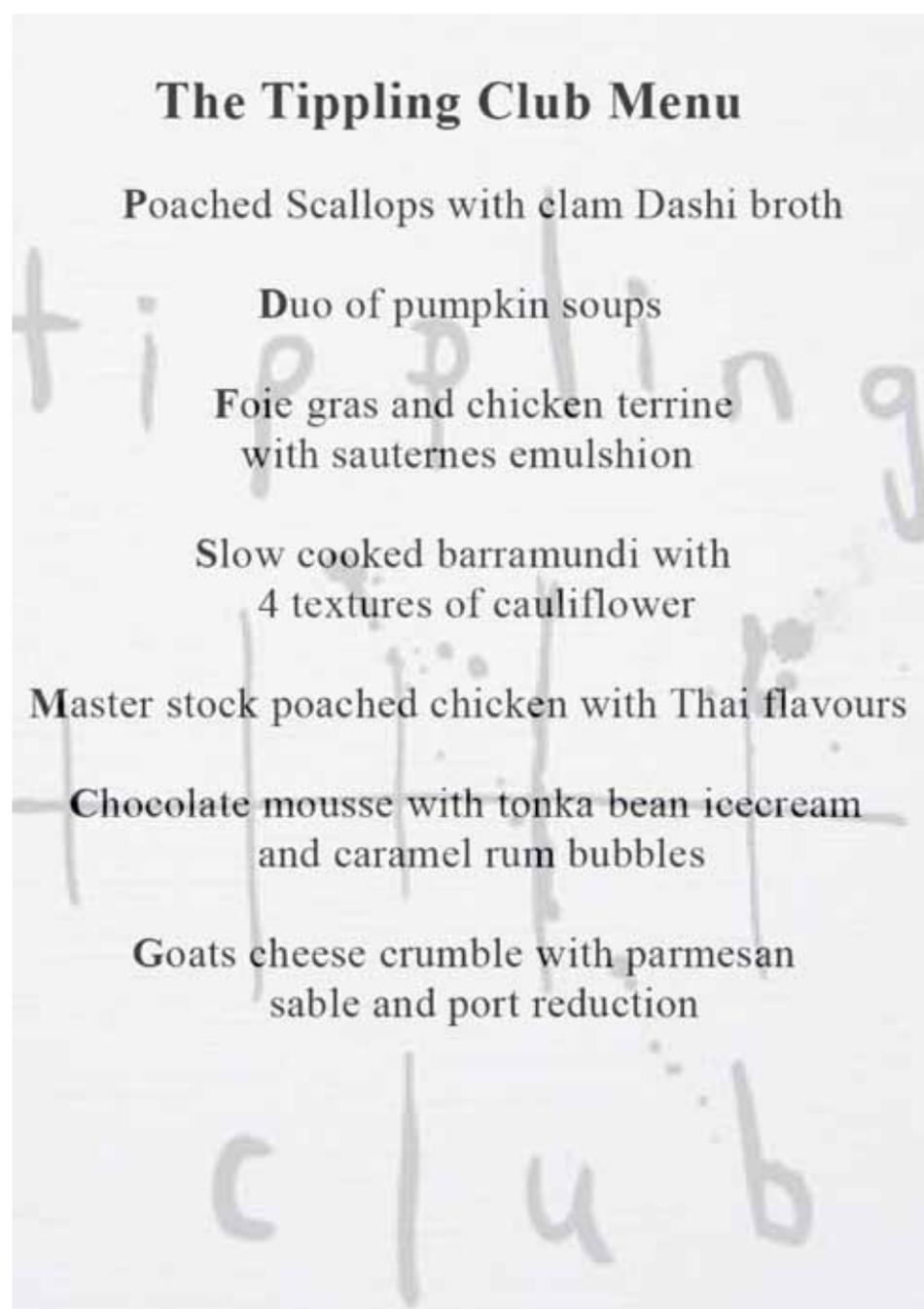
Chef Ryan was delighted to see Hill and insisted on preparing a special menu for him. Hill was then treated to a personal dinner and show as Chef Ryan gave him an excellent one-on-one demonstration of how each dish was prepared.

The meal was an outstanding success, equal to any that Hill had been served over the last three months. The duo of soups was very impressive, chef Ryan used two ladles dipped in liquid nitrogen, then dipped into cold pumpkin soup. The soup froze instantly and was dipped again in the liquid nitrogen. Chef Ryan then gently removed each perfect, thin half sphere and used this pumpkin shell as a base for a soup.

A different soup was placed in the centre of the sphere and another half sphere was placed on top and it looked like a perfect round ball. When Hill tried the dish he was fascinated as the fine frozen sphere was very tasty and very elegant. It was crisp and then melted away to a refreshing finish. The warm soup inside then played its part and the combination of cold and warm was really interesting and elevated the humble pumpkin soup into a star performer.

Attachments

The entire meal was a faultless journey of the senses, and accompanying each dish was a specially selected wine or cocktail. A most unusual but impeccable wine pairing was the foie gras and a 2008 Bella Ridge Kyoho, a variety native to Japan but now grown in Western Australia.



The Tippling Club menu

Attachments



Calamari served with a tube of basil emulsion, you sip the basil potion through the coiled straw as you eat the crisp calamari rings.

Attachments



This unique cocktail, aptly named the 'teacher's tippie', came presented to the table as a book. Only when the book was opened did you discover the secret bottle inside, a potent drink with an Irish whisky base.



Oysters at The Tippling Club