

Perils of Popularity: How Popularization Leads to Ultimate Degradation

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ABSTRACT: Herbs and spices have been a part of human life for thousands of years, and now, in the 21st century, herbs, spices and spice blends have achieved unprecedented popularity, with the widest distribution and availability in history. They have become readily available, and cooks are able to add symphonies of taste to what may otherwise be boring meals. But, we have to wonder, at what cost? What are the ‘Perils of Popularity’ for herbs, spices and spice blends in 2020 and beyond? And who – or what – are the spice rogues of today?

This paper proposes that popularity and widespread acceptance may lead to a devaluation of the true intrinsic qualities of herbs, spices and spice blends. Ian addresses the risks of losing quality, authenticity and accuracy of information. Is a herb, spice or spice blend, based on cultural traditions evolved over thousands of years, in danger of losing its identity? Are seasonings (comprised primarily of salt, flavours, fillers and colours) items that should be classified as herbs and spices on supermarket shelves? The author sums up with a strong recommendation that the only way to rescue the integrity of herbs and spices is through formal education.

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The Oxford English Dictionary describes the attributive meaning of Popular thus: ‘Intended for or suited to the taste, understanding, or means of the general public, rather than specialists or intellectuals’. Therefore, as authored by a herb and spice specialist, this paper does focus on *Popular* as defined above. (Statement of Disclosure: The author is the owner of an artisan herb and spice business in Australia, has worked in the herb and spice industry in Australia and overseas for 50 years and has authored award winning books on herbs and spices.¹ His points of view expressed, should be taken in acknowledgement of this context.)

An Ancient Trade

A jocular salesman once told me that the only thing older than herbs and spices is sex, and the world’s second oldest profession is the spice trade, with as many rogues in it as the first. True or not, herbs and spices have been a part of our culinary heritage for thousands of years. Now in 2020 herbs, spices and spice blends have achieved unprecedented popularity, and the widest distribution and availability in history. But, we have to wonder, at what cost? And who – or what – are the spice rogues of today?

How Popularization Leads to Ultimate Degradation

Long before the advent of social media, popularity has always been desirable. There are instances where a chef, for example, Australian David Thompson, becomes passionate about tracing original methods and ingredients. David's obsession to replicate an authentic Thai cuisine raised his profile and he became an adored and respected celebrity. What follows is an expectation that the general consumer can recreate his masterpieces using a supermarket jar of Thai Green Curry paste. Thus the original artisan ideal is bastardised.

Does popularity and widespread acceptance necessarily lead to a devaluation of the true intrinsic qualities in something? What are the risks of losing quality and accuracy of information? Is a herb, spice or spice blend, based on cultural traditions evolved over thousands of years, in danger of losing its identity? Or, with the modern supermarket trend of including seasonings in the herbs and spices category, is the meaning of just what are herb and spice blends being devalued?

Awakening

As a boy, my parents started a herb nursery that developed into an artisan herb and spice business. My father made Pot-Pourri from scratch with artisanal care. He harvested and dried the fragrant flowers and herbs, blended essential oils with spices, and blended all the ingredients by hand. Sadly, commercial Pot-Pourri is now made with coloured wood shavings, and you can even purchase a chemical room freshener, offensively named Pot-Pourri.

180 My first-hand experiences in all sides of the herbs and spices industry has given me an in-depth appreciation of this industry's dynamics. Interactions with farmers, traders, distributors, manufacturers, marketers, retailers, chefs, caterers and consumers, from the respectable to the downright dishonest, continues to raise three disturbing issues.

Misinformation

Many cooks, writers and food professionals, who no doubt are skilled in their use of spices, and have undertaken extensive research, repopulate incorrect information about many of the basics. An example is stating that sumac is the ground seeds of the tree (*rhus coriaria*).² In fact, most deep purple sumac, rich in malic acid, is the flesh and skin of the berry, which is rubbed off from the hard seed. In another example of misinformation, an in-flight magazine several years ago used photos of poison sumac (*R. vernix*) in an article on culinary sumac! Other examples abound, such as brands of smoked paprika that contains; Paprika and Natural Identical Smoke Flavour with Salt used as a carrier.³ True smoked paprika is produced by smoking paprika pods as part of the drying and curing process.⁴ Many journalists and spice companies confuse Sri Lankan cinnamon (*Cinnamomum zeylanicum*) with cassia (*C. burmanii*), in writing about Sri Lankan cinnamon but showing photos of cassia bark.⁵ One is not simply being pedantic here, as these two cinnamons have very different flavours, and using cassia instead of cinnamon may ruin a recipe.

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Journalists tend to be unrealistically zealous in their descriptions of many spices when exposed to a new commodity, especially when the experience is in an exotic and welcoming environment. One of my favourite examples is an article on fennel pollen that appeared in October 2000.⁶ The writer gushed that fennel pollen is one hundred times more intense than ground fennel seeds. Really? This hyperbole is simply incorrect. There are many examples of flowery descriptions telling readers that a certain spice is 100,000% better than any similar spices.⁷ Others have often described a spice they've seen as "the best in the world" despite many producers of the same spice making the same claim. A more honest appraisal should focus on the intensity of the aroma, the brilliant colour, or more realistic attributes to give readers a better understanding of that particular spice. I have seen many excellent spices, and some are the best I've seen, but that does not categorically mean that they are the best in the world.

Adulteration and Food Fraud

Instances of adulteration are nothing new. White pepper was adulterated with rice flour, and black pepper with burnt bread in Victorian times, according to Mrs Beeton, in her book on Household Management.⁸ Most of us will remember the case of Sudan Red in chilli powder in the UK and USA.⁹ Consider that many traders sell ground white pepper adulterated with corn and/or rice flour, naming it spuriously 'Manufacturer's Pepper'.¹⁰ Is it any wonder that food fraud is on the increase? Major retailers of food products constantly gouge suppliers on cost, discounts and promotional deals. Suppliers are then forced to reduce their manufacturing costs, so they have to search for cheaper input commodities. Due to their relative high value, herbs and spices are often the first casualty. One independently verified example of food fraud was in 2016, when oregano from Turkey was found to be adulterated with olive leaves.¹¹ More disturbing, due to the high cost, is the manufacture of fake saffron stigmas, made from a dissolvable gelatine-like material, artificially coloured and flavoured with sandalwood.¹²

There are further common examples of adulteration.¹³ In 1919 25 samples of cloves investigated by H. Harald in Stockholm, found clove stems, fruits of cloves, rice, white pepper, sand, earth, and spent cloves (material after extraction of clove oil). Cinnamon was found with components of powdered beechnut husks aromatized with cinnamic aldehyde, and marketed as "pure powdered cinnamon". Pepper, the most traded spice in the world, until overtaken in volume terms by chillies in the last decade, was commonly adulterated with pawpaw seed, olive kernels, palm-kernel meal and light berries (empty peppercorns, also called pin-heads).

The list is long and one can understand the urge to adulterate, given the value involved. Red beet powder and brick dust in chilli powder, turmeric and paprika; safflower petals, sandalwood, annatto, and corn silk passed off as saffron.¹⁴ Even coal tar dye in turmeric!

Bulking out the genuine article with a cheap additive, which may or may not be harmful, has been the common practice for centuries, and details of such adulteration and its history has been well documented.¹⁵

Although most developed countries have strict food laws that should ideally negate these practices, many traders do not have sufficient product knowledge to properly evaluate their imports, and herbs and spices are often not tested for adulterants that sit under the radar. Cost cutting to achieve low prices, generally has serious consequences for the credibility of the herb and spice industry. A common misconception is that one is advised to seek out items such as saffron in specialty ethnic markets.¹⁶ However, this author's experience has tended to be the reverse, where white peppercorns have been dyed green and pink, safflower petals and fake saffron sold as the genuine article, and spices like ground cumin seed adulterated with the cheaper and milder ground coriander seed. Let the buyer beware has never been more relevant!

Devaluation of Spice Blends

Herb and spice blends fall into two main categories; those based on traditional combinations such as garam masala, baharat and ras el hanout, and those dreamt up by a spice blender. Examples could range from a chicken seasoning to a steak rub or a stir-fry spice. Similarly, spice merchants fall into two main groups; artisan spice companies, that either market through their own retail outlet/s and online, and those Fast Moving Consumer Goods (FMCG) companies that sell through major supermarket chains.¹⁷

One has to acknowledge that it is almost impossible to categorically state what is exactly in an authentic spice blend. Dozens of spice sellers in a Moroccan souk will make their own version of Ras el Hanout, a spice blend known as 'top of the shop' and considered by many to be the pinnacle of spice blends, generally containing over 20 ingredients.¹⁸ Consider a Ras el Hanout bulked out with onion powder, salt and free-flow agents, or one that simply contains 7 spices plus salt.¹⁹ Is that still a credible blend? Is it ethical for a major spice company to call a spice blend an Australian Bush Spice Seasoning, when it contains: Salt, Rice Flour, Sugar, Onion 12%, Garlic 9%, Pepper 7%, Paprika, Celery Seed 2.5%, Nutmeg, Oregano, Marjoram, Parsley, Rosemary, Vegetable Oil, Lemon Myrtle 0.5%, Capsicum, Wattle Seed 0.5%, Colour (Paprika Oleoresin)²⁰ How does this enhance the credibility of an emerging opportunity for native Australian ingredients, and the flow-on benefits to indigenous communities to financially benefit from native produce awareness, with only 1% native Australian ingredients, contributing no discernible impact on the ultimate taste?

Of greatest concern is the number of non-herb or spice ingredients that are used in many seasonings, which appear on supermarket shelves in the herb and spice category. Can these really be classified as herbs and spices?

How Popularization Leads to Ultimate Degradation

Touching briefly on herb and spice pastes, such as Tandoori Paste, these are possibly the most obvious example of how a product is marketed in such a manner as to completely hoodwink the consumer. A famous brand of Tandoori Paste has these ingredients: (Water, Rapeseed Oil, Durum Wheat Semolina, Salt, Sugar, Acids (Acetic Acid, Citric Acid), Ground Cumin (5%), Ginger Purée, Chilli Powder, Mustard Powder, Ground Ginger, Ground Cinnamon, Garlic Powder, Ground Paprika, Spices, Onion Powder, Colour (Paprika Extract), Ground Celery, Stabilisers (Guar Gum, Xanthan Gum)).²¹ Note that ingredients are listed in descending order by weight!

In the mid 1990's I was involved in consumer research focus groups, on attitudes and perceptions of herb and spice pastes. Believe it or not, these products that are mostly water, oil, salt, sugar, food acids (for preservation) and only small quantities of spices, were perceived as fresher than dried herbs and spices, as they were wet, and in glass jars! When one thinks how easy it is to make a paste at home, the marketing of these pastes, and the advertising hype that implies their freshness, is fundamentally dishonest on the part of FMCG food manufacturers making these products.

Let's now look at the most common ingredients in herb and spice blends/seasonings and try to understand the rationale for their inclusion.

Figure 1 summarises a list of non-spice ingredients commonly found in blends from FMCG companies in Australia, The United Kingdom and The United States of America. In Australia, 3 brands and 9 blends were surveyed, In the UK, 3 brands and 7 blends, in the USA, 5 brands and 14 blends. The USA is by far the largest market in the world for FMCG products.

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The first column shows the name of the non-spice ingredient, and also when an ingredient listing simply states *Spices*, with no information about what those spices are.

The second column lists the E number when applicable, with the third, fourth and fifth columns showing the number of times the ingredients occurred in the blends surveyed. The sixth column adds up each country to show a total for that ingredient followed by the percentage of occurrence.

Top of the list is salt, found in 97% of the products surveyed, and in many instances the first ingredient (meaning largest amount by weight). Salt makes food taste good, but why so much? On average, herbs and spices used in spice blends will have a wholesale cost to a food manufacturer somewhere between US\$8.00 and \$16.00 per kilo, for the most common herb and spice ingredients. Salt, on average will cost <US\$0.20 per kilo. Therefore, bulk your blend out with a cheap, heavy ingredient to lower the cost, with the resulting high risk health implications for consumers.²² Although salt is as essential to life as water, human consumption of salt in processed foods, far exceeds what are considered to be safe levels on consumption.²³ This is borne out by the organisation, Blood Pressure UK.²⁴ Of particular concern are vegetable and herb salts that give the impression that they are a healthy option, when salt is the first ingredient.²⁵

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Ingredient	E-number	AU	UK	USA	30	Percent Included
Salt	E201	8	7	14	29	97%
Sugar		8	2	7	17	57%
Flavour		4	3	8	15	50%
<i>Spices - no individual listing!</i>		0	1	12	13	43%
Silicon dioxide	E551	0	3	5	8	27%
Citric acid	E330	3	3	1	7	23%
Rice flour		6	0	1	7	23%
Yeast extract		1	1	4	6	20%
Corn maltodextrin		0	1	3	4	13%
Vegetable oil		3	0	0	3	10%
Calcium stearate	E482	0	0	2	2	7%
Chicken flavour		2	0	0	2	7%
Dextrose		0	0	2	2	7%
Di-sodium inosinate & Guanylate	E626 + E630	0	0	2	2	7%
Tricalcium phosphate	E451	0	0	2	2	7%
Calcium silicate	E552	0	0	1	1	3%
Canola oil		0	1	0	1	3%
Cellulose	E460	1	0	0	1	3%
Colour Amonia Caramel	E150c	0	1	0	1	3%
Corn flour		1	0	0	1	3%
Cornstarch		0	0	1	1	3%
Extracts		1	0	0	1	3%
Maize flour		1	0	0	1	3%
Malted barley flour		0	0	1	1	3%
Potato starch		0	0	1	1	3%
Propylene glycol	E477	0	0	1	1	3%
Riboflavin (colour)	E101	0	0	1	1	3%
Soy bean oil		1	0	0	1	3%
Total non-spice or unlisted spice:		40	23	69	132	
Average Proportion Across Brands*		4.4	3.3	4.9	4.4	

FIGURE 1. Summary of non-spice ingredients in FMCG spice blends sold in major supermarkets. Total blends surveyed = 30. *Average shown above, shows each country relative to others due to different sample sizes.

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Next on the list, coming in at 57% of products surveyed, is sugar and dextrose at 7%. Given the global concerns expressed by health professionals, one hardly needs to elaborate here.²⁶ Again, sugar is cheaper than most herbs and spices, consumers become addicted to it when it is included in excessive quantities in processed foods.

Flavour! Goodness gracious, why add flavours, extracts and colours to a blend of herbs and spices? Flavours, including natural, nature identical (a questionable descriptor) and artificial, are all concentrated and cost less than the real ingredient.²⁷ Food companies will tell you these are more consistent, and safer due to the lack of potential pathogens. Yet they still use herbs and spices. Again, cost is the key driver.

Next is the 43% occurrence of listing *Spices*, but not listing what spices, unless they happen to be known allergens that must be declared. Is this to save space on labels, or simply a way to not tell consumers about items a consumer may not want, but does not have to be mandatorily listed? Surely food companies should always list 100% of all ingredients.

Silicon dioxide at 27% is interesting, as this ingredient along with Tricalcium Phosphate (7%), Calcium Stearate (7%) and Calcium Silicate (3%) are what are known as free-flow agents. That is, they make the blend more free flowing for packing on high-speed automatic packaging/filling machines. The added advantage is they help prevent clumping, something that happens when thousands of packs are made, they then sit in a warehouse, followed by being shipped weeks or months after production, and finally end up on a supermarket shelf. A blend of herbs and spices that has been packed in an airtight pack, should not have deteriorated if it has a few lumps in it.

Citric acid was found in 23% of surveyed blends. While citric acid occurs naturally, most citric acid used in food products is industrially manufactured. Citric acid imparts a harsh acidity to these blends when a more compatible ingredient would be natural lemon powder, amchur powder or even sumac.

Rice flour, also at 23% is used to help amalgamate the ingredients. At a significantly lower cost than most spices, it helps to bulk out the blend economically. The downside is that rice flour binds up flavours to a certain degree, making the addition of extra flavours necessary. Other flours added for similar purposes, and to assist in cost reduction are corn flour, corn-starch, maize flour, potato starch and malted barley flour.²⁸

Yeast extract at 20% of surveyed blends is a food flavoring made from the same yeast used to make bread and beer. It's also added to some foods like soy sauce and cheese for a savory flavor. The taste that yeast extracts create is sometimes referred to as umami. Although not a spice as such, yeast extract remains a legitimate way to add umami to a herb and spice blend.

Corn maltodextrin is added to improve the flavour by flattening sharp or dissonant flavour notes in some spices, while also enhancing density of taste on the palate, and potentially extending shelf life.²⁹ Maltodextrin is a low cost and generally unnecessary addition, if a herb and spice blend is well balanced with natural herbs and spices in the first place.

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Oils including vegetable, canola and soybean, are generally added to overcome what is referred to as strata-ing, that is, a separation of ingredient particles of varying sizes, resulting in stratas, or layers, forming in the blend during storage and transportation, so it no longer looks homogenous. Oils will also help to make a blend look glossy and appetising. Sumac which has been adulterated with ground sumac seeds, citric acid and artificial colour, will look more natural with added oil.

Cellulose is an extender added to food products to assist free-flowing during packaging, may extend shelf life as an anti-caking agent.³⁰ Cellulose is cheap and bulks out spice mixes economically.

Di-sodium inosinate & guanylate is stronger than MSG.³¹ It has basically the same effect, but can be used in lower amounts and allows the manufacturer to avoid putting MSG on the ingredient list.

Propylene glycol is useful industrially, and may be a logical ingredient to add to products such as ice cream to enhance flavours, extend shelf life and act as an emulsifier.³² However, is this really necessary in a herb and spice blend?

Conundrum

One has to ask the question, 'What are the Perils of Popularity' for herbs, spices and herb and spice blends, and seasonings in 2020 and beyond? On the one hand they have become readily available, and cooks enjoy the convenience of these products to make less boring meals.

186 On the other hand, have these precious wonders of nature suffered the same fate as Pot-Pourri? Issues abound, from adulteration, lack of product knowledge by many food communicators, rogue traders, and many spice companies that value-engineer spice blends to reduce cost.

We are at risk of a time when no-one remembers the original qualities of a spice blend like Ras el Hanout. Benchmarks for provenance, quality and identity will be lost if we see a future when the artisan spice company has disappeared, a time when cooks can only source herbs, spices and spice blends that satisfy commercial short-term interests in an ever increasing race to the bottom.

Those of us who care about such fundamental food integrity matters, should embark on a consumer awareness campaign, so consumers will understand the importance of reading ingredient listings, and reject products that are economical with the truth. Professional education institutions pay little attention to the proper evaluation of herbs, spices and spice blends. Our daughter, when undertaking a professional chef's course at a prestigious London institution, questioned the quality of the ground cumin seeds being used, and was told by the lecturer "It's only a spice, that doesn't matter." Having grown up with spices, she was quite horrified at this response.

Emphasis tends to be made on the quality of meats, vegetables and fruits by food enthusiasts, however the provenance, quality and integrity of the herbs and spices used can

make or break the end result. We should activate to see food educators adopt a curriculum for herbs and spices, so food professionals know how to properly evaluate material. This would ideally cover key elements, such as the role for fresh and dried herbs, and why many spices have to be dried. Essentially in an age where food safety and HACCP certifications are crucial, what are the most appropriate criteria for storage and sanitation?³³

Food writers need to undertake thorough research on herbs and spices they write about. They must be prepared to avoid hyperbole when describing spice experiences in exotic locations, as guests of charismatic farmers!

Up and coming food professionals must be taught through curricula on herbs and spices in their commercial cookery courses. These graduates would be better informed, and be able to properly evaluate herb and spice ingredients when they are better understood.

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