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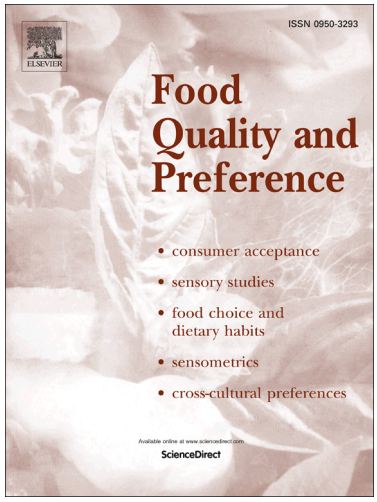

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RUNNING HEAD: MULTISENSORY EXPERIENTIAL WINE MARKETING

Multisensory Experiential Wine Marketing

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ABSTRACT

The pairing of wine with music goes back a long way, starting out with commentators at first merely just using musical metaphors in order to describe the wines they were writing about. In recent years, however, this area of interest has morphed into a growing range of multisensory tasting events in which wine and music are paired deliberately in order to assess, or increasingly to illustrate, the impact of the latter on people's experience of the former. Initial isolated small-scale and often anecdotal reports of music supposedly changing the taste of wine have since evolved into large-scale experiential, experimental, events. The results of the latter typically demonstrate the robustness, not to say ubiquity, of such crossmodal effects. It is no exaggeration to suggest that the explosive growth of such events is, in some markets at least, starting to revolutionize the marketing of wine. In this article, I review this emerging field of research. I consider how the insights gained from such events are now starting to influence experiential marketing, not to mention in-home consumption, often via sensory apps. In order to stay relevant to today's and, perhaps more importantly, tomorrow's, wine consumers, the marketers of wine really need to ride the experiential multisensory wave that is currently sweeping through the (alcoholic) drinks industry.

KEYWORDS: MULTISENSORY; EXPERIENTIAL; WINE MARKETING; CORRESPONDENCES; WINE-MUSIC MATCHING.

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1. Introduction

The connection between wine and music goes back a number of years now (see Spence, 2011b, for a review), starting with certain writers choosing to describe the wines they were writing about using musical analogies/metaphors. Just take, for example, the following quote from the prolific British wine writer Hugh Johnson (2005, p. 253): "*I have tasted first-attempt Chardonnays that were like Dizzy Gillespie's solos: all over the place. And the colour of his trumpet, too. On the other hand a Stony Hill Chardonnay recently had the subtle harmonies and lilting vitality of Bix Beiderbecke. Robert Mondavi's Reserve Cabernets are Duke Ellington numbers: massed talent in full cry. Benny Goodman is a Riesling from Joseph Phelps, Louis Martini's wines have the charm and good manners of Glenn Miller. Joe Heitz, though, is surely Armstrong at the Sunset Café; virtuoso, perverse and glorious.*" Or take the following from Kent Bach (2007, p. 27): *"Taking a sip of wine, at least a wine worth talking about, is like hearing the sound of a sustained, musical chord."*

In fact, a few years ago, one somewhat unconventional Australian wine writer, Mark Shield, even went so far as to suggest that we should forget about giving numerical values to evaluate wines and instead simply score them by matching them to a particular piece of music (see Mitchell & Mitchell, 2009, pp. 25-27). Of course, not only can wines be described in terms of music, as in Hugh Johnson's quote above, but music can also be linked to wines/wine styles, as captured by the following from Paul White (2008, pp. 122-123): *"...it's hard to think of music that is more transparently effervescent than Steve Reich's Octet and Music for Large Ensemble. Both have textural aspects strongly reminiscent of Champagne. Bouncing along optimistically, motives advance and recede like the frothy mousse of a freshly poured glass: bubbles forming and popping with little explosive jolts, instantly replaced by others. I've listened to these pieces hundreds of times, and full of perpetual motion, they sparkle along and never sound quite the same."*

There is, in other words, a long history of wine being linked to music by the wine press (see also Pretorius, 2016). However, all too often, it has not been clear whether such descriptions of wine in musical terms ever reflected anything more than idiosyncratic, or almost synaesthetic, connection between the senses in a few isolated individuals. Indeed, some writers have worried about those who want to compare wines to particular pieces of music, or musical styles. Paul White (2008, p. 122) captures the concern when he wrote that: *"...I've rarely resorted to describing wines through musical terminology (staccato, crescendo,*

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rubato, riff, and so on) or made direct associations between tunes and individual wines: 'This Riesling is so middle-period Nirvana…' That's not to say those aren't valid expressions; it's just not the way I've sensed wine and tried to lay it out in words. To be frank, I've always feared how easily that sort of discussion can end up sounding trite or pretentious or simply slink off into esoteric nonsense."

In recent years, though, there has been a rapid growth of much more rigorous empirical research that has managed to convincingly demonstrate the shared connections that exist between hearing and tasting in the world of wine. In this article, I summarize and critically evaluate this emerging literature, while considering the various explanations that have been put forward to explain these crossmodal associations. I also consider the implications for the future of experiential wine marketing, and the future of in-home branded tasting, of findings showing that what the consumer hears really does influence what they taste. At the outset here, before going any further, it is perhaps worth distinguishing between four different kinds of judgments, or impressions, that one may ascribe to a wine: Hedonic—how much do we like the wine? Sensory—an assessment of the physical properties of the wine (e.g., its sweetness, acidity, alcohol) and their impact on the taster (astringency, length, etc.); Analytic—concerning such attributes as age, complexity, balance, quality, and value; and Descriptive—can the wine be described as heavy or light, zingy or lush, masculine or feminine (see Spence & Wang, 2015c, for a review)?

2. Matching wine to music

The quotes that we have seen so far really are just the tip of the iceberg as far as wine-music matching is concerned. Others who have gone down a similar path include Clark Smith, the postmodern North American winemaker (see http://www.postmodernwinemaking.com/wine-and-music), who, in 2007, gave a presentation at the Australian Wine Industry Technical Conference (AWITC) in Adelaide exploring recent advances in cognitive musicology and speculated on possible parallels with the perception of wine. More recently, Jo Burzynska, a professional wine writer and sound artist from Christchurch, New Zealand (http://stanierblackfive.com/oenosthesia-sound-and-wine/) has also been working in the area. A few years ago, she went so far as to coin the neoglism *'oenesthesia'* (i.e., oenology + synaesthesia) in order to describe this increasingly widespread tendency for people to match what they hear, be it sounds, instruments, and/or music to the tastes, aromas, and flavours of

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wine. The marketing opportunities that are linked to this emerging putative crossmodal connection between music and wine were hinted at when the *Classic FM* radio station in the UK aired a series of programs hosted by the actor Simon Callow that were premised on an exploration of the fascinating connections that exist between wine and music (Jones, 2012).

Such selective examples hint at the widespread desire/tendency to want to connect wine with music. Perhaps unsurprisingly given such a backdrop, a few innovative individuals soon started to assess what would happen if music was played while a wine tasting event was taking place. Initially, such events were of a relatively informal nature. Thereafter, more formal experimental investigations soon helped confirm scientifically the shared association, or link, between wine and music.

2.1. Musical tasting: Informal events

It was not long before such merely metaphorical connections between music and wine led wine makers to start organizing small-scale tasting events in which wine experts would intuitively pair particular wines with specific pieces of music, convinced that the latter had some impact on people's experience of the former. For instance, Don Blackburn, a French-trained winemaker, gave a presentation at a symposium (called "Focus on Chardonnay") back in 1998, in which people got to taste three different vintages of the Chardonnay from the Bernardus vineyard in Carmel Valley where he was then winemaker. Blackburn played 10 different pieces of classical music to the audience. Of the event he has been quoted as saying that: *"I had 4 of the 10 pieces of music where all the groups - French and American tasters - agreed that it worked with one wine in particular"* (quoted in Gray, 2007a).

It is, though, Clark Smith who has been particularly influential in this area, organizing events for wine writers, winemakers, and the wine press. Informal reports from some of those attending Smith's tasting events clearly suggested that, simply by switching the music playing in the background, the wine-tasting experience changed too (e.g., see Crawshaw, 2012; Gray, 2007a, b; Hunt, 2015). 'Unexpectedly pronounced' was how Alex Hunt (2015), MW, described his own experience of the change in the tasting experience on attending one of these musical tasting events. Apparently, Smith spent months with various tasting panels sampling 150 different wines with 250 different songs in order to find harmonies and discordances. However, given the lack of statistical analysis and, dare I say it, scientific rigour attached to many such early multisensory tasting events, it remained somewhat unclear

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whether such informal first-person reports reflected a consensual response to the playing of music that putatively 'matched' a given wine, or whether instead it should be taken as a testament to the powers of persuasion of those hosting such events! Ann Noble, Professor Emeritus of sensory science at UC Davis, and inventor of the wine aroma wheel used in wine analysis, had the following to say: *"I know how Clark usually does things… He doesn't vary the order. The experiment (of changing the perception of wine's flavor by changing music) might not be replicable. But it's an extremely interesting experiment. The question is, is it a one-off phenomena?"* (cited in Gray, 2007a). Others, like Slotover (2016), worry that many of the specific music-grape matches that have been reported to date simply do not sound scientific.

2.2. Musical tasting: Experimental investigation

Fortunately, a growing number of scientifically-rigorous wine-music pairing studies have been conducted over the last five years (e.g., see Spence, Richards, Kjellin, Huhnt, Daskal, Scheybeler, Velasco, & Deroy, 2013; Spence, Velasco, & Knoeferle, 2014; Wang & Spence, 2015a). These studies have often been developed as part of multisensory experiential events funded by one of the larger international wine brands. In line with the suggestions of pioneers such as Clark Smith, the results of the latter studies do indeed clearly demonstrate that a consumer's wine tasting experience can be changed, sometimes quite dramatically, simply by switching the music that they happen to be listening to. Similar effects have subsequently been documented in more experienced wine tasters as well. It does, however, remain an open question as to whether such crossmodal effects also work, or work as well, with background music that a taster is not paying attention (see Spence & Wang, 2015c.)

Here, it is important to stress that there are at least two distinct and, in principle, independent ways in which wine and music might be connected, one to the other. At the simplest level, there is a question of whether people are aware, when asked, of any kind of phenomenological match between what they are tasting and what they hear. That is, between the bouquet, taste, and/or flavour of one of a range of wines and the sonic properties of one of a range of pieces of music or, on occasion, soundscapes. I would argue that the empirical evidence concerning such crossmodal correspondences, experienced as a kind of crossmodal similarity, is now incontrovertible. In fact, by now, many such crossmodal correspondences between music and wine have been documented in a number of robust experimental studies

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(e.g., see Spence et al., 2013; Spence, Velasco, Vanne, & Hopia, 2014c, for a couple of examples). What is more, they appear to be shared by the majority of tasters within, and perhaps also between, cultures (cf. Knöferle, Woods, Käppler, & Spence, 2015).

One criticism that is, however sometimes heard concerning wine-music pairing is not that it doesn't work, but that it relies on nothing more than a fairly crude discrimination between white and red wine, say. Just take the wine-music pairing event reported by Spence et al. (2014c) as a case in point. On this occasion, the 46 participants had to match four rock improvisations to four wines, consisting of a sparkling wine, a white, a red, and a dessert wine (Taittinger Brut Réserve Champagne; Fernway Sauvignon Blanc 2012; Chateau Carsin Cuvée Noire 2010; and Chateau Carsin Liquoreux 2007). The event itself was held as part of the 2014 Sensibus Festival in Finland (http://sensibusfestival.blogspot.fi/p/in-english.html).

It is worth stressing here that the wines used in Spence et al.'s (2014c) study couldn't really have been any more different, one from the other, except perhaps were one to introduce port wine into the mix. The concern here, then, is that wine-music matching only works for those wines that are very different, one from another. This concern becomes all the more relevant once it is realized that there is a separate experimental literature demonstrating the existence of robust crossmodal correspondences between music and colour (e.g., see Palmer, Schloss, Xu, & Prado-León, 2013a; Palmer, Schloss, & Whiteford, 2013b). Might the participants in music-wine matching studies therefore sometimes actually have been matching the music to the colour of the wines that they have been given to taste, one might wonder? While this is certainly a relevant consideration, I do not think that colour-music matching provides the whole story here.

Crossmodal correspondences have been defined as the often surprising connections that people experience between stimuli, attributes, or dimension of experience, either physically present, or merely imagined, in different sensory modalities that are not obviously linked with one another (see Spence, 2011a). According to one popular suggestion, the majority of crossmodal correspondences pick-up on the statistical regularities of the environment (such as the associated between green and sour, and red and sweet, due to the statistical co-occurrence of these features as many fruits ripen). Beyond that, it has also been suggested that a few correspondences may be structural, meaning that they result from the specific wiring/organization of the brain (as in the case of magnitude-based correspondences). Historically, a few commentators have also argued for the existence of amodal

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correspondences too. Finally, and in addition to all of the previous suggestions, it is worth noting that some crossmodal correspondences may be affectively mediated. This means that people tend to associate pairs of stimuli that they feel the same way about, pairing liked with liked and disliked with disliked.

The existence of widespread shared crossmodal correspondences between wine and music has been documented both informally and, more recently, by robust peer-reviewed empirical research. It is important to note here that such a link can potentially exist somewhat independently of the second level at which wine and music interact, and that is in terms of exposure to the latter affecting the taster's experience of the former. Below, we will take a closer look at a number of such multisensory tasting events that have looked at such crossmodal effects.

3. On the rise of multisensory experiential tasting events

The explosive recent growth of interest in multisensory experiential events has by no means been restricted solely to the world of wine. In fact, the last five years has seen a large number of such events connected with the promotion and/or scientific investigation of everything from whisky, as in *'The Singleton Sensorium'* (Velasco, Jones, King, & Spence, 2014; see also Chambers, 2015; Ferran, 2014; Kiely, 2016, for a selection of other such events/tastings) through to beer (e.g., Anon, 2015a; Brown, 2012; Reinoso Carvalho, Velasco, Van Ee, Leboeuf, & Spence, 2016a; Reinoso Carvalho, Wang, De Causmaecker, Steenhaut, Van Ee, & Spence, 2016b; Reinoso Carvalho, Wang, Van Ee, & Spence, 2016c; Shea, 2017), and vodka (Wang & Spence, 2015b). Many of these events have been sponsored by the larger global wine, beer, and spirits brands, think Diageo, Pernod Ricard, InBev, and SAB Miller. That said, this has certainly not stopped a number of smaller independent operations from engaging in the space too. See Kiely (2016), for one such event held in London. Here it is perhaps relevant to mention The Sound of Flavourites event held at St. Luke's Church, Old Street, London on 23rd February, 2016. On this occasion, The London Contemporary Orchestra played nine pieces of music to match the flavours of nine different varieties of Cadbury Dairy Milk chocolate sampled in time with the matching music by the assembled audience (https://www.residentadvisor.net/events/807814).

In terms of wine-music experiences/multisensory tasting events, the French Champagne house Krug, organized a large four-day event together with the London Philharmonic

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Orchestra in April, 2014. The latter played Stravinsky's bracing "The Rites of Spring" via digital installation/link to audiences in Shoreditch, London. Note though, that in this case the aim was to highlight the *"parallels between conducting a symphony orchestra and composing Krug Grande Cuvée"* (King, 2014a). Meanwhile, over in Munich, Germany, Martin Sachse-Weinert (2012, 2014) has been organizing a number of multisensory wine-music events involving more than 3,000 people, including many wine industry professionals. Small-scale wine-music/soundscape pairing events have also been organized by the likes of Stella Vassiliki, an oenologist and food engineer in Crete, Greece (Vassilaki, 2014; see also https://cretazine.com/en/crete/crete-life/cretan-tales/item/2114-the-sound-of-wine-houdetsi). My student and wine aficionado, and blind wine taster, Janice Wang, organized an event at Oxford's 1855 Wine Bar together with artist and composer Ben Houge (Anon. 2015b). Meanwhile, Jo Burzynska, the wine writer and sound artist we came across earlier (http://auricle.org.nz/mishearings-by-jo-burzynska/) has also been active in this field, making recordings from vineyards and wineries around the world and turning them into soundscapes to be listened to while enjoying the wines made where the sound recordings were made. Burzynska premiered her performance *Oenethesia* in the UK on 5th September, 2016 in Borough Market, London (http://joburzynska.com/oenosthesia-uk-premiere/). All-in-all, the last few years really have seen a veritable explosion of interest in wine-music matching events.

It is, though, worth highlighting the fact that to date the majority of the scientific/commercial interest has all been in one direction, namely in terms of how the experience of the wine (or other foodstuff) is affected by the music. Crossmodal effects in the other direction are, of course, also of interest. However, given the inequality in the amount of neural 'real estate' given over to each of the senses (see Gallace, Ngo, Sulaitis, & Spence, 2012, for a review), my sense is that the effects of music on wine are likely always going to be greater, that is more impressive, than the impact of wine on the appreciation of music. Indeed, Alex Hunt MW intuitively seems to have come to much the same conclusion stating that: *"the effect* [of music on wine] *does not appear to be reciprocal: the right Chardonnay has no bearing on how the Beach Boys sound."* (Hunt, 2015). One of the few such attempts to assess the effect of taste (or tasting) on music involved the Danish National Chamber Orchestra who played part of a musical composition *Tango Jalouise*, before pausing to eat what was at the time the world's hottest chilli. Thereafter, the musicians resumed their rendition until the heat of the

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chilli slowly reached its full effect (see Berman, 2014). Here, of course, we are firmly in the world of entertaining demonstration rather than scientific experimentation.

Taken together, these multisensory experiential experimental tasting events, associated with a wide range of alcoholic drinks, as well as a host of other multisensory tasting events that there simply isn't space to mention here, help to highlight the phenomenal recent growth of interest in this area. Having in some sense set the scene, I will now move on to some of the key aspects of a number of such experimental events that have been specifically associated with the world of wine.

4. Music's influence on wine tasting: Experimental research

Typical of the more scientific approach to assessing the impact of music on wine was a series of experiments, and an ensuing multisensory experiential tasting event involving The Antique Wine Company (AWC) and a quartet from the London Symphony Orchestra (see Spence et al., 2013). Initially, Spence and his colleagues conducted an exploratory study at the AWC Wine Academy premises in central London in which 24 people got to taste four high-quality wines while sequentially listening to 8 different pieces of pre-recorded classical music. The tasters were simply required to state how well, or poorly, each piece of music matched the wine that they happened to be tasting at the time. The results clearly demonstrated that people thought that Movements 2 and 3 of Tchaikovsky's String Quartet No 1 in D major were a particularly match for the Château Margaux 2004, one of the red wines tested in the study. The other red was a Domaine Ponsot, Clos de la Roche, 2009. The first two movements of Mozart's Flute Quartet in D major, K285 proved to be a much better match for the Domaine Didier Dagueneau, Pouilly Fumé Silex 2010 white wine. The other white being a Château Climens Sauternes, 2001. CPE Bach's Solo Sonata in A minor was also rated as an especially good match for the Silex.

At another similar event, Spence et al. (2014c) had their Finnish participants rate how well the four wines matched both Mozart's Flute Quartet (played by string quartet) in D major, K285 – Movement and Viljami Niittykoski's, Suvitunnelma (Summermood). Interestingly, in the latter study, the Mozart piece was rated a much better match for the Taittinger Brut Réserve than the Viljami Niittykoski piece. The opposite was true for the Chateau Carsin Cuvée Noire 2010.

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Spence et al. (2013) then went on to compare a new group's wine ratings while listening to the best-matching music, as established in their first experiment, with ratings of the same wines when tasted in silence. The dessert wine was tasted twice in silence to provide baseline data. Silence, note, being the desired state of affairs, at least according to the famous French oenologist Emile Peynaud (1987, p. 104) who once had the following to say: *"The sense of hearing can interfere with the other senses during tasting and quiet has always been considered necessary for a taster's concentration. Without insisting on absolute silence, difficult to obtain within a group in any case, one should avoid too high a level of background noise as well as occasional noises which can divert the taster's attention."* Recent research suggests that Peynaud was most probably onto something, given that high levels of background noise do indeed impair people's ability to discriminate the alcohol content of drinks (see Stafford, Agobiani, & Fernandes, 2013; Stafford, Fernandes, & Agobiani, 2012).

The participants in Spence et al.'s (2013) study had to rate the perceived sweetness, acidity, alcohol level, fruitiness, tannin level, and their enjoyment of each of the wines. The results revealed that, on average, the 26 people who took part in the study rated their enjoyment of the wine as significantly higher (by about 5%) when listening to the matching music than when tasting in silence. They also rated the wine as tasting sweeter while listening to the matching music. Note that the participants themselves were not informed of the specific hypothesis underlying the study before they rated the wines. Given these preliminary results, a multisensory wine tasting event was then held at LSO St. Luke's Church in central London on 24th October, 2013. A quartet from the LSO played the matching music to each of the four wines before a corporate audience of around 120 people. This kind of multisensory event, one that is neither a straightforward music recital nor traditional wine-tasting was judged a great success: Indeed, as we saw in the preceding section, a number of other food and drinks brands have subsequently teamed up with orchestras in order to play music, to match the taste/flavour of the food or drink that happens to be being provided. Sometimes the music had been especially composed for the event.

On another occasion here in Oxford, we held a live classical music performance in which both a New Zealand Sauvignon Blanc and an Argentinian Malbec were served to 80 guests with usable scorecards being returned by 64 (Wang & Spence, 2015a). Both wines were reported as tasting more acidic, when Debussy's Jardin sous la Pluie, a fast, high-pitched piano piece, was played. By contrast, the wines were rated as tasting fruitier when

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Rachmaninoff's Vocalise, a slower cello and piano duet, was played instead. That said, for some years now, there has been a lingering suspicion in some quarters that the wine experts, whoever they may be, might be less influenced by the background music than are social drinkers. Note that one might think of the experts as the wine writers, the wine judges, or perhaps the winemakers themselves. We were recently able to demonstrate that even the wine judgments of very experienced winemakers (N=154 the majority of whom were professionals working in the wine business), were also significantly affected in terms of their ratings of four cool climate white wines that were more-or-less matched in terms of their colour (see Wang & Spence, 2017b). In a first study, putatively 'sweet' music was found to bring out the sweet taste in the sweeter of two English white wines (Bolney Lychgate White 2014 and 2015), while increasing liking ratings for both. Meanwhile, in a second study, the experts' ratings of more complex wine qualities, such as body, balance, and length, were again modified by the music, this time staccato and legato tracks were composed especially.

The two abstract soundscapes used in this study were composed by Ben Houge, a researcher and sound designer specializing in aleatoric music composition. The first soundtrack was sparsely textured and staccato, the second soundtrack was less sparse, with overlapping legato woodwind lines. The former track gave rise to significantly higher ratings for the white wines (two Chardonnays from Ontario, Canada; Tawse Quarry Road Organic Chardonnay 2012 and 2013 Speck Family Reserve Chardonnay), in terms of body, balance, length, and liking (this despite the fact that the staccato track was liked less). How the magnitude of these crossmodal effects compare to those that might have been observed had we tested a group of social wine drinkers is impossible to say. That said, the amount of wine tasting experience, as measured in years, did not moderate the influence of music on the sensory and hedonic wine evaluation. Finally here, it should be noted that it was not possible to counterbalance all of the conditions perfectly in this live event situation, where compromises are nearly always necessary.

5. Wine-music interactions, synaesthesia, and crossmodal correspondences

It should hopefully be clear from the preceding descriptions that to date music/soundscapes can be connected to wines in a number of different ways, with no one approach necessarily being any more 'valid' than the others. That said, I do worry when music/soundscape selections of that are based on nothing more than a synaesthete's idiosyncratic sensory

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connections, say between the senses of taste/smell and sound. Synaesthesia refers to the rare condition in which people experience automatic idiosyncratic sensory concurrents on perceiving, or thinking about, some inducing stimulus, which is itself often sensory. The most common type of synaesthesia involves seeing coloured letters (i.e., it occurs within the visual modality). However, a number of crossmodal types of synaesthesia have also been reported. Note that the idiosyncratic nature of the connection between inducer and concurrent in synaesthesia means that the condition does not necessarily provide a 'universal language' for translating between one sense and another.

As far as I can tell, such synaesthesia-inspired tasting events have, *a priori*, less chance of connecting with, or being meaningful to, the general public. Less chance of success, that is, than are those pieces of music (or soundscapes) that have been selected, or composed, on the basis of the growing list of crossmodal correspondences between sound and taste/smell/oral-somatosensory texture, or mouthfeel that have been documented to date (see Knöferle & Spence, 2012; Spence & Wang, 2015b, for reviews). As a case in point, take the 2015 Campo Viejo (owned by Pernod Ricard) multisensory wine event held at London's annual *The Streets of Spain* festival. In this case, the BAFTA award-winning musician and composer Nick Ryan designed three musical soundscapes, based on his own synaesthesia, to match each of three wines: the Campo Viejo Cava Brut, the Rioja Reserva, and the Rioja Gran Reserva. For instance, Ryan chose a louder composition to go with the Gran Reserva, because it is "*a deeper louder sound.*" (quoted in Knapton, 2015, p. 7). On closer inspection, however, it is a little hard to say whether this suggestion is, in fact, based on the composer's own synaesthesia (as claimed in the press materials), or whether instead Ryan might actually have been picking-up on a shared crossmodal correspondence that is common to us all (see Spence, 2011a, for a review).

The pull of synaesthesia when discussing the surprising cross-sensory matches that exist between sound and taste is undoubtedly strong (e.g., see Beckett, 2017; Sachse-Weinert, 2014; https://cretazine.com/en/crete/crete-life/cretan-tales/item/2114-the-sound-of-wine-houdetsi; see also McGregor, 2017). That said, I, like a number of others, including the maverick vintner Clark Kent, and latterly sound artist and wine writer Jo Burzynska feel that synaesthesia is perhaps not the best way to think about the surprising connection between sound and music. Instead, conceptualizing wine-music matching in terms of crossmodal correspondences here (see Spence, 2011a) would seem to be a more fruitful direction for anyone wanting to create wine-music pairings that 'speak' to a broad consumer base.

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Fortunately, however, there is now a growing body of peer-reviewed empirical research detailing the many crossmodal correspondences that have now been documented between basic tastes, aromas, and oral-somatosensory/trigeminal attributes for those wishing to match wine musically (see Spence & Wang, 2015a, for a review; see also Wang, Wang, & Spence, 2016). There is an important question here as to where these crossmodal correspondences between wine and music come from. It has been argued that some correspondences reflect the internalization of the natural statistics of the environment (see Spence, 2011a, 2012). Alternatively, however, they may also pick-up on a similarity in the way in which stimuli are experienced temporally (see Obrist, Comber, Subramanian, Piqueras-Fiszman, Velasco, & Spence, 2014). The emotional response engendered by music, and the kind of emotion that one may be tempted to associate with wine may, though, be an equally important factor in crossmodal matching, not to mention in any crossmodal influences on tasting that are observed (Wang & Spence, 2017a; see also Crawshaw, 2012, for a similar intuition). Indeed, the importance of emotion is hinted at by the following quote from Paul White: *"Red wines need either minor key or they need music that has negative emotion. They don't like happy music…Cabernets like angry music."* (Gray, 2007a).

5.1. What role 'emotion' in wine-music matching?

A number of researchers have, by now, demonstrated the role of emotion in various kinds of crossmodal matching, including the matching of music to smells, tastes, and flavours (e.g., Levitan, Charney, Schloss, & Palmer, 2015). Note that this is otherwise described as the affectively-mediated account of crossmodal correspondences (see above). Wang and Spence (2017a) explicitly assessed the role of emotion, conceptualized in terms of valence, arousal, and dominance, in wine-music matching. They found that dominance and arousal ratings, made separately for the wine and for the music, helped explained much, but importantly not all, of the variance in terms of the matches that their participants made between classical music and red wine. Three pieces of classical music were chosen for use in this study. They varied in tempo, mode, and instrumentation. Sophia Giustani Dussek's Harp Sonata in C Minor is fast (130 BPM—beats per minute) and is in major mode. Sergei Rachmaninoff's Romance is a duet for cello and piano at a slow tempo (55 BPM) and minor tonality. Carl Orff's Carmina Burana: Fortuna Imperatrix Mundi for male choir and orchestra has a

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medium tempo (112 BPM) and is in minor mode. Note that the three red wines were chosen for the study that varied in body, acidity, and tannin levels.

Of course, beyond its role in wine-music matching, it is commonly acknowledged that listening to music can affect our mood. As restaurateur and owner of the St. Helena winery Pat Kuleto, points out, with music: *"You're changing people's mood. What mood you're in changes your palate."* (quoted in Gray, 2007a). One interesting point to stress here, though, is that if music affects the multisensory wine tasting experience as a result of inducing a certain emotional state in the taster, then one might expect such effects to be more pronounced when the music starts playing prior to the tasting of the wine. By contrast, crossmodal effects of music on wine that are based on any crossmodal correspondences between the two stimuli should be maximal when the stimuli are presented at the same time instead. The likelihood is that both routes to establishing such crossmodal effects of music on wine tasting likely exist. Furthermore, the demonstration of one route says nothing about the possibility of the other route also occurring.

Potentially relevant here, North (2012) has demonstrated that students rated wines (one red, a Chilean Cabernet Sauvignon, and the other a white, Chardonnay) as more powerful and heavy when music that had itself been rated as 'powerful and heavy' (for example, Carmina Burana by Orff) was played. By contrast, playing music that has been categorized as 'zingy and refreshing' ('Just Can't Get Enough' by Nouvelle Vague) appeared to bring out the same qualities in a white wine. Here, though, it feels more like it is the thoughts and feelings that the taster associates with the music that are being transferred to their wine ratings (see Logeswaran & Bhattacharya, 2009; Spence et al., 2014c; Watt & Quinn, 2007). From a psychological perspective, one can think in terms of 'sensation transference' (Cheskin, 1957) or crossmodal priming. Arguably, North's results are more consistent with music affecting the descriptive, rather than the evaluative, aspects of the students tasting experience (Spence & Deroy, 2013).

5.2. Does 'sour' music induce salivation?

One other route by which much might influence tasting is if it were to induce salivation. While this might, a priori, sound unlikely, nevertheless, a number of our participants over the years have reported that they felt that listening to sour music made them salivate. Wang and Spence (2017b) conducted a study in which they 'sour' music was played in order to

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determine whether the tasting experience might be influenced by the music inducing increased salivation in those who listened to it. However, the results revealed that while watching someone sucking on lemons did indeed induce a vigorous increase in salivation, no such physiological response was induced by listening to the putatively sour music instead (see Wang, Knoeferle, & Spence, 2017).

6. Composing music/soundscapes for wine

In terms of pairing music with wine, there are now guidelines that allow those who are interested to search for pre-recorded music that has a number of the attributes that one is looking for. However, it is important to note that traditional music forms change over time in a way that isn't necessarily ideal when trying to match music to wine. That is, the music track will most likely evolve from start to finish; This is not, then, an ideal backdrop to match to a given flavour profile in a wine, say. In fact, pre-recorded music often changes quite substantially in terms of style and mode, even within a song/track. Crawshaw (2012) gives Queen's 'Bohemian Rhapsody' or Mozart's Piano Sonata No. 12 in F. Major (K332), as striking examples of this problem. Of course, wine changes/evolves too: e.g., from first to second nose, on tasting, and in terms of any lingering palate sensations (see Spence & Wang, in press). However, if one takes a traditional piece of music it is very unlikely that the changes in the music, and the changes in the wine-tasting experience, will coincide temporally. Intriguingly, though, changes in taste appear to occur as soon as the music changes (e.g., from major to minor key; Crawshaw, 2012; see also Wang, Mesz, & Spence, 2017). It is here that some of the most interesting compositional work has been taking place recently.

One intriguing solution to the problem of how to make sure that the music continues to match the tasting experience has been championed by Ben Houge, with his aleatoric music compositions. The latter leaves some elements of the performance to chance and some up to the performer. In the context of music for video games, for instance, and presumably also in wine-music compositions, it allows for a particular style, or sonic property in the music to continue until such time as the gamer reaches the end of the level. It then morphs seamlessly into another track which itself can be extended for as long as is necessary, while the gamer attempts the next level, and so on. Elsewhere, sound artists and wine writer Jo Burzynski (http://auricle.org.nz/mishearings-by-jo-burzynska/) has been composing music/soundscapes

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to be played in time with a single prolonged mouthful of a specific vintage from a particular vineyard. Burzynski recently trialled three of her latest sonic compositions at the 2017 Creative Tastebuds Festival held in Aarhus, Denmark (see http://creativetastebuds.dk). I suppose one relevant question to ask here concerns whether such compositions are simply designed to subjectively match the tasting experience or whether instead they are also supposed to accentuate it too. However, given what we saw earlier, namely that the more people rate the wine as matching the music, the higher the ratings that they seem to give to the wine, it might be hoped that Burzynski's sonic creations would achieve both goals.

7. Who needs wine-music events?

Music-wine matching events are, perhaps unsurprisingly, not for everyone. Indeed, some querulous commentators have questioned the need, uncertain, or so it would seem, as to why anyone might find them pleasurable! Some worry that the whole endeavour is too often nothing more than a superficial and/or pretentious exercise. Hunt MW (2015), for instance, asks: *"Why then, I have been wondering, do I get creeped out by things like 'wine and music matching'? After all, although I favour an informal approach to wine and food pairing, I think this particular matching exercise can be fun, and have no fundamental objection to it. Substitute tracks for snacks, however, and I instinctively cringe. Part of it is probably pretension, as exemplified by a gem of an album discussed by Richard in a recent Noble Rot article: Jazz For Wine Tasting (or the Vineyard Jazz: Wine-Tasting Music Series). The pieces carry names like 'Burgundy', 'Zinfandel' and 'Riesling'. Texturally they are near-indistinguishable."* Of course, the fact that some wine-music matches might be superficial and pretentious certainly doesn't mean that they all are! Hunt also queries whether wine-music events are anything more than merely *"a bit of harmless fun"*. "Why mess with the skilled winemaker's art?" Hunt seems to be asking when he posed the following question in a piece appearing on Jancis Robinson's website: *"Why spend time trying to unearth the music that will improve a particular wine when you could instead just try to find a wine you like in the first place?"* Such a point of view misses, I would like to suggest, that it is the very experiencing of some kind of unexpected connection between such seemingly different sensory inputs (e.g., music and wine) that many find rewarding/enjoyable in its own right (cf. Leow, 2015). This joy in the matching can presumably be experienced no matter what the inherent merits of the wine may be.

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However, once one accepts that there is a meaningful connection, or correspondence, between wine and music, as even Hunt (2015), ends up doing in his polemic piece, one can nevertheless still question whether matching is necessarily always the most desirable option. One alternative opinion on this score comes from Doug Frost (MW), who had the following to say: *"So I don't want music and wine to match up; I want them to talk to each other. They may agree; they may argue. Sometimes they don't speak at all; they just yell past each other. That's cool too."* (quoted in Sachse-Wienert, 2012). Here, though, it really is worth stressing the fact that wine-music events have, on occasion, engendered extraordinary emotional responses, with some commentators reporting that they were brought, literally, to tears by the multisensory tasting experience (e.g., see Knapton, 2015, for one such example). That is rarely something that happens when tasting wine in isolation. And while such extreme responses are undoubtedly themselves rare, I do believe that it is nevertheless still possible to deliver a multisensory tasting experience that is more powerful (and hence likely more memorable) that can likely be achieved solely by stimulating the taste buds or the ears. The kind of thing I have in mind here is captured by the following quote from James John, Director of the Bath Wine School, concerning the combination of Mozart's Laudate Dominum with Chardonnay: *'[…] Just as the sonant complexity is doubled, the gustatory effects of ripe fruit on toasted vanilla explode on the palate and the appreciation of both is taken to an entirely new level'* (as quoted in Sachse-Weinert, 2012).

Such suggestions, note, stand in direct contradiction to the MW Alex Hunt's (2015) claim that: *"… is no transcendent effect here. I see no claims, and have never experienced, a wine and music pairing that takes the wine to a completely different plane of enjoyment – it just tastes like better (or worse) wine."* While there is not sufficient space here to do this topic full justice, suffice to say I believe that there is now more than enough evidence to support the general claim that multisensory tasting events can, if well-curated, deliver an experience that goes beyond what one might hope to find by solely concentrating on the contents of the glass (see also Spence & Wang, 2015c, for a review of this and other examples of the extraordinary emotional responses that may, on occasion, follow curated multisensory tasting experiences).

8. Beyond audition: Other non-auditory influences on tasting

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The majority of the multisensory experiential wine tasting events that have taken place over the last five years or so have focused on demonstrating the effect, or interaction, of music, or soundscapes, with wine, it is worth highlighting the fact that visual and tactile crossmodal interactions have also fed into a number of experiential tasting events too. Indeed, what evidence there is, certainly suggests that the magnitude of the crossmodal effects of ambient colour or tactile textures, say, on the tasting experience can be at least as dramatic as those so far documented for the case of music and wine.

8.1. Visual contributions to multisensory wine-tasting events

Sensory scientists and other wine professionals have, for a number of years now, reported that changing the colour of the ambient environment impacts the perception of wine (e.g., Ross, Bohlscheid, & Weller, 2008; Sauvageot & Struillou, 1997; see also Wilson & Gregson, 1967). Wheatley (1973) also entertainingly demonstrated the effect of lighting on the masking of food colour. Traditionally, however, the interest was always more related to the topic of sensory analysis than in the potential for such crossmodal effects to be incorporated into engaging multisensory experiential experimental tasting events. That said, a group of researchers from Germany made the transition from sensory testing lab to wine cellar when they conducted a series of experiments, including one in a winery in Oestrich-Winkel on the banks of the river Rhine (Oberfeld, Hecht, Allendorf, & Wickelmaier, 2009). They had people rate a white wine under a range of different ambient lighting conditions. The results obtained with a sample of 206 wine buyers visiting the Allendorf Winery was that the Riesling that they had been given to sample tasted significantly better under red or blue lighting than under regular white or green lighting. The participants in this study were also willing to pay significantly more for it too.

A few years later, Spence et al. (2014b) combined the insights garnered from Oberfeld et al.'s (2009) study of ambient colour, with the emerging evidence concerning the impact of sound on taste/favour in the *The Campo Viejo Colour Lab*. In what was, and perhaps still is, the world's largest multisensory experiential experimental wine tasting event, Spence and colleagues exposed almost 3,000 people to different combinations of ambient lighting and music which tasting, and more importantly rating, a glass of Campo Viejo Reserva Rioja from a standard ISO black tasting glass. Over a period of four days, groups of roughly 30 people at a time were offered a glass of wine, a pencil, and a scorecard. They were then led

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into a room and asked to rate the wine under regular white lighting. Immediately thereafter, the lighting was switched to either red or green, depending on the day, and the wine was rated once again.

Over the course of an experience that lasted no more than 10 minutes or so, the punters rated the wine a further two times, involving various counterbalanced combinations of colour (green and then red, or vice versa) and matching soundscapes (e.g., 'sweet' music paired with the red lighting and 'sour' music with the green lighting). Note that these musical tracks were based on research identifying the sonic features that people tend to associate with each of the four best-known of basic tastes (see Knöferle et al., 2015). The interested reader can listen to the tracks at https://soundcloud.com/crossmodal/sets/tastemusic. In each of the four ambiances, the tasters responded on three 7-point Likert scales: one to describe the flavour of the wine, anchored with 'fruity' and 'fresh', one to describe the intensity of the wine's flavour anchored with 'low' and 'high', and one to describe their liking for the wine at that particular moment anchored with 'not at all' and 'very much'. Significant effects of lighting and/or music were documented on all of the response measures. Overall, those who took part in this event liked the wine significantly more under red lighting while listening to sweet music than in any of the other conditions.

A number of other visual stimuli have also been shown to change the taste of food and drink though as yet they have not been used in multisensory experiential wine marketing. Brighter lighting, for instance, appears to be associated with more intensely flavoured foods (e.g., strong rather than weak coffee, see Gal, Wheeler, & Shiv, 2007; and with people ordering more rather than less spicy chicken wings; see Xu & Labroo, 2014). There is also research suggesting that if one stares attentively at angular, rather than rounded, shapes, may help to bring out the sharp taste of food (e.g., cheddar cheese; Gal et al., 2007). Meanwhile, in conceptually-related research, Lewis, Seeley, and Miles (2009) have reported that processing global aspect of Navon figures enhanced wine recognition as compared to those who were instructed to process the local aspect of Navon figures instead. Navon figures are typically large shapes made up lots of small shapes as when a large letter 'H' is made up of small letter 'b's. Typically, the small letters are different from the letter that is spelled out at the global level. Hence, people can either choose to focus on the local or the global letter. Meanwhile, Wang and Spence (2017b) has demonstrated that staring at a smiling face can enhance ratings of the sweetness of an unfamiliar juice mixture relative to those obtained if one stares at an angry/upset face instead.

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However, before closing this section, it is important to note that while changing the visual ambiance can undoubtedly change the experience of wine-tasting (as evidenced by the work of Oberfeld et al., 2009; Ross et al., 2008; Sauvageot & Struillou, 1997; Spence et al., 2014b), it need not always do so. In fact, in one intriguing study reported recently by Jiang, Niimi, Ristic, and Bastian (2017), the visual aspects of the decoration in a room were changed in order to see whether they would impact 105 red wine consumers ratings of three Cabernet Sauvignon wines. The wines were rated once in a floral room decorated with orange chairs and orange table clothes, bunches of odourless flowers on the tables and floor and a projection of flowers on the wall and once again when the chairs and tablecloths were green, and where there was a profusion of potted green plants on the floor and tables, and a projection of a green rainforest scene on the wall. The participants had to rate the intensity of green and floral flavours hedonic liking, and emotions elicited. Note that two of the wine samples had been doctored to give either a green or floral note to the wine. While the participants' ratings clearly showed that they could discriminate between the wines, there was no impact of the environment on any of the wine ratings. What are we to make of the latter null results? Could it be that the visual design of the two environments was not sufficiently different/engaging? Whatever the most appropriate interpretation, such null results do stand as a timely note of caution for those who might imagine that changing the visual attributes of the environment will automatically always change the wine tasting experience.

8.2. Tactile contributions to multisensory wine-tasting

In the years ahead, I believe that the sense of touch will increasingly come to play a role in multisensory experiential tasting events. This suggestion has its roots with the Italian Futurists and their early ideas around *'syn-tactilismo'* (Marinetti, 1930/2014; see Spence, 2017a, for a review). For instance, we have recently been conducting workshops in which the tannic/astringent notes in certain red wines appear to be accentuated by having people stroke a rough texture, such as sandpaper, as compared to a smooth texture such as silk or satin. Meanwhile, we have also been able to demonstrate that rubbing a rough piece of sandpaper appears to bring out the spicy gingery notes for those who happen to be tasting biscuits at the same time (e.g., Biggs, Juravle, & Spence, 2016). Chef Jozef Youssef has incorporated multi-textured Marinetti cubes into the multisensory experiential tasting events he has been running on behalf of *Chivas Regal* whisky (these events going by the title *'A Sensploration of*

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Chivas'; see Chambers, 2015, for an enthusiastic description by one of those who attended one of these events).

8.3. Interim summary

A growing number of multisensory events now incorporate various experiential elements from the musical, through the visual and tactile in order to create the most engaging multisensory tasting experiences for consumers (e.g., Chambers, 2015; Siddle, 2017; see also http://www.winesofargentina.com/cambalache/a-sensory-wine-experience/). Doing so can really make for engaging tasting experiences. Just take Wines of Argentina have been running a number of multisensory tasting events in London and New York in 2013 and 2014 (e.g., see Siddle, 2013; http://www.winesofargentina.com/cambalache/a-sensory-wine-experience/; http://www.winesofargentina.com/cambalacheny/the-wine/; see also McKenna, 2014; www.gourmetsymphony.org). These multisensory experiential wine-tasting events were described as a game changer in the field of wine marketing by Ron Siddle, writing for *The Buyer*, who had the following to say: *"It would not be too far an exaggeration to assess the UK wine trade tasting scene as pre and post Wines of Argentina's Cambalache event in 2013. Even if you did not make it along to what has become such a landmark event you can see its influence on most of the more imaginative and breakthrough wine tastings ever since. What made it so different? It took the traditional wine tasting completely out of its comfort zone. It showed you did not have to host big generic tastings in sterile halls and hotel rooms in central London."* (Siddle, 2017). The Cambalache events contained multisensory wine-tasting workshops that incorporated, sound, vision and tactile aspects of tasting.

9. Multisensory marketing

Striking results published over the last 25 years of so show that playing the right sort of background music can bias people's wine choice in the supermarket of wine store (e.g., Areni & Kim, 1993; North, Hagreaves, & McKendrick, 1997, 1999; see Spence, 2014, for a review). So, for instance, in one two-month study reported by Areni and Kim, North American shoppers were shown to spend significantly more in a North American wine store when classic music was playing in the background, rather than Top-40 hits. Analysis of the results suggested that the classical music led shoppers to buy more expensive wine rather than just to buy more wine *per se*. By contrast, changing the brightness of the background

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lighting in a North American retail store had no such effect on sales (see Areni & Kim, 1994). Meanwhile, Prof. Adrian North and his colleagues reported on a study that they had conducted in a UK supermarket in Leicester which dramatically showed that the majority of customers bought French wine on those days when French music was playing in the background while most bought German wine on those days when German music was playing over the loudspeakers instead. What was especially fascinating about the latter study was that most shoppers denied that the background music had exerted any influence over their purchasing behaviour, despite the sales figures telling a very different story.

Such results should obviously make the wine marketer think more carefully about the music that happens to be playing in the background in those venues where wine is sold (e.g., see Moore, 2012; see Spence, Puccinelli, Grewal, & Roggeveen, 2014, for a review). That said, one might always wonder whether at the cellar door one would be better off matching the music to the likely average demographics of the tasters, or to the wines been offered for tasting. As Craig Root, president of St. Helena tasting-room consultancy Visitor Management Resources, puts it: *"For me, choosing music for a tasting room is demographics… I tend to lean toward jazz that's not frenetic and classical music, especially in the morning. In the afternoon, when younger people come in, maybe blues and classic rock."* In other words, while Root does think carefully about the music that is playing but ultimately bases his recommendation on demographics rather than flavour profiles.

In recent years, the more traditional approaches to sensory marketing (see above) have increasingly being augmented by more technologically-driven interventions, often inspired by the results of the multisensory experiential experimental events (Siddle, 2017). Sester, Deroy, Sutan, Galia, Desmarchelier, Valentin, and Dacremont (2013) reported that people's choice of which beer to order could be influenced simply by changing the audiovisual atmosphere in a bar. The set-up involved both carefully chosen music and projections on the wall behind the bar. Here, one might take the example of Guinness's recent VR store intervention (McGregor, 2017). In the latter half of 2017, shoppers at selected branches of the Tesco supermarket chain (here in the UK) were offered the chance in-store to don a VR headset and experience three multi-coloured sonically-augmented virtual worlds, each one based on research designed to use colour, form, movement, and sound to illustrate, or correspond to the taste of three different beers Guinness, Stout, and IPA. The stimuli used were based on research from the Crossmodal Research Laboratory here in Oxford. The idea, in this case,

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was to create an immersive multisensory tasting experience in-store, unlike anything that the average consumer would have experienced previously.

A few years ago, a specially created music piece ('The sound of wine') was combined with wine at the Mesarmi wine bar in Houdetsi, Crete by oenoloist Stella Vassilaki (https://cretazine.com/en/crete/crete-life/cretan-tales/item/2114-the-sound-of-wine-houdetsi). Visitors to these special events were given six wines to taste while listening to the specially composed music. The tasters' task – to connect each wine with the appropriate musical melody. Meanwhile, the Potentino wine brand in Italy (http://potentino.com/) sponsored a video recording designed to artistically capture a sense of the terroir. The ensuing video was then played at events (e.g., in London) where people got to taste the wines from the vineyard which watching the video screened along with a live musical performance of a specially commissioned piece of piano music. *The Blocks*, an ambitious multisensory environment dedicated to wine and creativity, in Sydney's Walsh Bay probably also deserves a mention here (Koutsovoulou, 2012). Such interventions clearly build on the growing knowledge and excitement garnered from the various multisensory experiential experimental tasting events described above.

One can also think of wine attractions such as *Vinopolis* in London (closed in 2015; see Atkin, 2015), or the recently-opened *Cité du Vin* in Bordeaux (http://www.laciteduvin.com/en; Beckett, 2017). These installations were/are also very multisensory. Indeed, in order to be successful, it can be argued that they must appeal to as many of the visitor's senses as possible – perhaps explaining the latter's 'The Buffet of the Five Senses'. Currently under construction is a Chinese version based on the Bordeaux model.

Finally, here, it is hard not to notice all of those wine stores and wine magazines who have started to offer musical suggestions to match the wines on offer. While some of these suggestions can undoubtedly seem (and often probably are) trite, contrived, and/or superficial. See the earlier critical comments from Hunt (2015) and White (2008), on just this theme. That said, there can be little doubting just how popular such offerings have become in recent years, with Oddbins, for instance, being one of the chains currently doing this (Beckett, 2017). See, for example, *Wine Enthusiast*'s special The Wine + Music Issue (http://www.winemag.com/2015/03/11/the-wine-music-issue/). Pairing wine and music, in

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other words, offers a seemingly effective route to the marketing of wines in the current climate (Cramb, 2008; Sherman, 2011).

10. 'Senploration' with sensory apps

The growing excitement around multisensory experiential wine marketing events will though most likely be brought to the masses through sensory apps for consumers to interact with in the comfort of their own homes. Something like the Krug ID app, for instance (https://www.krug.com/krug-lovers/music-experience; Graver, 2015). All the consumer needs to do is download the free app from the iTunes App Store, scan the back label of their bottle of Krug Champagne and then access a carefully curated selection of musical tracks (see **Figure 1**). Note how this connection of Champagne with music helps draw attention to the similarities between composing music and Champagne (see King, 2014a, b).

Figure 1. Download the app and scan the back label. The wine consumer can then access a carefully selected range of musical tracks that have been chosen to emphasize the art of blending fine Champagne, while at the same time differentiate the Krug brand from its competitors. Is this how the wine consumer will increasingly be exposed to the excitement around wine-music matching?

One might also think of the *Nez de Corvoisier* app launched by a few years ago Corvoisier as providing another innovative approach in this space, connecting music with the distinctive aroma of cognac (see Crisinel, Jacquier, Deroy, & Spence, 2013). The app presented the customer with a series of musical tracks, each one designed to match (or correspond) to one of the key aromas in the drink (including coffee, candied orange, and crème brûlée;

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http://studioish.com/?portfolio=le-nez-de-courvoisier). The idea was that once the customer had learned to associate each aroma with a particular instrument/track they were then encouraged to sit down at home with a drink and listen to a specially composed new track that included all the individual instruments/tracks. The musical accompaniment in this case designed to help the drinker identify the different notes in the drink. Note that the six key aromas were sent out to the most valuable customers.

While Courvoisier and Krug apps were clearly targeted at the upper end of the wine/spirits market, Stella Artois teamed up with The Roots, the experience designers, Bompas and Parr, and myself to create a special music video in 2016 as part of *Le Savoir*, a multisensory entertainment platform (e.g., Birkner, 2016). The idea being that people sitting at home might enjoy the drink (Stella Artois beer), and by moving the cursor on their screen while watching the specially composed track and associated music video (called *"Sweet to the Bitter End"*) in order to bring out a sweeter (fruitier) or more bitter version of the instrumentation/video backdrop (the bitterness associated with the hops). The suggestion that this personalized version of sonic seasoning could then be used to adjust the drink to taste. The online activation was also associated with a series of dinners. Todd Allen, VP of Global Marketing at Stella Artois had the following to say: *"It's bringing millennials' passion points of food, music and art together under one platform to deliver an immersive dining experience, all perfectly paired with Stella Artois… We're very excited to bring it to the market."* (quoted in Birkner, 2016).

The alcoholic drinks brands are certainly by no means the only one to be operating in this space. Cadbury's Flavourites have been experimenting with mixing chocolate varieties with matching music to create unique multisensory tasting experiences for the consumer at home, and linked with Spotify (http://cadburyflavourites.co.uk/). Meanwhile, Häagen-Dazs launched their "Concerto timer" app in 2014 (developed by Goodby, Silverstein & Partners, Inc; https://itunes.apple.com/us/app/haagen-dazs-concerto-timer/id670015815?mt=8). The idea being to help the consumer pass the time while waiting for their ice-cream to soften after taking it out of the freezer before serving. Customers were supposed to get their mobile device out, scan the QR code (that black-and-white square) on special pack lids, and they would then be treated to a short musical interlude. Musicians could be seen, and heard, 'magically' floating on top of the tub of ice-cream when viewed through the screen of the mobile device. Once the two minutes long music selections draw to a close, or so the claim

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goes, the ice cream should be ready to serve. In this case, different pieces of music were associated with different ice-cream varieties.

In the future, it will largely be through sensory apps and other forms of technological innovation that the latest insights, not to mention buzz, surrounding multisensory experiential events will be translated into the home environment in the future (see Spence, 2017a, b). Furthermore, given that people's musical preferences differ quite markedly, I am also intrigued by the notion of the *TastEQ* (cf. Hunt, 2015). The idea here is to develop the musical taste equivalent of the graphical equalizer of the hi-fi's of yesteryear. Using such an sensory app, one would be able to change the setting of whatever music you happened to be listening to so that it would sound a little 'sweeter', or 'spicier' to match one's taste in wine. Such an app, were it to be developed, would likely press all the right buttons in terms of the growing interest in personalization (see Spence, 2017a, on this theme).

11. Conclusions

There has been a huge increase of interest in (multi-)sensory marketing in recent years – no wonder, then, that some have been tempted to describe what is happening currently as nothing less than 'a sensory explosion' (Krishna, 2013; see also Hilton, 2015). Part of that growth of interest has undoubtedly reached the world of wine marketing with the rise of multisensory experiential tasting events such as the Campo Viejo Colour lab (see Spence et al., 2014b; see also King, 2014a; Knapton, 2015) and Camabalache's Wines of Argentina events (Siddle, 2013, 2017). The latter, or so it can be argued, events are helping to enliven wine tasting for a whole new generation of consumers (see Siddle, 2017). Indeed, as noted by a number of commentators in recent years (e.g., see Chambers, 2015; Siddle, 2017), the traditional tasting event format can seem rather tired by comparison. That is not to say that everyone is enamoured with such wine-music events (e.g., Hunt, 2015; Slotover, 2016; see also Gray, 2007a), however such naysayers would appear to be in a small minority at the present time. While some commentators have wanted to tie the rise of multisensory experiential events to the Millennial market, my sense is that the interest in such interactive happenings actually spreads across consumers of all ages. Such events are a long way from the traditional wine-tasting format, but it is important to acknowledge that one is ultimately selling 'the experience', the multisensory experience, rather than just the product. Multisensory experiential wine-tasting events clearly fit within the general framework of the

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seemingly ever-popular 'experience economy' (see Pine & Gilmore, 1998, 1999); Or, as one article put it recently: *"Experiences have overtaken products as the must-have purchase"* (e.g., Xiong, Loo, & Chen, 2016).

Of course, while hosting multisensory experiential wine events is all well-and-good, it is important to note that they don't come for free. Hence, the question that accounts always wants answering is *"What is the Return on Investment (ROI)?"* on such marketing activities. I am certainly not in any position to report on the lift in sales, if any, after any of these events/interventions. However, what I have seen, time-and-again, is the huge amount of press and social media interest surrounding many of the brands who have sponsored the events. There is undoubtedly an equation somewhere that allows the marketing manager to determine how much each brand mention is worth in these various media outlets. Given the increasing number of such multisensory experiential tasting events/interventions, the figures must, for the moment at least, presumably support this as being an effective approach to spending one's marketing budget, especially when trying to reach the younger adult consumer. As such, multisensory experiential wine marketing events look set to continue their inexorable rise in the years to come. In the future, it would seem increasingly likely that those experiential marketing formats that to date have mostly been seen in the world of wine will presumably be extended to a range of different alcoholic drinks, and from there, to a range of different categories of food and beverage product. At the same time, however, it is clear that there are also a number of interesting approaches being trialled elsewhere in the alcoholic drinks category, and hence there are likely to be a number of ideas/interventions that can be adapted for the world of wine.

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- The last few years have seen an explosion of interest in sensory marketing.
- Marketing wine with multisensory experiential tasting events increasingly popular.
- Such multisensory events often involve wine-music matching/pairing.
- Insights from such events now influencing wine marketing.
- Many wine marketers currently riding the experiential multisensory wave.

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