The Malt Whisky Cluster Vortex
-- Surfing The Flavour Spectrum

Vertex 2010 Conference
June 8th, 2010

David Wishart
Research Fellow
School of Management
Whisky ..... the water of life

aqua vitae

uisge beatha
Origins of Scotch whisky

• Irish giant jumped to Scotland with a cask of whisky on his back, from the Giant’s Causeway

• Irish monks passed their know-how to Scotland and Holland by St. Columba and St. Patrick (whisky and gin)
King James IV of Scotland

Bought beer at Tullibardine for his coronation on 26th June 1488.
Medieval monks made beer ... then distilled it (*aqua vitae*)
Whisky is distilled beer

Tullibardine 1988
Highland Malt Whisky
The Royal Boar Hunt

King James IV enjoyed hunting deer and boar in Fife Forest, from his summer retreat – Falkland Palace
First whisky record, 1495

King James IV –
“Eight bolls of malt
to Friar John Cor of
Lindores Abbey, by
which to make *aqua vitae*”
(Alchemy)

*Exchequer Rolls of
Scotland, 1495*
Et per liberacionem factam fratri Johanni Cor per preceptum compotorum rotulatoris, ut asserit, de mandato domini Regis ad faciendum aquavite infra hoc computum, viij bolle brasii.
And by allowance made to Brother John Cor by precept of the comptroller, as he asserts, by the King’s command, to make **aquavite** within the period of the account, 8 bolls of malt.
Management School Research, 2007

School of Management
M.Litt fieldwork at Lindores Abbey “A wee dram of *aqua vitae*, with which to toast Brother John Cor”

27 October 2007
Research continued …..

…. at Tullibardine 1488 distillery
The illicit Highland Whisky Still, Sir Edwin Landseer, 1829
The Sma’ Still of Glenlivet
Highland Line 1779

Low taxes

High taxes
Smuggler and pony
The Prince ....

Prince Regent, 1811

George IV 1820-30

Visited Edinburgh in August 1822, the first monarch in Scotland for 171 years
The Storyteller ...

Sir Walter Scott
1771-1832

The Father of Historical Fiction
and the Cellarer ...

Elizabeth Grant of Rothiemurchas 1797-1886

“The Memoirs of a Highland Lady” 1797-1830
George IV lands at Leith 1822
“I sent them pure Glenlivet whisky, long in the wood, mild as milk, and the true contraband goût in it.”
"I sent them pure Glenlivet whisky, 
• long in the wood 
• mild as milk 
• true contraband goût"

The first tasting note!
George IV, Sir Walter Scott and Lady Elizabeth Grant
Whisky Wars

Battles between smugglers and excisemen

“Tussle for the keg”, by John Petrie
The Whiskey Still at Lochgilphead, Sir David Wilkie 1819
Whisky production at the farms

Edradour Distillery, Perthshire
Edradour Distillery today
Hieronymous Braunschweig

The alchemist’s art of turning barley into liquid gold – *aqua vitae* as a medicine …. “purifying of the grosse from the subtyll, and the subtyll from the grosse”

Alchemy - transmutation

*Das Buch zu Destillieren, 1519*

*Vertuose Boke of Distyllacyon, 1527*
Primitive still – 1664

- Copper kettle
- Peat furnace
- Brass/tin worm
- Condenser
- Water barrel

John French, The Art of Distillation, 1664
Robert Burns, 1759-1796

Burns Night – 26th January
Scottish Homecoming 2009

John Barleycorn was a hero bold,
Of noble enterprise;
For if you do but taste his blood,
'Twill make your courage rise.

.....

Then let us toast John Barleycorn,
Each man a glass in hand;
And may his great posterity
Ne'er fail in Old Scotland!
Medicinal properties

“If a body could find out the exac’ proper proportion and quantity that ought to be drunk every day, and keep to that, I verily trow that he might leeve for ever, without dying at a’, and that doctors and kirkyards would go oot o’ fashion” - James Hogg, *Ettrick Shepherd* (circa 1825)
Medicinal properties

“If a body could find out the exac’ proper proportion and quantity that ought to be drunk every day, and keep to that, I verily trow that he might leeve for ever, without dying at a’, and that doctors and kirkyards would go oot o’ fashion” - James Hogg, Ettrick Shepherd (circa 1825)

Sadly, he died in 1835 aged 65.
Queen Victoria loved whisky
The coachman’s dram
French phylloxera plague

- The phylloxera aphid devastated the French vineyards from 1863...
- Imported into France on root stocks from America
- Solved by grafting French vines on to American root stocks
- But ... cognac drinkers had already turned to Scotch whisky
“The king o’ drinks, as I conceive it, Talisker, Isla, or Glenlivit!”

The Scotsman’s Return from Abroad, Underwoods, 1887
Whisky as a comfort

The wounded soldier returns from war ..... to the comforts of home
Prohibition USA, 1920-33

Capt. William McCoy
The "Real McCoy"
Whisky as a medicine

- Whisky was good for the health, according to the British medical lobby.

- During US prohibition, whisky could be prescribed by doctors “for medicinal use” (Laphroaig)
Prince of Wales loves whisky

Cue: Let’s try the whisky!
Problem – how to choose
Flavour profiling and classification

Nose Heather-honey sweetness and peaty smokiness.

Taste Medium-bodied, sweet and smoky with layers of mint toffee, heather, malt and honey, and a pinch of cumin seeds.

Cluster I - Similar to Bowmore, Springbank, Bruichladdich
Whisky flavour spectrum

A - Dalmore, Glendronach, Macallan, Mortlach
B - Aberlour, Balvenie, Glenfarclas, Strathisla
C - Auchentoshan, Bunnahabhain, Glengoyne, Glenkinchie
D - Deanston, Glenfiddich, Glenrothes, Speyburn
E - Bowmore, Glenmorangie, Highland Park, Springbank
F - Arran, Lagavulin, Laphroaig, Talisker
The Dalmore 12yo

<table>
<thead>
<tr>
<th></th>
<th>Body</th>
<th>Spice</th>
<th>Sweetness</th>
<th>Winey</th>
<th>Smoky</th>
<th>Nutty</th>
<th>Medicinal</th>
<th>Malty</th>
<th>Tobacco</th>
<th>Fruity</th>
<th>Honey</th>
<th>Floral</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Body</strong></td>
<td>★★★</td>
<td></td>
<td>★★</td>
<td></td>
<td>★★</td>
<td></td>
<td>★</td>
<td></td>
<td>★★★</td>
<td>★★★</td>
<td>★</td>
<td></td>
</tr>
<tr>
<td><strong>Sweetness</strong></td>
<td>★★</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>★</td>
<td></td>
</tr>
<tr>
<td><strong>Smoky</strong></td>
<td>★★</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>★</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Medicinal</strong></td>
<td>★</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>★★★</td>
<td></td>
<td>★</td>
<td></td>
</tr>
<tr>
<td><strong>Tobacco</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>★★★</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Honey</strong></td>
<td>★</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>★</td>
<td></td>
</tr>
<tr>
<td><strong>Floral</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>★★★</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Award-winning Christmas cake “cigar” malt
Edradour 10yo

<table>
<thead>
<tr>
<th></th>
<th>Body</th>
<th>Spice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sweetness</td>
<td>***</td>
<td>Winey</td>
</tr>
</tbody>
</table>
| Smoky | * | Nutty ***
| Medicinal | | Malt **
| Tobacco | | Fruity ***
| Honey | ** | Floral **

Nutty malt from Scotland’s smallest distillery
The Glenlivet 12yo

<table>
<thead>
<tr>
<th>Body</th>
<th>Spicy</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sweetness</th>
<th>Winey</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Smoky</th>
<th>Nutty</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Medicinal</th>
<th>Maltv</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tobacco</th>
<th>Fruity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Honey</th>
<th>Floral</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>
## Tullibardine 1993

<table>
<thead>
<tr>
<th></th>
<th>Body</th>
<th>Spicy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sweetness</td>
<td>★★★</td>
<td>★★★</td>
</tr>
<tr>
<td>Smoky</td>
<td></td>
<td>★★★</td>
</tr>
<tr>
<td>Medicinal</td>
<td></td>
<td>★★★</td>
</tr>
<tr>
<td>Tobacco</td>
<td>★★</td>
<td>★★★</td>
</tr>
<tr>
<td>Honey</td>
<td></td>
<td>★★</td>
</tr>
<tr>
<td>Winey</td>
<td>★</td>
<td></td>
</tr>
<tr>
<td>Nutty</td>
<td>★</td>
<td></td>
</tr>
<tr>
<td>Malty</td>
<td>★★★</td>
<td></td>
</tr>
<tr>
<td>Fruity</td>
<td>★★★</td>
<td></td>
</tr>
<tr>
<td>Floral</td>
<td>★</td>
<td></td>
</tr>
</tbody>
</table>

Same source as Highland Spring
## Highland Park 12yo

<table>
<thead>
<tr>
<th></th>
<th>Spicy</th>
<th>Winey</th>
<th>Nutty</th>
<th>Malty</th>
<th>Fruity</th>
<th>Floral</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body</td>
<td>**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sweetness</td>
<td>***</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Smoky</td>
<td>****</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medicinal</td>
<td>*</td>
<td></td>
<td></td>
<td>**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tobacco</td>
<td></td>
<td></td>
<td></td>
<td>**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Honey</td>
<td>**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Orcadian dream award-winning malt
Laphroaig 10yo

<table>
<thead>
<tr>
<th></th>
<th>Body</th>
<th>Spice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sweetness</td>
<td>★★</td>
<td>Winey</td>
</tr>
<tr>
<td>Smoky</td>
<td>★★★★</td>
<td>Nutty</td>
</tr>
<tr>
<td>Medicinal</td>
<td>★★★★</td>
<td>Malty</td>
</tr>
<tr>
<td>Tobacco</td>
<td>★</td>
<td>Fruity</td>
</tr>
<tr>
<td>Honey</td>
<td></td>
<td>Floral</td>
</tr>
</tbody>
</table>

Peaty medicinal full-bodied malt, Islay
Clusters

Illustrates the range of flavours of malt whiskies at 10, 6 and 4 clusters

Use to select the number of malts for your collection, or for a tasting
Principal Components Analysis

Whisky Classified Flavour Chart

Winey Fruit Cake

Rich Full Bodied

Peaty Smoky Pungent

Delicate Fresh Floral

www.WhiskyClassified.com
www.WhiskyAnalyst.com

© David Wraith 2009
In summary ....

• Whisky Classified helps you choose a single malt whisky that suits your palate, not someone else's

• You don’t have to taste them all to discover which malts you like best
Today’s Vertex 2010 Tasting

Whisky Classified
Choosing Single Malts by Flavour
David Wishart
Price £14.99
whiskyclassified.com

English, Dutch, Danish, Swedish, Finnish, Italian

SIGNED COPIES