

WEBSITE REVIEWS

“this website ... provides an ideal reference source for fine fragrances”

Dr Tony Curtis

In a recent edition of the New Scientist there was a cartoon. It depicted two people talking. One says ‘There is information on everything on the internet!’ The second person responds with ‘Even better some of it is even true!’ In a past edition of the ICATS Newsletter we reviewed David Spiegelhalter’s book *The Art of Statistics: Learning from Data* (past editions of the Newsletter are available to download on the ICATS website). What particularly caught my eye when I first read this book was a quotation from a response he gave to a question ‘How do you avoid being blinded by numbers? He calls it ‘Sniffing the number [the dodgy stats.]’. Here is my summary of the rules he gives: -

- Why am I hearing this number [information]? Be sceptical of the motivation of the person giving the number [information].
- Are they trying to make it big or small?
- Are they trying to persuade me rather than inform me?
[Too often it is the former!]

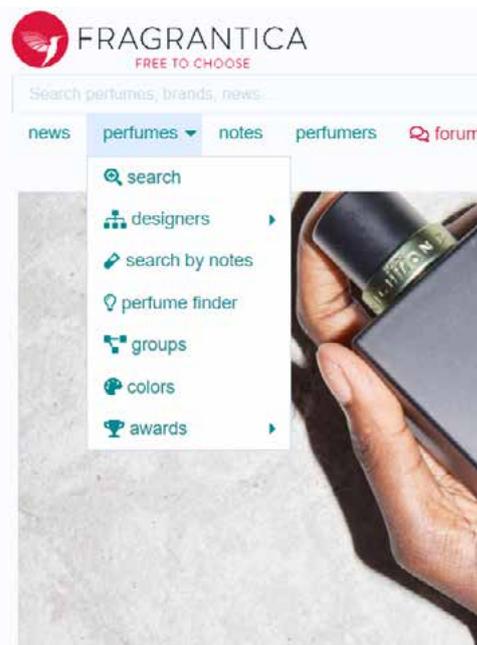
The subsidiary questions are: -

- Can I believe this number [information]?
- Where does it come from?
- Does it actually represent what I think it represents?

His explanation is ‘It is a bit like judging [sniffing out!] fake news’. I learned a new term ‘horizontal searching’: always evaluate the context of the figure [statement] since a number [information] without context is meaningless. I still have these key points from the above pinned up over my desk. In this review I have modified the word number to include all information.

I am a convert to *Wikipedia*. Recently I was writing some learning material involving vapour pressure of aroma materials and I wanted to check some definitions. No problem, there was a brief review of the range of definitions. However, there were also the nice citations to authoritative web sites / papers. I have a check list of dangerous words and authoritative is one of them. In simple language is this a source that I can trust and believe? As David Spiegelhalter advises – never suspend judgement!

Having given these warnings go and have some pure joy. The Fragrantica site is pure pleasure as well as being authoritative. I have occasionally participated in radio telephone programmes on perfumes. One of the common questions was ‘I like perfume x, what other perfumes do you think I might like?’ With this website this is not a problem. Visually exciting this site provides an ideal reference source for fine fragrances. As I write this review, I am listening to UK Classic FM. On my DAB radio I only have to glance at the display to see the composer of the current piece being played and its composer. You like a perfume by a given perfumer and would like to explore other perfumes by this person. Here is the site to help you. Here is another health warning. You go to check one thing and you find you have spent a fascinating hour browsing the vibrant cover of current perfumery news. Do go and explore this site you will enjoy it!



“...a treasure house of information on aroma materials such as chemical structure, organoleptic properties and applications”

The *Good Scents Company* site name is a bit misleading. The site is just as useful for flavour use of aroma materials. On my desk is my dogeared (after all it was published in 1969!) copy of *Perfume and Flavour Chemicals (Flavour Chemicals)* by Steffen Arctander. This is a treasure house of information on aroma materials such as chemical structure, organoleptic properties and applications. Well, we are in the 21st century and this site to me this website is Arctander on steroids. Also, as a major added bonus, it also embraces essential oils.

A bugbear with working with aroma chemicals and aroma materials is the proliferation of synonyms for a given material. Of course, this site covers this but it goes further, much further with detail. Arctander gives a short paragraph about flavour and fragrance uses. This site gives demonstration formulas! With essential oils it presents us with a library of photographs. I just wish I had this site available when I was writing my IFEAT Diploma study essays!

No discussion of Aroma Trades information would be complete without considering the *IFRA (International Fragrance Association)* website. The alternative title to this review should be ‘How to spend two hours being captivated by excellence on a wet

Sunday afternoon!'. After this I was daunted by the impossibility of doing justice to this magnificent site. In a short space I can only take a sample approach. One of the 'controversial' aroma chemicals is limonene. This widely occurs in a whole host of essential oils, particularly the citrus group. I return to the 'Spiegelhalter – test': does the site give a balanced view. The site gives all the key information CAS number, structure, synonyms etc. I am infuriated by some general reports which refer to limonene as a single 'chemical'. Limonene is an asymmetric molecule and thus may occur as the d form, the l form or as a d & l mixture (often called di-pentene). Of course, the IFRA site does cover this fully. In this context it is important to remember that the biological properties of a molecule can be significantly different for d and l forms (e.g odour properties of menthol). The IFRA guidelines are focused on the safe use of aroma ingredient. Accordingly, the review is on the safety in use of limonene (including the large group of limonene containing essential oils). The site does give a balanced and authoritative view.

Let us dig down a little to see why I consider this conclusion is justifiable. One of my Sunday chores is to check and clean my refrigerator. Today I found a mouldy scrap of Parmesan cheese at the back that had escaped my previous efforts. The green mould was a clear sign that this was not going to be good grated onto my spaghetti bolognese lunch! You read a report on a web page that limonene causes dermatological problems. What to think? Back to the 'Spiegelhalter – test'. What was the evidence for the assertion, what was the quality of the evidence? One is not surprised if you become ill after eating a pre-packed salad long past its 'best-before-date'. However, when did you last see a report on a safety issue for aroma product that allowed you to assess the quality of the evidence? What was the providence of the sample? How was it obtained, how was it stored, how was the test performed? In this case of limonene, we know that poor storage and long aging may cause the formation of contaminating peroxides, a well know problem for skin irritation.

I am a chemical nerd and I have experience of peroxide analysis. 50 years ago, I worked on the air oxidation of pinene to get to myrtenol. I used the B D Sully method for peroxide estimation. Yes GC / MS is vital to aroma materials analysis but it does not give the complete picture. Traditional wet methods are needed as well to compete the picture. These of course

were perfected 50 or 100 years ago. Wrong!!! Here we go to the *IFRA Scientific Guidance page and click on APPENDIX 1 to the IFRA Method for the determination of the peroxide value. Outline of factors that may influence peroxide value results in typical laboratory test procedures [September 2021]*. The report extends to several pages and in summary it concludes that results (peroxide values) obtained in the test can be affected by: sample size, reaction time, oxygen effects as well as other parameters. One of the aims of the IFEAT / ICATS educational programmes to develop critical insight. Here is a traditional analytical procedure with over a century of use but in 2021 it was still necessary to devote new investigations to pin down the precise procedure to get accurate and reproducible results. Why do I so appreciate the IFRA website? It provides not only data but allows the researcher to drill down to a wealth of supporting evidence with expert evaluation. It allows to reader to not only to note the conclusions but to come to an independent assessment of the weight and quality of evidence on which the conclusion rests. One can never suspend critical evaluation to gain full insight. The IFRA website is a fine example of a source which enables the reader to do this. Reader beware: if a source does not give you this ability to drill down you have every need to be cautious of the conclusions advanced.

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Here is a short note for our flavour readers. The IFRA website is also a rich source for people engaged in the flavour, food and drink aspects of the aroma trades. There is excellent overview cover of GMP (Good manufacturing Practice) in the pages devoted to *IFRA Recommendations for Good Operations Practice*. This is applicable to all partners in the Aroma Trades industry value chain. The topics covered include: personnel, premises & sanitation, Quality Assurance, fragrance ingredients, quality control and storage, manufacturing operations, packaging and labelling, records pertaining to quality assurance & distribution, and health & environmental protection.

The IFRA website is not light reading but it is a comprehensive resource for all personnel engaged in our industry.

Now last but not least: the Diploma programme is devised and run by IFEAT and ICATS. Here I focus on one particular feature of the IFEAT website: the availability of past editions of IFEATWORLD. Apart from general reports on industry issues there are a series of autorotative reviews of key essential oils. These are unrivalled in their breath and depth of cover and are highly recommended. These may be found on the Publications page and click on Social-Economic Reports.

Well to round-up I must talk about our website. I must complement our Editor Deirdre Makepeace and our lead Reporter Dr Ali Green (ICATS Director of Studies). Ali provides our readers with quality reports on industry events. Things are ever changing and our newsletter gives you a chance to catch up on different developing trends such as sustainability. I try with my book reviews to signal some wider reading that will be of value to you. As ever my message is do find a bit of time for wider reading and when reading never suspend judgement and maintain critical insight. The ICATS current and past editions of the Newsletter are available on the ICATS website.

I end as I started, do keep to the Spiegelhalter – rules! Happy and informative web browsing.

Websites:

<https://www.fragrantica.com/>,
<https://www.thegoodscentcompany.com>, <https://www.ifrauk.org/>,
<https://www.ifeat.org> <https://www.icatsaromeducationcom.com/>

