

## SNOW ON WINE



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Paul Hersey and I were recently talking about fun wine and food experiences. Paul remarked at how much he enjoyed opening large format bottles for dinners of several people. And not only is it fun and exciting opening magnums and double magnums, in addition, I added, the wine just tastes better from larger bottles. Paul seemed a little surprised by this. And also, by the fact wine in large format bottles takes longer to age. Once I explained the reasons for that it made perfect sense to Paul, but it occurred to me that if this was news to our program co-chair, then our education chair needed to **get to work**.

So indeed, **size does matter**, but no matter how big your “bottle” it also matters what you do with it. Getting the greatest wine tasting pleasures still improves with the quality of bottle storage and cellaring. But before delving into the importance of size, lets first go back to the basics of the “life of a wine” from creation through aging to perfect maturity. You all know that a batch of wine begins with primary fermentation where “yeast beasties” eat sugar molecules from crushed grapes and “poop” out byproducts: namely carbon dioxide gas which can add “fun fizz” and ethyl alcohol which is the main story. At the end of primary fermentation, the wine is chemically “reduced” (that being the opposite of “oxidized”). Over time, usually first in a barrel, then later in bottle, tiny amounts of oxygen reach the wine and it begins to oxidize. During oxidation acids mellow and tannins soften often precipitating as sediment, resulting in wine which is smoother and softer in the mouth. During this oxidation the fruit flavors blend and develop, but eventually start to fade. At some point the best compromise of mellowing and softening but persistence of fruit is reached, and we say the wine is ideally mature.

Oxygen cannot go through glass or the cork itself – it can only get to the wine by passing along the interface between the glass and the cork. And without temperature variation up and down, even that cork/glass interface would pass almost no oxygen. In our homes temperature varies during the day (and greatest variation is usually in the kitchen and the furnace room). The wine bottles we have at home warm up with the surrounding room. The warming wine within the bottle expands (it takes about 1.5 degrees Celsius to cause significant expansion) and this expansion of volume forces tiny amounts of wine out through the cork/glass interface. When the temperature returns lower the wine of course contracts drawing in tiny amounts of air from outside the bottle. This represents one temperature cycle. Water, the main component of wine, has a high “heat inertia”. That is, it takes quite a while to warm and expand it. Heat of course warms the bottle by coming through its surface. The large format bottle does have a bigger surface, but it also has a MUCH bigger volume. And it is that surface to volume ratio which creates a larger temperature cycle in a smaller bottle of wine than in the large format bottle in the same room. And some would say that the larger bottle also has a larger cork, but again, the volume increases many times more than cork size.

I invite you to do the math but won't bore you with it here. But the point is that over months and years, larger bottles have smaller temperature cycles, and hence smaller and slower exposure to the oxygen in the air each cycle sucks into the bottle. Thus, they age more slowly and gracefully. So ideal cellaring is less important and a double magnum will age fairly well even with bad cellaring. (Note: the author does not mean to encourage bad cellaring, only to recognize that it is common and better tolerated by large format bottles.)



Now you may be wondering what size bottles exist, so that you can choose ones which will age fast and awkwardly vs slowly and gracefully. The smallest at 0.1875 liters is the Piccolo. A half bottle is .375 L, Demi is .5 L and a Tenth .505 L. The standard wine bottle is .750 L. A Magnum is 1.5 L and a Double Magnum 3.0 L. Then we enter the long list of biblical Kings and Heroes: a Jeroboam or Rehoboam 4.5 L, a Methuselah 6.0 L, a Salmanazar 9.0 L, a Balthazar 12.0 L, a Nebuchadnezzar 15 L, a Melchior 18.0 L, a Solomon 20 L, a Goliath 27.0 L, and a Melchizedek 30.0 L.

Although I agree with Paul that large format bottles are fun, one would need an industrial crane to lift and pour something like a Melchizedek. And if I cellared a Melchizedek now it might be fully "mature" when my youngest granddaughter celebrates her 75th birthday. However, I have twice tasted from a standard .750 L bottle and a double magnum 3.0 L bottle of identical vineyard and vintage. It was widely agreed among those lucky to be tasting them that wine from the larger bottle was notably better tasting and drinking. I have such a pair (a 750 bottle and a double magnum) from a 1982 Cabernet Sauv which I plan to open soon with a dozen or so folks and will report back the results. In my limited experience, double magnums of Bordeaux varietals like Cabernet Sauvignon from the 1970's and 1980's are drinking well now and magnums from the late 1980's and the 1990's are at their prime as well. If you are young, lay some large bottles down in the cellar now and in 20 years or so, "double your pleasure, double your fun" and go on a double magnum run. Likely I will be long gone by then but you may light a candle on the alter to thank me!