From Mark Golden
Welcome to Just Paint – our long-form love affair with materials and our commitment to the professional arts community. This issue shares some recent activities at GOLDEN, including our latest Gallery show featuring extraordinary work by Ann Walsh. Ann Walsh: Colors, to some might sound a bit too expansive, but once you walk into the Gallery, it is clear this title is in fact, an understatement. The other major 2018 SAGG show celebrated our 2017 SAGF Artists in Residence, again entitled, Made in Paint. We could create another title, but truly the residency emphasis is the smorgasbord of materials these artists get to play with. And in September, we organized and sponsored our final exhibition of the year, Artists & Mentors at The Painting Center in NYC, which showcased 12 artists and educators who over the last four years, have been part of our unique Scholastic Residence program aimed at recognizing amazing high school teachers around the country who also maintain an active painting career.

We are thrilled to introduce Mirjam Hintz, our newest Materials & Applications Specialist in Germany, who is also a professionally trained Conservator.

Several new products will become available spring 2019, but one that is available now is the relaunch of our Virtual Paint Mixer (MXR). This resource is absolutely supercharged with new features and we’re excited to get your feedback!

Two articles will be seminal resources for artists and material geeks. One, about varnishing watercolor by Cathy Jennings, provides recommendations for artists seeking a different approach to this medium. She shares best practices, but also covers a wide swath of possible effects, pitfalls and new potential for watercolor artists. The second, by Sarah Sands, begins to unpack some of the myths around yellowing of oil colors and what we might expect as we watch these materials age.

Sarah’s original research will shine a new light on this topic, which one would have thought was resolved centuries ago. Enjoy!  
Mark

On the Yellowing of Oils
by Sarah Sands
You would think that we would know more by now; that the questions would be answered, the arguments settled. But we don’t, and they aren’t. Even basic and fundamental issues continue to remain unaddressed by research. Will cold-pressed or alkali-refined linseed oil yellow more? Do historical and traditional processing methods lessen that? How do all of these compare to poppy and walnut and safflower? Does adding drier help or hurt? And what about the other ingredients that find their way into paint recipes? Or is a more purist approach better? What follows will not answer any of those things; certainly not in any satisfying and definitive way. But it’s a start, and we want to share our research as it unfolds. And that means many results will be provisional, even provocative, and will need time to settle into something that feels like surety. Long before and alongside our efforts, many of you conduct and share your own tests, write blogs and post in forums, take workshops and classes, all with the hope of figuring this stuff out. What we can add to the mix is the value of results drawn from standardized, controlled and longterm testing, focused around similar questions and driven by a similar curiosity.

Causes of Yellowing
It is surprising how little we have been able to narrow down the causes of yellowing. This is especially true given how old the issue is. Right from the get-go, from the earliest days of oil painting, it was front and center one of the problems to solve. But over all this time, the likely suspects have only seemed to multiply. Humidity, temperature, the amount and type of light, periods of darkness, exposure to chemicals, the pigments used, the

A range of test samples exposed to the typical mix of fluorescent and indirect window light for the last 30 months.
In one, we created a basic, representative formula for Titanium White and simply changed the oil being used, making minor adjustments when needed to keep the thickness of the paint the same. We created a second series where the same oil and pigment were blended with different components, as a way to gauge the impact of each ingredient, moving from a simple combination of just pigment and oil all the way to a fuller and more complex formulation.

Type of oil and the method of processing it, presence of impurities, the toxicity of the paint, use or lack of driers, added mediums, differences in formulations, and a host of other variables, all appear to play a role. This makes any research on the yellowing of oils a daunting task, especially as the variables are not simply the physical make-up of the paints and pigments, but all the usual environmental factors that need to be controlled. And the present studies are no exception. What follows does not attempt to solve the physical make-up of the paints and pigments, but all the usual environmental factors that need to be controlled. Rather it simply shares our empirical findings from a multiphase test that has been ongoing since 2010, when we first acquired Williamsburg Handmade Oils. In terms of age, the examples run from just under 9 years old up to ones that are currently 2.5 years. Collectively all of these would still be considered very young films, still in the first stages of the processes and changes that will continue for centuries.

Which Oils We Tested

We tested 14 oils in all, representing a wide range of the common ones available from different oil and paint companies, as well as more unusual ones. These included 3 Alkali-Refined (ARLO) and 4 Cold-Pressed (CPLO) Linseed Oils, as well as both bleached, or cold pressed linseed, as well as traditionally cleaned and water washed – the different brands of alkali-refined, bleached, or cold pressed linseed, as well as traditionally cleaned and water washed ones, in the end all simply crowded close together. Does this mean that all the past experience has been useless? No, it means that the yellowing process is so slow that it is impossible to accurately determine the effect of the differences you can tease out are subtle. In fact, the differences you can tease out are subtle to impossible. From Oils to Paint

If the oils themselves felt close in appearance, things became even tighter once they were made into batches of Titanium White. After 2.5 years, what differences you can tease out are subtle at best, and the overwhelming feeling is one of similarity. In fact, the differences are so small that the inherent limitations of screens and printed pages have made capturing them reliably to a photo next to impossible. (Image 4). In the end, the hope for evidence that this or that oil causes the color to yellow markedly more than another simply never materialized. Rather the dictum that eventually, ultimately, most oils converge toward a similar appearance would seem the better fit for what we eventually found; at least given the test conditions and time frame. Further aging might still crown a clear winner, and other factors besides the oil alone might prove to have the more lasting and decisive impact. You can see this convergence taking place over time by using a spectrophotometer to measure the initial yellowness of the paints fresh from the tube and following them as they dry and age. In the graph (Figure 1) you can see that the paints have their greatest differences right at the start. After just one day most of the paints actually became whiter, and by the end of the week, when they had all dried, the colors began to flatten out. From there to their current state at 2.5 years is a slow drift upwards to an almost identical degree of yellowness among each of them. For 2010 the presence of reference and comparison, we have also included the data from GOLDEN Acrylic Heavy Body Titanium White. The importance here is not simply to highlight the difference between the two mediums, but because the brightness inherent in white acrylic paints and gessos has set a standard that we often judge things against.

Finally, before one is tempted to read too much into the peculiar color of the paints, the amount of difference between the first and last oil paint is just a single point, or Delta E (ΔE) of 1, an amount considered just-perceptible for most people. Also, keep in mind that the ΔE scale runs from 0-100, while the graph shows in from 0-10, allowing you to see the subtle movements that are happening. However this can also up magnifying our sense of just how much difference you might actually notice if you see these swatches, especially if separated by some space or in the context of different paintings.

If anything stands out as remarkable, it is perhaps the overall sameness that we noted when looking at just the oils – the different brands of alkali-refined, bleached, or cold pressed linseed, as well as traditionally cleaned and water washed ones, in the end all simply crowded close together. Does this mean that all the past
In the assembled examples (Image 5), the paint made with just Titanium White and alkali-refined linseed oil was the most yellowing, belying the common belief that simple blends of pigment and oil are always the best. Perhaps the most significant is what happened when this paint was applied in a thicker, 60 ml (1/16") application, where you see a dramatic level of oil separation during the drying process. The next two variations, which include the addition of basic carbonate or precipitated calcium carbonate, become increasingly less yellow while also showing a corresponding drop in oil exuding to the surface or out the sides. This sets up a strong correlation between yellowing, at least with Titanium White, and the paint’s ability to fully bind and hold onto the oil and prevent it from seeping out. This would also explain why the paints become significantly whiter, especially in the thick application, once beeswax was added in as a stabilizer, or why the addition of drier on top of that would help even further. The beneficial effects of drier in this regard is noteworthy as far too often it is claimed that their use leads to more yellowing, not less. This is the opposite of what we have observed. However, these tests do not include the full range of available drier combinations, their use in distinctly different paint formulations, or under different environmental conditions, or at levels that would be considered excessive. While the pressing-out of oil is dramatically captured in the 60 ml disks, it is worth speculating that a similar but much smaller-scale process could be happening in the thinner swatches as well — not necessarily yellowing rising to the surface at a microscopic level, and forming a thin, yellowed film around the topmost layer of pigment. The phenomenon around the formation of a skin of medium on top of the paint has been noted by current researchers of modern oil paints, although the exact cause has not been established (Izzo, F.C., et al., 2014; Brommke, A., Cooper, A., et al., 2014). We also know that this type of phenomenon is one of the main reasons that Zinc Oxide was used so frequently in conjunction with titanium dioxide. Essentially Zinc Oxide’s rapid ability to form metallic soaps and create a laminar, crystalline structure, appear to help hold the oil in place, although at the cost of creating a brittle paint film, especially at higher levels. The combination of beeswax and drier used in these tests might be helping along similar lines, but without the downsides with zinc.

**Impact of Formulation on Yellowing**

This is an area that has remained largely unstudied in any systematic way. Research on oils in and of themselves, as well as treated by various methods, are easier to find, along with ones that blend oils with single pigments and perhaps some drier. Absent in all of these studies are ones that take a look at the impact of all the various components that make up most modern oil paints. Our own work in this area dates back to 2010, when we acquired Williamsburg Handmade Oil Colors, and some results start to come in that are interesting to look at and still looking to find those conclusions in future rounds.

**Differences in yellowing could be found in all three stages. Of the swatches kept in the dark, the one made with cold pressed linseed did the worst, followed closely by alkali-refined, then safflower and the other safflower paint made with just pigment and stand oil did best in this category, although it should be noted the paint itself was unreactive to work with because the oil was so viscous. The fully formulated paint did far better than the same pigment mixed with just ARLO or CPLO, in that the various levels of the paints made with safflower or that included zinc in the mix. It is also critical to note just how much the titanium white paints recovered from long-term dark storage when exposed to just typical indoor light levels. After 3 months the recovery was still only partial when compared to similar examples in the same room for 2.5 years. Thus the time needed to fully reverse the effect of dark yellowing can take far longer than many people might realize. Needing this type of long recovery period has also been noted in more recent conservation research (Townsend, D., et al., 2011) where the required period for pieces kept in prolonged dark storage was thought to extend to multiple years in gallery light conditions.**

The Making of the White Paints Used in the Tests

For testing of the 14 different whites, each of the paints was made using a basic formula of oil, titanium dioxide, synthetic precipitated calcium carbonate, barium sulfate, beeswax and a low level of cobalt-manganese drier. These were then cast directly onto polyester film that was either uncoated or had a layer of acrylic gesso applied as a ground. We used polyester because it is non-reactive and stable, while the addition of acrylic gesso simulates some of the absorptive one gets when painting on a typically primed canvas. The samples were then stored under ambient conditions with light coming from color corrected fluorescent bulbs on a 12 hr. light/dark cycle, or else in an office with similar fluorescent lighting supplemented with indirect window light. They have not undergone any prolonged dark storage. **Things Not Tested**

In any test, what is left out can be as important as what is included. We did not control for humidity or temperature, two potential modifiers and additives that have a similar environmental factors commonly linked to increased yellowing. No mediums were included. The driers were limited to either a low or medium level of a single cobalt-manganese combo, and a host of other potential modifiers and additives were left out, such as hydrogenated castor wax, magnesium carbonate, and alumina struvite. The range of substrates and grounds were also very limited, and we mainly cast the paints onto polyester film that was either coated with GOLDEN Acrylic Gesso or left plain, although one set of examples were applied to acrylic gesso coated canvas. In terms of pigment, we tested only one type of rutile titanium dioxide, supplemented by zinc oxide in two examples, but did not test basic lead carbonate, litharge, or zinc oxide by itself. Finally, we did not include other brands of paint for comparison since we had no way of knowing their exact ingredients, and therefore no way to know what might be responsible for any results in either direction.

**Conclusion**

All in all, none of this testing will definitely resolve which oil or formula of Titanium White will yellow the least. The only way to tell if a series of paints are kept will help to resolve this question will be to continuously check on one or another set of paints under controlled conditions that can form one basis of the discussion. More rounds of testing using fresh drawdowns of yet more variations, are in the works and as those results come in, we will ultimately continue to age, we will certainly publish and share those findings. This work and research that will literally go on for decades, long past the lives of most of us in the Lab. The hope is that in the future, when all those questions about oils and yellowing continue to be asked, that the answers will have a firmer footing.

**References**


Mirjam: It was my own self-interest. As a child I mainly spent my time drawing because of my lack of quality brushes and paints. If I had better materials, I would have painted more.

Mark: Did this lead you to pursuing painting in high school? Did you take painting classes?

Mirjam: Yes, I focused on English and painting in high school. I had a great teacher, but in high school you learn a lot about history and spend less time on art, especially painting. Access to a variety of quality materials was also limited.

Mark: In college you concentrated on art education. Were you also able to continue with your own art?

Mirjam: Yes, I was able to continue with my art while studying in college. I studied painting and was just about to graduate when I was asked to do a house painting and wallpapering. I was just about to graduate when I was asked to do a house painting and wallpapering. The house owner was interested in my work and asked me to continue decorating their home. This made it possible for me to continue painting.

Mark: Tell me about that. What was so memorable about making the ultramarine?

Mirjam: It was like painting with sand because the pigment particles are so big. And if you grind it too much, it loses color intensity. It was eye-opening to see the difference between the red pigment and how each pigment’s properties need to be carefully considered before handling them.

Mark: I know in the States it’s unusual to find a program that is focused on conservation. So where was the program? What college did you attend for your undergraduate studies?

Mirjam: As an undergraduate I was at London Metropolitan University and focused on conservation of wooden objects. After that I became interested in working only on furniture and frames and I knew I had a very high interest in more descriptive objects like sculptures and paintings – painted paintings especially – so I focused on the conservation of paintings at the University of Amsterdam. Ultimately, that led me during my postgraduate studies to Winterthur where I completed an internship at the University of Delaware, which, as you know, is connected to the Winterthur Museum.

Mark: Can you please tell me a little bit about that experience? What were you working on in your postgraduate work at Winterthur?

Mirjam: I was interested in learning more about alternative cleaning methods that are used on acrylic and modern art paintings. A lot of these alternative cleaning methods have been developed by renowned Materials Scientist, Richard Wolbers, and since he teaches at Winterthur, I became interested in expanding his classes on cleaning paintings under his instruction. It was an incredible experience!

Mark: During this time considering the rigor of this degree in chemistry, materials science and painting conservation, were you able to maintain your art practice?

Mirjam: As a child, were others in your life involved in the arts? Or was it your own self-interest that led you there?

Mirjam: Yes, I always continued painting. During the summer I was able to paint and focus on my personal artwork. During the years of my conservation studies I took one year off for traveling and painting.

Mark: Where did you travel?

Mirjam: I traveled to California, Guatemala, Mexico, India, Nepal and Egypt.

Mark: What is your time and experiences in those places inspire your painting?

Mirjam: Yes, absolutely! India had a particularly strong influence on my artwork. In India I was able to do a lot of wall painting and mural work. I found the space to be very different, very new. I would say, “Yes, go ahead!”

Mark: And this experience also.

Mark: What kind of work were you able to do at the museum? Did you have a position at the museum at the time you were painting?

Mirjam: I worked in a private practice for half a year in Frankfurt, Germany. My focus during that time was mainly on contemporary art. It was a great experience – very different from working for a museum or in a museum setting.

Mark: Obviously, the pace is sped up in private conservation.

Mirjam: Definitely! You work on many more projects in a shorter time.

Mark: We met at Winterthur when I was doing a lecture with Sarah Sands, our Senior Materials & Applications Specialist.

Mirjam: Yes.

Mark: Meeting at Winterthur gave us a chance to visit with one another and speak about opportunities for Conservators to work with our Materials & Applications Specialists team. When I had the opportunity to speak to you about the work, I was surprised that this was something that you were interested in pursuing because most Art Conservation students are interested in doing work in a museum or in a museum setting. It was like a different conversation with you. Would you describe that a little bit?

Mirjam: Sure. I think I met you a couple of days after I bought a set of GOLDEN Fluid Acrylics. I already knew that GOLDEN products were superior to cheaper artist paints, but I was interested in their class, and I was interested in their price. And I was interested in their quality. And I was interested in their availability. And I was interested in the color spectrum. And I was interested in the lightfastness. And I was interested in the fact that they are made from high-quality pigments. It was a delight learning about you and your experience with materials.

Mark: So tell me a little bit about your experience with the materials. You had a chance to stay with us for six months, and it was a delightful learning about you and your experience with materials. Have there been any materials that you’ve been able to play with while being here that have crept into your own work?

Mirjam: Yes, Fluid Acrylics, but I started using them before I came to New Berlin. I find the Fluids to be so convenient. You just open the cap and you can use it right away. You don’t have to do anything else with them. They already have the perfect consistency and such high pigments. They’re the most versatile colors.

Mark: That’s something that I think everyone here immediately is attracted to. It’s because it is so convenient. You just open the bottle, and immediately you can start playing with the color. You can do whatever you want to do with it. So yes, we all find it to be very convenient. And it continues to grow. Some people are a little bit reticent, however, because they see its fluidity and assume that it’s much weaker in pigment.

Mirjam: No. That’s one of the misconceptions of acrylics.

Mark: Yes, it’s true. That’s the amazing part about acrylic. It offers so much formulating latitude. We can make the paint as thin as water, and so thick you could hold it in your hand without getting wet, and all those different steps in between. And this is just the tip of the iceberg of what you’ll be sharing about our materials in Europe as part of your new role at GOLDEN.

Mark: Again, we’re so delighted to have you join us Mirjam and look forward to our collaborations with all our customers overseas!
Ann Walsh: COLORS by JN

The exhibition, Ann Walsh: Colors at the Sam & Adele Golden Gallery through March 15, 2019 comprises twenty-four works made from 1986 through 2018. A dynamic language, enabled by color, is the thread that winds through the show. Ann Walsh’s color is amplified, saturated, buoyant, made inescapable. Color selection and color relationships are pre-eminent.

Nine stretched paintings, three of them being ‘reverse’ paintings from 1986, in which Ann Walsh applied acrylic paint in several layers to a polyethylene sheet that would allow the dried laminated ‘sandwich’ to be removed and adhered to a canvas support. The final image would be therefore in reverse — the first layer a canvas support. The final image would burst forth to be what it uniquely is. Rendering essentials, and letting color appear to come into existence by force that the right manipulation of materials become captivated by the possibility that the use of an isolation coat between the ground and canvas would produce a combination of control and surprise while making the painting. In the six more recent paintings, color areas were spray applied on canvas.

For artists who push the boundaries of traditional watercolor, work in sizes large enough that framing is not practical, or just like the barrier created by glass, varnish is a valuable option for protecting their paintings. Varnishing is likely to alter color, value, contrast, granularity, and the appearance of the paper in a watercolor painting. These modifications can be acceptable when balanced against the freedom varnishing offers.

In a previous article we investigated the changes that occurred when varnish was applied to washes of QoR Payne’s Gray, a paint chosen for its status as a chromatic neutral. The current test expanded our investigation to encompass washes of QoR Ultramarine Blue (PB29), Benzemizadolone Yellow (PY154), and Quinacridone Magenta (PR122) coated with GOLDEN MSA, Polymer, and Archival Varnishes. This combination allowed us to build a broader understanding of the aesthetic changes created when a watercolor is varnished. This article will discuss the varnish application that created the least aesthetic change to the watercolor over which it was applied, paying particular attention to how the watercolor changed the most.

The “Least Aesthetic Change” Challenge

We wished to see which varnish application came closest to the appearance of transparent watercolor on paper. Archival MSA Varnish Matte applied over Archival Varnish Gloss without an isolation coat won the “Least Aesthetic Change” accolade. We selected Ultramarine Blue as a visual example of this test (Image 1) since it presented the most change even when coated by the winning varnish. More information on the structure of our test may be found further into this article.

Depending upon the viewpoint and lighting, Matte Archival Varnish applied without an isolation coat marginally darkened and desaturated color. The matte sheen also slightly subdued the appearance of paper texture. Lighting and point of view influenced how easy it was to see these changes. There also appeared to be variation in how people perceived the changes. Those of us with more background in watercolor found the differences to be obvious; while others thought the alterations were slight to be negligible. Due to this difference in interpretation, plus the impact different colors, wash dilutions, and papers might have on the results, we would recommend that artists conduct their own tests before varnishing a watercolor painting.

Related Matte Varnish Results:

The runner up to the combination causing the “Least Aesthetic Change” was structurally different through the use of an isolation coat between the two types of Archival Varnish. The isolation coat created a shinier surface than the Archival Varnish Gloss layers did by themselves. As a result, when Archival Varnish Matte was applied on top of this coating, it appeared less matte as well. Color also darkened a bit more than seen with the winning Archival Varnish Matte without an isolation coat. The varnished areas warmed color slightly, resulting in a more noticeable but still slight desaturation of color.

The other matte varnishes created more changes to the QoR Ultramarine Blue washes and watercolor paper (Image 2). Brush applied MSA Varnish Matte and Polymer Varnish Matte both desaturated color, and either lightened or darkened the paint or paper surface depending upon viewer position and lighting. The lightening is more obvious on darker color applications, and was seen with both of these brushed-on matte varnishes. Polymer Varnish appeared to darken the blue color slightly more than MSA Matte, while the MSA warmed the color more than Polymer Varnish Matte. The light blue wash shows these changes most clearly. Interestingly, these two matte varnishes appeared to emphasize granulation in the dark and medium washes more noticeable but still slight desaturation of color.

For artists who push the boundaries of traditional watercolor, work in sizes large enough that framing is not practical, or just like the barrier created by glass, varnish is a valuable option for protecting their paintings. Varnishing is likely to alter color, value, contrast, granularity, and the appearance of the paper in a watercolor painting. These modifications can be acceptable when balanced against the freedom varnishing offers.

Aesthetics of Varnishing Transparent Watercolor: Creating the Least Change by Cathy Jennings

For artists who push the boundaries of traditional watercolor, work in sizes large enough that framing is not practical, or just like the barrier created by glass, varnish is a valuable option for protecting their paintings. Varnishing is likely to alter color, value, contrast, granularity, and the appearance of the paper in a watercolor painting. These modifications can be acceptable when balanced against the freedom varnishing offers.

Ann Walsh applied acrylic paint being ‘reverse’ paintings from 1986, in Nine stretched paintings, three of them being ‘reverse’ paintings from 1986, in which Ann Walsh applied acrylic paint in several layers to a polyethylene sheet that would allow the dried laminated ‘sandwich’ to be removed and adhered to a canvas support. The final image would burst forth to be what it uniquely is.

Standing eight feet high, ‘Block’ 2015 is both imposing and inviting. The three Nimbus, 1986, Acrylic on Canvas, 21” x 261/2” vistas were spray applied on canvas. In the six more recent paintings, color applications began with Archival Varnish Gloss. Left, center, and right columns are uncoated controls.
Diagram 1 / Application layers for varnish testing

Why would someone use an isolation coat?
An isolation coat creates a barrier between two layers of product. Since GOLDEN Varnishes are removable, having an isolation coat would allow a conservator working in the future to remove and replace the final layers of varnish without damaging the painting. Potentially, this replication could return the artwork to its pristine just-varnished state, and more, an isolation coat might be.

An artist should balance the potential for varnish replacement against the alterations an isolation coat might bring.

An isolation coat is especially important for brush application of MSA over an isolation coat since it came the closest to the original look of the watercolor on paper. We discussed the Matte Ultra-marine Blue results because this color showed the most change even with the “winning” varnish. Please also keep in mind that the addition of acrylic varnish to a transparent watercolor might cause the artwork to be categorized as mixed media by some watercolor societies. To see images of all the test panels, please go to the digital version of this article at JustPaint.org.

There is a component of subjectivity when applying varnish or evaluating the finished surface. Variations in application and materials may create different results, and viewpoint and lighting also change the way a varnished surface reads. We believe it would be best for an artist to create tests by varnishing sacrificial painted surfaces created with the techniques, and papers used in the artist’s own watercolor paintings. These varnished examples would provide a more accurate example upon which to base a decision about whether to varnish a watercolor painting. The artist would then weigh the transformation against the liberties benefited from being van-ished, to see if this is a direction he or she wishes to pursue when protecting a painting.

Lighting for the Photographs
Two different lighting situations were used when photographing examples for this article. Light directed on the surface from the side created a more diffused illumination that allowed us to photograph color changes with less interference from varnish surface reflections. Moving the side light sources more to the front increased glare and emphasized sheen and its impact on the cold pressed paper texture.

Conclusion
Varnishing transparent watercolor permanently changes the painting while adding a protective surface that allows the artwork to be displayed without glaze, much like an oil or acrylic painting might be. In this article, we discussed Archival Varnish Matte applied without an isolation coat since it came the closest to a three-coat application of Soft Gel Glaze diluted 2 parts Gel to 1 part water was brushed applied to three of the four varnish test areas. The goal with the isolation coat was to create an even, glossy surface and further seal the painting under the final varnish needed to be removed in the future. An isolation coat was used to prepare for the MSA Varnish, Polymer Varnish, and one of the two Archival Varnish tests. The fourth varnish test area was preserved without an isolation coat.

Third, we applied the final varnish application. The MSA was diluted 3:1 varnish to water and the Polymer Varnish was diluted 4:1 varnish to distilled water. These two varnishes were brushed over dry isolation coats. The third test area with an isolation coat was sprayed with three layers of Archival MSA Varnish. The fourth varnish test area, without an isolation coat, was also sprayed with three layers of Archival Varnish. The two Archival Varnish applications would allow for a comparison between the Archival Varnish with and without the isolation coat.

January 9, 2019 marked the launch of a new outreach to artists, the Just Paint Experience - a new expression of GOLDEN expertise centered on the practical needs and perspectives of artists. Where Just Paint offers scholarly depth and detail, Just Paint Experience (referred to as “JPE” around the factory) is more quick-reading, studio-oriented content in a variety of forms.

New content will be added all the time with a focus on specific topics or issues each month. January will consider the preparation of surfaces for painting and drawing. February will explore grounds and texture. Going farther into 2019 there will be in-store demonstration kits to provide hands-on experiences to match the content available online.

Perhaps the most important aspect of JPE is the dialog we want to have with artists. Much of the content is available only to subscribers (free) and comments, discussion and feedback are encouraged. Have you ever had a painting that when new content becomes available, and also get content, product previews, and offers exclusive to JPE.

Within the factory, JPE is engaging em-ployees from a range of depart-ments and disciplines to look at our products from an artist’s perspective and participate in conversations about the possibilities, limitations and experi-ence of making art with them.

We encourage everyone to visit JustPaint.org/exp so they can get in on the ground floor of a new approach to talking about art studio materials and practices, join the conversation and help shape the future of JPE.

References

Golden Artist Colors has always been generous with paint samples. The last two years have seen a significant increase in the number of general sample requests versus samples of specific products.

The sheer number of requests exceeded our capacity to respond quickly and with the level of care and quality people expect from GOLDEN.

In October of 2018 we began send-ing a new kit with samples from each GOLDEN color line and two mediums, a product guide and a personalized note. The new kit is more efficient to produce and ship, while providing more samples and a better experience to customers. Sample requests may still exceed our capacity at times. For that reason, we can’t always accept requests and we limit kits to one per person. When available, you can use the Sample Request option on the Contact Us menu at goldenpaints.com.
This past September 4th – 29th, Golden Artist Colors, in collaboration with the Scholastic Art & Writing Awards and its affiliate national nonprofit organization, the Alliance for Young Artists & Writers, sponsored the group show Artists & Mentors: The Painting Center, NYC. The show included 12 artists who had been selected for the GOLDEN/Scholastic Artist Residency. This show shined a well-deserved spotlight on the talented practicing artists who are also teaching and inspiring their young students in the classroom.

Since 2014, Golden Artist Colors has annually sponsored three teachers whose young students in the classroom. These teachers were honored with a Residency all have teaching credentials that would be the envy of any school. It is no small feat to both teach a full-time schedule in our schools and to have a successful art practice. The show, curated by Jim Walsh and with the incredibly valuable support of The Painting Center, allowed us to share the talent of these amazing artists and educators. The artists in the show included:

- Isaac AlaridPease, NM alaridpease.com
- Rebecca LS Buchanan, OR
- Jessica Clark, NC jessicalClarkart.com
- Geeta Dave, LA getadave.com
- Cristina González, NM cristinagonzalez.com
- Jeffrey Deane Hall, VA jeffreydeanehall.com
- Lucy Harackiewicz, MA lucyharackiewicz.wriote.com/ portfolio
- Kevin Kelly, KS kevinKelly.com
- Claire Lerner, CA clairelerner.com
- Brian Payne, OK piecepayne.com mrpayne.org (teaching)
- Elizabeth Stainton, NY elizabethstainton.com
- Bryan Wilson, NC bryanwilsonstudios.com

During the show, on September 15th, Golden Artist Colors also sponsored a panel discussion at The Painting Center entitled “Teaching Our Children to Think Like Artists”. On the panel were:

- Dr. Jerry James – Director of Teaching and Learning, Center for Arts Education, NYC
- Tendo Mutanda – Senior Program Manager, Scholastic Art & Writing Awards
- Barry Nemett – Faculty, Painting Department MICA (Chair 1990-2016)
- Stacy Rosende – Director of Education at Golden Artist Colors
- Elizabeth Stainton – Fine Arts Teacher, Brearley School, NYC & Scholastic Artist in Residence.

This panel of distinguished educators was brought together to discuss how we assure that our schools, our teachers, and our parents are prepared to create, prepare for and to demand to make available the critical skills taught through the arts. Eric Pryor, now the President of the Harlem School of the Arts while still the Executive Director of the Center for Arts Education in NYC shared and I’ll paraphrase: “We don’t expose our children to math because they want to be accountants and we don’t expose them to English because they want to be journalists. It’s because we think it’s core to their development. So similarly, we don’t teach art because we want our children to all become professional artists. But clearly an art education is also core to their development.”

In an article written by Alison Cole, she shares, “Creativity and the arts have never been more relevant to a world that will set great store by human ingenuity, resilience and adaptability.” The evidence for a well-grounded education is quite clear as to the benefits and has been shared by Americans for the Arts: Students involved in the arts are four times more likely to be recognized for academic achievement. They are three times more likely to win a school attendance award. Low income students who are highly engaged in the arts are more than twice as likely to graduate from college compared to peers with no arts education. Students engaged in the arts score higher on their SAT’s and are more likely to graduate on time compared to peers with little school day arts instruction. Students who participate in the arts are less likely to receive out of school suspensions. We know the arts inspire students and promote growth in social tolerance. Finally, 72% of business leaders say that creativity is the number one skill they seek when hiring. Yet, despite this, we still have to defend even the small amount of resources provided to our children.

The discussion from both the panel and the audience was incredibly engaging and supported the ideas around teachers continuing an art practice and the value that creates for their students, as well as working with our colleges offering art teaching credentials to amplify not just the teaching of art skills, but the ability to teach the tools of creativity.
Cleary aptly describes the new tube onto. Marketing Director Matt provide some substance to hold with redesigned caps. The new cap and OPEN Acrylics paint tubes rolling out Heavy Body Acrylics in the spring of 2019 we’ll begin a “Deep Cog” design. Starting bit challenging to twist off, so we tube cap. The current caps can be a but its delivery device: the ubiquitous make isn’t made to the actual product, Sometimes the best improvement to benefit the artist. For 2019 we offer unique products, a new studio tool, and a newly designed tube cap.

NEW PAINT TUBE CAPS

Sometimes the best improvement to make isn’t made to the actual product, but its delivery device: the ubiquitous tube cap. The current caps can be a bit challenging to twist off, so we added some gripping power with a “Deep Cog” design. Starting in the spring of 2019 we’ll begin rolling out Heavy Body Acrylics and OPEN Acrylics paint tubes with redesigned caps. The new cap makes it easier to get a grip and provide some substance to hold onto. Marketing Director Matt Cleary aptly describes the new tube cap as “snow tires for your fingers!”

COLOR POURING MEDIUM

Using gravity to direct liquid paints to flow isn’t a new technique. However, the following two new pourable acrylic mediums are. Poised to make their debut in 2019, Color Pouring Mediums are intended to be blended as desired with either Fluid or High Flow Acrylic paints. The most unique of these products is our Color Pouring Medium Matte. Typical pouring blends end with a high gloss finish, while our new matte product changes the dynamics for artists experimenting with pours. Other paints may be blended with these mediums, but Fluids and High Flow Acrylics are ideally suited to blend with the Color Pouring Mediums. In order to learn the working properties of these mediums, begin at a simple 10:1 (medium to paint) ratio. Refer to our website for further instruction.

Color Pouring Mediums can be used to create both opaque and translucent paint layers with excellent control during painting. Both are exceptionally adept for paint puddles and “pancake pours” with little risk of cracks or crazes. Mixtures can be stored and applied using a variety of tools and techniques. Color Pouring Medium Gloss readily flows onto the painting surface, generating uniform pools of paint. The dried surface of Color Pouring Medium Gloss (CPM Gloss) is smooth and shiny. Adjusting the amount of paint added to CPM Gloss controls saturation and opacity. Mixtures can be used in a variety of techniques, with crisp color boundaries that respond to tilting and gentle persuading. Add small paint additions to create veils of translucent color over previously painted passages.

Color Pouring Medium Matte: If you are not a fan of high gloss paint surfaces, then check out Color Pouring Medium Matte (CPM Matte). This moderately viscous leveling medium allows for uniform color fields without brush or tool marks. It drips and drizzles with ease. Air bubbles readily rise and pop during drying. Although CPM Matte is quite flat, colors remain deep and vibrant. Surprisingly, even Iridescent and Interference Colors retain a great amount of luster.

ISOLATION COAT

The new Isolation Coat is a ready-to-use sealing coat for acrylic paintings. Previously acrylic artists’ only recourse was to dilute Soft Gel Gloss with water (our former and still acceptable recommendation) before applying it to completed acrylic artwork. The new Isolation Coat takes the guesswork out of measuring and mixing, with increased flow and leveling and may be applied during any part of the painting process. Finishing a painting with isolation coat and varnish provide ongoing protection for your artwork from the hands of time. Isolation coat is a permanent acrylic medium that seals surface absorbency and allows for improved varnish application and easier varnish removal. Apply one or more layers before varnishing.

SEMI-GLOSS ARCHIVAL SPRAY VARNISH

Finally we offer a new sheen of our aerosol varnish called Archival Varnish W/UVLS Semi-Gloss. It’s relatively easy when using MSA or Polymer Varnish to mix the Gloss and Satin varnishes together to create a semi-gloss, but that’s not an option when using spray can varnish. The new Semi-Gloss aerosol varnish serves to lower gloss yet retain color depth, making it ideal for a build up of multiple coats. As with the previously offered sheens (Gloss, Satin and Matte) Semi-Gloss Archival Spray Varnish may be used on top of a variety of artist media, including acrylic paint, oil, watercolor, ink-jet prints and collage. The chart below compares the matte properties of our spray varnish.

<table>
<thead>
<tr>
<th>SHEEN</th>
<th>% SOLIDS</th>
<th>% REFLECT @ 60°</th>
</tr>
</thead>
<tbody>
<tr>
<td>GLOSS</td>
<td>21</td>
<td>97</td>
</tr>
<tr>
<td>SEMI-GLOSS</td>
<td>18</td>
<td>77</td>
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<tr>
<td>SATIN</td>
<td>16</td>
<td>45</td>
</tr>
<tr>
<td>MATT</td>
<td>10</td>
<td>4</td>
</tr>
</tbody>
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These products are the result of listening to your customers. If you have any questions about these tools or any of our products or specific applications - contact the Material and Application Specialists at 800-959-6543, help@goldenpaints.com or via social media. Also visit goldenpaints.com for new product information and videos.
We are excited to introduce a host of new features and improvements to our Virtual Paint Mixer (MXR). These additions were inspired by your feedback and with the hope that it becomes an even more important and enjoyable tool for artists.

So, as our holiday present to you, our customers, we are releasing Mixer 1.1 with the following improvements and features:

**Color reduction is back!**

This feature was taken offline while we worked on the updates, but now it is back with a vengeance! Once again you can reduce a mix all the way down to a single color with the press of a button. Even more exciting, you can now undo your reduction all the way back to your original mix! Simply press the ‘undo reductions’ button for each step back that you want to go!

**Chromatic color order**

Color swatches are now organized by hue (yellows, reds, blues, greens, browns, and neutrals) and displayed in chromatic order, allowing you to easily locate your favorite color.

**Color name abbreviations**

Abbreviations for each color are now right on the swatch, making it easier to know which one you are selecting.

**Single pigment and color set palettes**

A single pigment palette has been added to the available swatch palettes, and watch for other sets to be added in the future.

**Image upload is back!**

Users can once again upload their images to the MXR without having to worry about aspect ratios or manual cropping.

**Volume-to-weight conversion**

Until recently, mixtures have been shown as a volume ratio. We are pleased to expand on this by providing automatic volume-to-weight conversion for every mix! The precise mix ratios are calculated in real time, and displayed below the Target button. The ratio can be used for grams, ounces, or whatever measurement scale you choose!

Go to goldenMXR.com and try it!