

JUST PAINT

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We have been debating the content of our Just Paint Newsletter, trying to define our direction as we move forward to champion the research, innovation and value of modern coating technology, especially the acrylic resin. Yet we are now also a company that manufactures one of the most beautiful oil paints in the world. Should we keep our interest solely in the writing of articles on acrylic, staying true to our roots as a company, or can we feel comfortable in sharing our knowledge and interest in other traditional media? In the last 30 years we've generated a good understanding of traditional materials especially as artists have pushed us in that direction, both in making custom oil paints as well as working with many of the artists that continue to combine both acrylic and oil. We have finally come to the conclusion that Just Paint is just that – all paint, and should contain information necessary to inform all our customers of the most important technical issues within the vast field of artist paint technology. It should also provide insights to future research as well as be inspired by the innovation and conversation that has kept us all passionate about sharing and supporting the most complete information resource we can provide on all our products.

To this end, this issue features our first article on grounds for oil paintings. We can't think of a more requested topic than, "what is the appropriate ground for oil paintings?" Most artists working in oil are currently working on top of an acrylic ground. So as a bridge to both our worlds of acrylic and oil, and to provide a greater understanding of the most important bridge for a painting, that between the support and the paintings, Sarah Sands' article, "Using Oils with Acrylics" will begin to open wide the technical issues facing artists from the ground up. In continuing the review of grounds, Amy McKinnon has written a complementary article, "Make a Mark," sharing the insights of how many of our products are performing as surfaces for a wide range of drawing media.

For all our Just Paint readers, we will continue to share our passion for making paint and the recognition of all of us for the trust you place in us in the continued legacy of the works created with our materials.

Mark Golden

Using Oils with Acrylics

By Sarah Sands

It all comes down to stresses and strains of one sort or another. Almost everything about an oil painting will swell and contract, stiffen and flow, in response to the environment or physical handling. To make matters worse, the degree and nature of these changes will themselves change over time as the various materials undergo their own internal processes of aging. In the end, a stretched oil painting is a battleground of competing forces, a dynamic system constantly on the go.

Toss into this arena the question of whether oils can be safely used over an acrylic ground, or even further, on top of acrylic paints and mediums, and one enters into a battleground of a different order altogether. Traditionalists and purists will decry the use of any modern materials, or else hint at dire results attributed to excessively worn-out generalizations: that acrylics are too flexible, too closed, too untested

or, more bluntly, just too new. Even while admitting the shortcomings of traditional preparations – after all, the vast number of oil paintings done throughout history have come to us cracked and in varying states of repair – they will often state their preferences as “better the devil you know than the devil you don't.” By now one would think all these issues would have been completely resolved by conservation scientists, and best practices hammered out and well documented. But no. As we work to dispel many of the myths surrounding the use of acrylic grounds under oils, we simultaneously lay open new questions and avenues of inquiry that, for the time being at least, we can only fill with our best conjectures.

The Language of Mechanical Engineering

Some of the most promising research into this area has been done

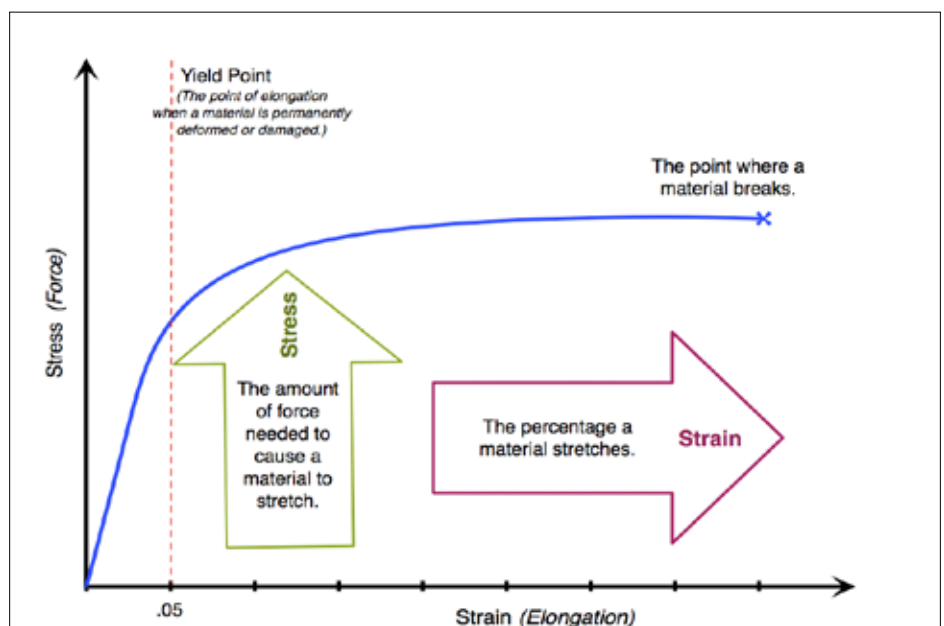


Figure 1: A simplified Stress/Strain diagram with a Yield Point.

through the lenses of mechanical engineering and material science. These fields have probed and prodded almost every physical aspect of a painting, and in the process have provided deep insights into how a painting functions as a system and what the requirements might be for making artwork that has a firmer footing and a more stable structure.

Before exploring some of this territory, we need to understand the terms and decipher the graphs much of this research is couched in. The most typical diagram one might find will show some form of a stress-strain curve, which is simply a way to measure how strong and flexible a material is, and when it is liable to break.

In the first diagram on page 1 (Figure 1) the curved line represents the typical behavior of many materials when being stretched. At first the line rises steeply as a build-up of force is required to overcome its initial resistance and begin to elongate. Think about the effort one might need to initially lengthen a plastic grocery bag by pulling at it with both hands. At first there is a sense of resistance but eventually, once a person is pulling hard enough, the bag will begin to stretch for a ways until eventually it reaches a breaking point. If instead of a grocery bag one grabbed hold of an older, 12" long film of oil paint, one might be able to stretch it just a 1/16"-1/8" before it broke, while many acrylic paint films can elongate to twice their length or more in ambient conditions, so quite a difference. The amount of force one needed in order to elongate the material is called the 'stress', while the percentage the material stretches is known as the 'strain'. A final concept that is important to know is called the 'yield point'. This is the point when a material is stretched so far it can no longer return to its original shape and so is permanently deformed or damaged. For a wide range of artist materials and supports this is set at the extremely low level of just one half of one percent (.5%) and represents not only a practical limit but shows just how little an amount of strain is ever acceptable.

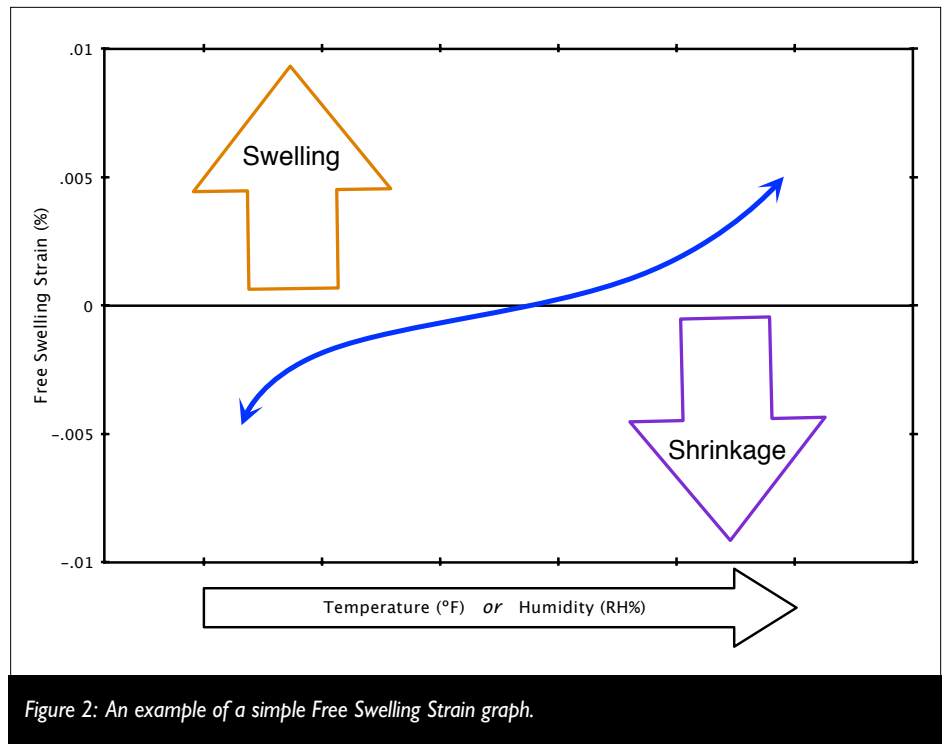


Figure 2: An example of a simple Free Swelling Strain graph.

A second and more basic graph (Figure 2) shows the percentage of swelling or shrinkage a free, unrestrained film of material experiences when responding to changes in either temperature (°F) or relative humidity (RH%). By 'unrestrained' it is understood that the material is not inhibited in any way from growing or contracting in size. For example, imagine a piece of loose fabric or wood that swells and shrinks as the relative humidity in a room varies. By measuring these dimensional changes we can quantify just how responsive the material is. If we now imagine this same material as restrained in some way, say as a piece of stretched canvas, we can sense how the amount of tension will rise and fall as the canvas tightens and slackens, swells and shrinks, even though its outermost dimensions stay the same. In this way the measurement of free swelling strains are directly related to the amount of stress generated in a painting whenever there are changes in the environmental conditions.

An Ideal Substrate

For oil painting, an ideal substrate should be more rigid than any of the subsequent grounds or paints that lay on top. Traditionally wooden panels and sometimes even copper plates were used for this purpose, and for the most

part paintings done on these materials have survived in far better condition than others. An inflexible support will essentially help restrain the potential movements of the materials in response to environmental changes or physical handling. Even today, this remains the single most important piece of advice anyone can offer for creating a durable oil painting with the least risk of cracking or delamination. This is true whether the painting is done solely with oils or on top of acrylic grounds and paints.

Complications arise the moment we turn our attention to paintings done on stretched cotton or linen since these materials are not simply more flexible but generally far more responsive to environmental changes. Traditionally, as a way to stabilize the fabric and protect its fibers from the harmful effects of oils, a size of hide glue would be applied, followed by an oil ground and finally, the actual paint itself. However, this seemingly simple sandwich of materials (canvas, glue, ground, paint) also generates highly complex interactions and divergent forces as they age and respond to the world around them. This area has been the focus of a wealth of contemporary research and those findings can help us look at the viability of acrylics as a component of an oil painting's structure.

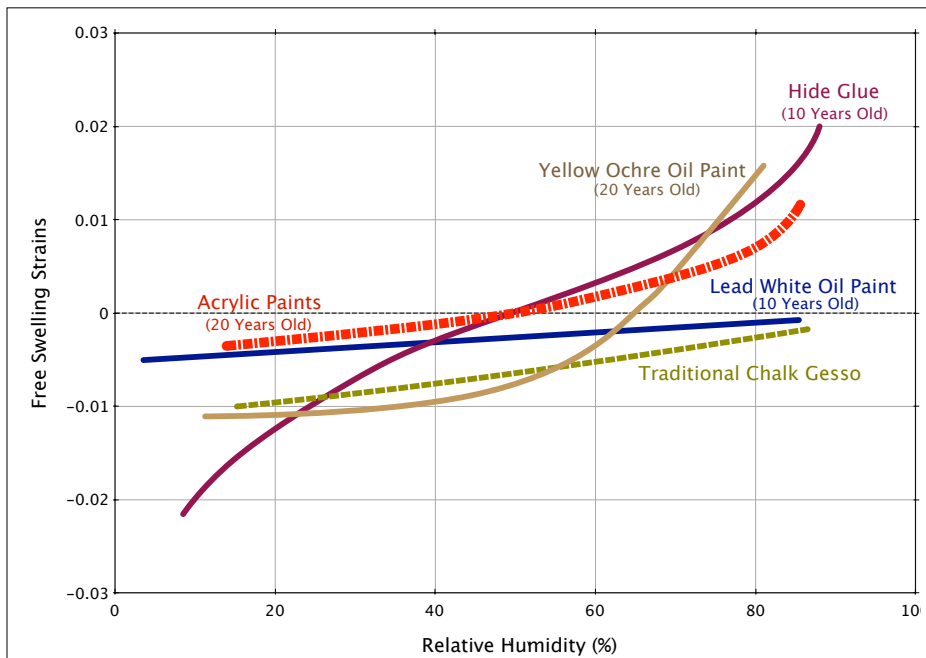


Figure 3: Amount of swelling due to changes in humidity for Acrylic Paints, Traditional Chalk Gesso, Hide Glue, and both Lead White and Yellow Ochre Oil Paints. Data adapted and simplified from Marion Mecklenburg (2007a, 2007b)

By far the widest use of acrylics under oils is as a replacement for traditional grounds, and increasingly for fast drying underpaintings and textures as well. Certainly a large part of this trend is because acrylics are seen as convenient and easy to use, as well as a desire to lessen exposure to solvents. However, along with these positives, questions and concerns have dogged their use from the beginning and are generally grouped around three areas: the potential problems caused when materials respond differently to environmental changes, worries about adhesion, and the fact that acrylics are inherently more flexible than oils. We explore each of these in turn.

Responsiveness to Environmental Conditions

It is often thought that a critical danger of using oils on top of acrylics is the potential for acrylics to swell or contract at rates so significantly different from oil paints and mediums that it would cause the overlying films to crack. This “fact” has been repeated so often and gone unqualified for so long that it has emerged as an unchallenged and generally accepted commonplace. In the process many people forget to ask if acrylics actually do, in fact, have such a different dimensional response? And if they did,

under what circumstances? Fortunately in answering these questions we can draw from a significant body of research that has quantified how a wide range of materials might respond to environmental changes, with a focus on humidity and temperature in particular.

Humidity

In Figure 3 we have combined and simplified in one graph some

of the many examples generated by Marion Mecklenburg, Senior Research Scientist at the Smithsonian Institution, in order to make comparisons more easily. This diagram shows typical free-swelling strains in relationship to relative humidity for acrylic paints versus some common materials used in oil paintings.

As we can see, over a very broad range of humidity, the 20 year old Acrylic Paints could swell or shrink by a total of about 1.5%, which is not widely different from the approximately 1% response found in traditional chalk gessos, which are often considered one of the more stable grounds to work on. Hide Glue was by far the most responsive, showing a significant dimensional change of more than 4%, leading many researchers to identify this material as a major factor in the cracking and delamination seen in many older works. The Yellow Ochre is representative of more reactive oil paints made with earth colors rich in clay and can rise almost 3% overall, with almost two-thirds of that occurring just within 60-80% RH. This is far more movement than seen in the acrylic film and a very real cause for concern when looking at how oil paintings might respond to changes in humidity as many of these earth colors will be vulnerable to flaking and delamination as a result. Among the least responsive colors

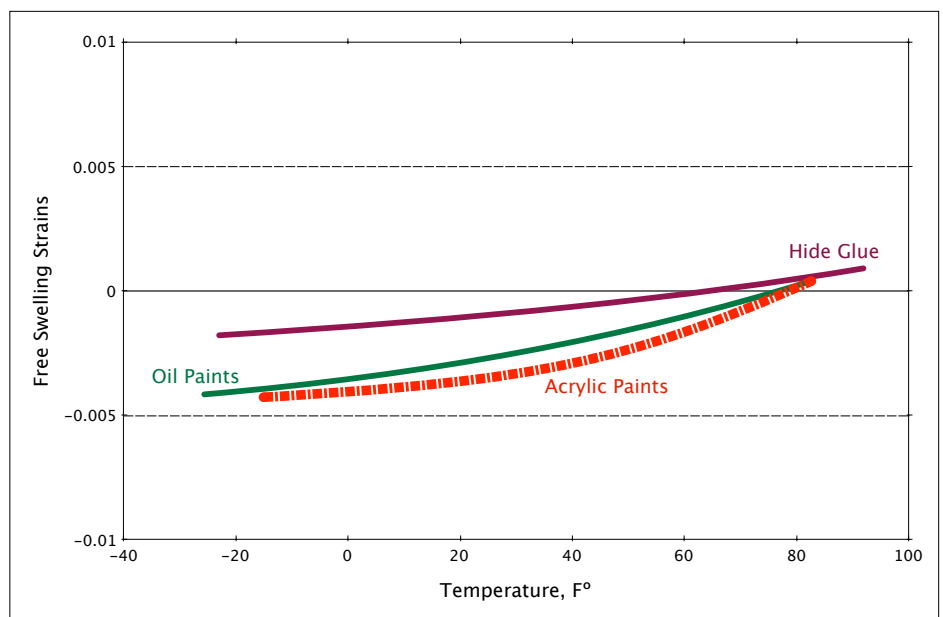


Figure 4: Degree of swelling in response to temperature changes for Oil Paints, Acrylics, and Hide Glue. Data adapted and simplified from Marion Mecklenburg (2007a, 2007b)

are the various whites in oil paints, such as the illustrated Lead White, which typically stays well within a very tight range of .5% or less. Along these lines, it is interesting to note that a recent study (Hagen, 2006) has shown matte latex housepaints containing high levels of solids respond far less to moisture than even this, to the point of being essentially inert to even extreme changes in humidity. If nothing else, this has reinforced our belief that matte acrylic paints and gessos, which share many of these traits, could provide very stable surfaces for oils to adhere to and further investigations along these lines should be pursued.

Temperature

In contrast to humidity, dimensional changes brought about by fluctuations in temperature are extremely minimal and would pose almost no threat by themselves, which is not surprising given how few of these materials would be expected to appreciably swell or contract due to temperature alone. In general oils, acrylics, and hide glue can be expected to remain within a narrow .5% range. The graph on page 3 (Figure 4) shows a simplified view of free swelling data that would be considered typical over a range of temperatures.

What is far more problematic is the increased embrittlement shared by oils, alkyds, and acrylics when subjected to low temperatures. Unlike the minor degrees of swelling or contraction we just saw, extreme embrittlement can put a painting at very high risk of fracture due to the build up of internal stresses alone, not to mention the mechanical stresses experienced during any amount of stretching, handling and transportation. What has been surprising, however, is just how well acrylics have performed given how they generally begin to stiffen dramatically below 50°F (10°C). In fact, several studies comparing acrylic primers to current oil-based grounds, including ones based on oil-modified alkyds, have shown that the acrylic primers provided distinct advantages when looking at how much they could be flexed or stretched before

cracking at both moderate and lower temperatures. One recent investigation that focused primarily on alkyd and acrylic-based grounds, went so far as stating fairly unequivocally that “alkyd-based oil primers present the most vulnerable type of primer for contemporary flexible supports” (Young, Hagen, 2008). Even at such moderate temperatures as 68°F (20°C) the study found that a linseed oil-based lead carbonate ground fractured when stretched as little as 1.6%, while the most flexible of the alkyd-based grounds was able to sustain 9% elongation. However, by 50°F (10°C) those levels had dropped to .8% and 2.1% respectively. At 32°F (0°C), the lead white ground showed failure with just .4% strain, a level that can easily be expected with normal handling and movement. By contrast, GOLDEN Acrylic Gesso recorded a failure strain of 1% even at the much lower temperature 14°F (-10°C), while at 32°F it could still stretch 2.3% before fracturing, and by 50°F it had a strain-to-failure of 7.3%. This type of dramatic embrittlement of oil-modified alkyds was also noted in both past and current research (Erlebacher, 1992, Ploeger, 2009, Alba, 2010), where acrylics have consistently been shown to have a greater ability to elongate at low temperatures.

To make the sense of concern more concrete, and as a way to visualize the degree of strains we are talking about, a 25”x30” painting would only need to be keyed out a scant 1/16” to sustain a 1% or higher diagonal strain in the corners and a .5% strain when measured across the short side. This means that even at the moderate temperature of 50°F, some of the oil primers included in the above study would be at risk of cracking.

While follow-up studies will ultimately be needed, for now at least it appears that some acrylic primers, such as GOLDEN Acrylic Gesso, could provide a foundation that is less prone to fracture when temperatures are 50°F or lower. That said, we still believe low temperatures present extremely high risks for all the paint systems covered and great caution is urged before subjecting any artwork to these conditions.

Adhesion

The second major concern for most artists is simply whether oils can develop good adhesion to a range of acrylic grounds, paints and mediums. This is an area GOLDEN began to look into more than 15 years ago, and what follows is a review of those results as well as a look at some conservation studies that focused on the adhesion of oil paints containing zinc oxide.

The first round of testing GOLDEN conducted was in the mid 1990s and involved creating 10 mil drawdowns of five oil paints (Indanthrone Blue, Ultramarine Blue, Mauve Blue Shade, Cobalt Turquoise, and Cobalt Blue Deep) over three distinct types of acrylic films: GOLDEN Gesso, Heavy Body Titanium White, and a mixture of two parts Self Leveling Clear Gel to one part Fluid Titanium White. This provided examples of a matte and toothy ground, a standard acrylic paint, and a very smooth and glossy layer of a tinted acrylic medium. There were 75 samples created, with 25 on top of each of the three different coatings. The samples were done on lacquered cards and kept in moderate, ambient conditions within the Lab facilities. Adhesion tests were carried out in accordance to ASTM 3559 and a few representative samples were aggressively flexed to the point of causing substantial cracking to see if the paint could then be cleaved off with the use of a scalpel. So far there has not been even one recorded case of failure, even when the oil paints were applied over very smooth and high gloss films.

A second and much broader round of testing was started in 2006 and included 99 samples, each consisting of a 10 mil drawdown of oil paint over an equal thickness of GOLDEN Gesso. The oil paints included three colors (Yellow Ochre, Burnt Umber and Ivory Black) from three different professional brands applied straight from the tube, mixed 3:1 and 1:3 with an alkyd medium, blended 4:1 with bleached beeswax, and finally, thinned 1:4 with odorless mineral spirits and applied by brush as a thin wash. Following these applications, final or retouch varnishes made from damar or GOLDEN MSA Varnish were applied

at different intervals. Crosshatch adhesion tests have subsequently been conducted and found no case was a failure ever found. As in the prior test, all the samples will continue to be monitored and retested over time.

While our tests should begin to provide some confidence in the ability of oils to adhere to a wide range of acrylic films, concerns have also been raised recently about some well-publicized studies focusing on the delamination of oil paints from a variety of acrylic grounds (Maor, Murray 2007, Maor et al 2008, Maor 2008, Mecklenburg 2007b). The investigations have primarily been based on test samples created in 1999 by Marion Mecklenburg at the Smithsonian Institute to specifically explore this issue, as well as two actual paintings where cases of delamination had occurred. In looking at the results, it is critical to remember that ultimately the studies concluded that the presence of significant levels of zinc oxide was the root cause of the delamination and not the fact that the grounds were acrylic based. As Yonah Maor states, when summarizing her results: "The determining factor is the metals present in the oil paint and not the type of ground." (Maor, 2008) The actual mechanisms of how various metallic soaps which formed in the affected paints, and specifically those from zinc, caused embrittlement and delamination are still being worked out, although it appears that build-up of the soaps at the interface between the paint and the ground was a consistent factor. It was also noted that rougher grounds appeared to provide better adhesion than smooth ones, lending some hope that artists might be able to lessen their risk by choosing grounds that are particularly toothy. At the same time, it is important to recognize that more than 16 paints (out of a total of 20) that contained no appreciable levels of zinc also showed no delamination whatsoever and represented a broad selection of pigments, including titanium dioxide, lead carbonate, raw sienna, cobalt blue, ultramarine blue, red oxide, yellow ochre, terre verte, indian red, burnt sienna, burnt umber, and verdigris. Certainly if there was a systematic

problem that went beyond the specific issues tied to zinc oxide itself, we would expect to see multiple failures occurring in these other samples as well. The conclusions in these studies were further amplified by a study on the cracking and delamination found in works by various Abstract Expressionists where zinc oxide oil grounds were used (Dawn et al, 2010). The fact that these issues were found in numerous examples completely unrelated to acrylic grounds further emphasizes that the problem resides in a structural weakness tied to zinc-rich oil paints independent of other factors.

Flexibility

As was mentioned, the simple fact of painting on stretched fabric presents a problem for the oil painter who knows their paints will grow increasingly brittle with age while the cotton or linen continues to flex and strain, tighten and sag, just a few millimeters underfoot. The movements and stresses of a fabric support have been well charted by such researchers as Gustave Berger, Gerry Hedley, and Marion Mecklenburg. What has developed from much of these investigations is the fact that, as counterintuitive as it is, it is not the canvas but the more rigid sizing that supports the overlying ground and paints, and that by far, the greatest

risks imposed on the structure are from the forces generated by the traditional hide glue sizing in response to humidity and the equally dangerous embrittlement caused by low temperature.

Sizing

While hide glue continues to attract a lot of devotion from those working with traditional materials, the evidence pointing to its weaknesses and role in the cracking and delamination of paint films is substantial and convincing. Its one feature of merit, the exceptional strength it provides when kept within precise humidity ranges, is quickly overshadowed by its extreme hygroscopic nature and the fact that it quickly loses all strength above 75% RH and is no longer able to carry the amount of tension inherent in a stretched canvas.

Given these problems, it is natural to want to find a viable substitute for hide glues altogether. GOLDEN GAC 400, an acrylic product, has long been recommended since it helps to stiffen canvas. More work definitely needs to be done before one can claim to have formulated an ideal substitute, especially when providing a sufficient degree of stiffness for even the oldest, most brittle films of oil paint. However, when we look at the amount of stiffening it does accomplish, one

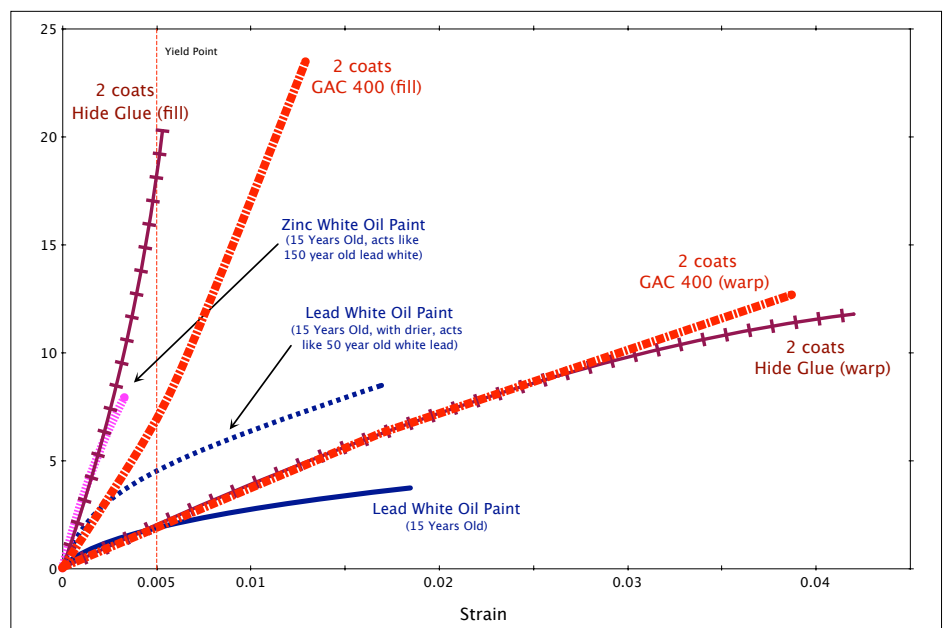


Figure 5: Stiffness of two coats GAC 400 on linen compared to Hide Glue and 12.5 mil thick oil paint films of Zinc White as well as Lead White, with and without drier (50.8% RH, 72.5 °F). Data adapted from testing done by Marion Mecklenburg, Senior Research Scientist, Smithsonian Institution, Wash., D.C.

can see that it comes close to equaling the stiffness of hide glue at ambient conditions. Figure 5 (page 5) presents a graph from testing done by Marion Mecklenburg showing 2 coats of GAC 400 applied to linen versus 2 coats of hide glue, alongside results from cast, free films of oil paints with a film thickness of 12.5 mil.

The main drawbacks of GAC 400 is that it still falls short of the stiffness found in very old oil paint films, or even younger ones made with brittle pigments like zinc oxide, and in order to be fully water resistant at higher humidities it needs to be heat set by passing a hair drier set on high over the surface for several minutes. However, given that hide glue is so much more reactive, these trade-offs are something to consider if the piece will not be permanently kept under tightly controlled conditions.

Acrylic Grounds: Impact of Thickness, Composite Structure, and Flexibility

When thinking about the degree of flexibility that acrylic grounds have, many people fall into the trap of thinking of a stretchy rubber-like film with brittle paint applied on top, then imagining that film being stretched until the paint cracks. But of course this is a spurious image at best simply because it has no practical relationship to the actual levels and types of stresses and strains a painting is likely to encounter. It is an image taken to a point of excess and caricature. Far more important is to understand how stiff or resistant to elongation a material is and to realize that being stiff does not necessarily mean a material is brittle. As an example, most metals can be bent and elongated; it simply takes a lot of force to do so. Or think of the impact that thickness alone can have on how we think about these ideas. Many materials, for example, can come both as thin films and as thick sheets or boards, with very differing amounts of resistance to being stretched or deformed. A very stretchy plastic wrap and a stiff cutting board can be made from the same type of plastic, but we think of them very differently if worried about how flexible they are as painting supports. And acrylics are no

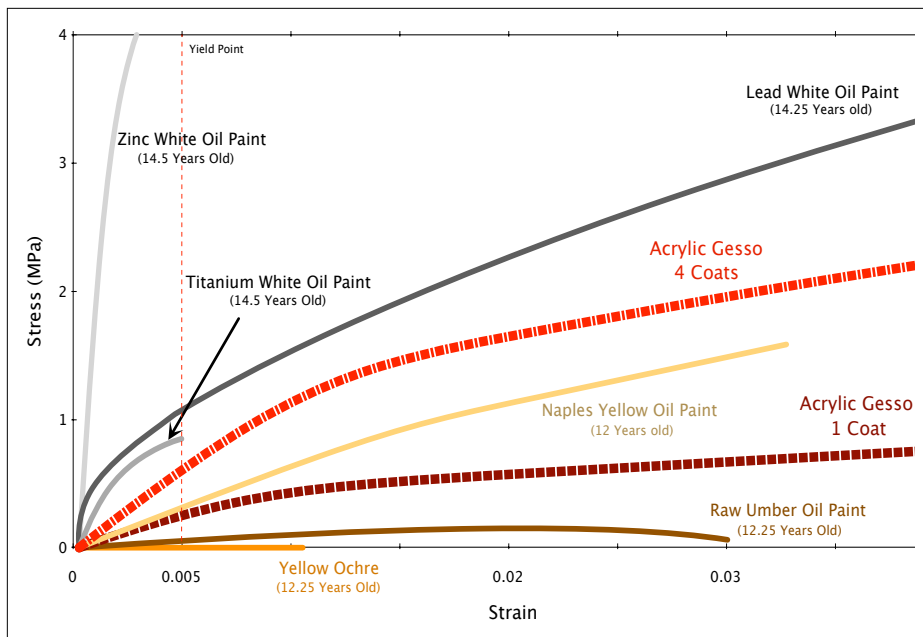


Figure 6: One and four coats of Acrylic Gesso compared to variously aged oil paints at ambient conditions. Data adapted from testing done by Marion Mecklenburg, Senior Research Scientist, Smithsonian Institution, Washington D.C.

different. A thin film of acrylic paint will act differently, from a practical standpoint, than a substantially thicker one; a thin layer of medium differently than a 1/4" thick slab of gel.

We see this effect at a small scale in the diagram above (Figure 6), where four coats of Acrylic Gesso begins to have the stiffness of older films of basic lead carbonate, and certainly remains stiffer than many other colors, such as Naples Yellow, Raw Umber and Yellow Ochre.

Composite materials are also complicated in other ways. An acrylic gesso that normally by itself might be able to elongate more than 100%, when applied onto a fabric support that can be stretched a maximum of 31%, doesn't all of a sudden increase the stretchiness of the fabric but, perhaps unexpectedly, reduces it even further, to a mere 12%, due to locking the fibers in place and thus stiffening the flexible fabric even further (Young, Hagan 2008). This effectively sets an upper limit of how much elongation any acrylic film might have when applied to a canvas support. And of course even this limit would never be reached in response to environmental changes or reasonable handling.

A last point to bring up heads in a very different direction altogether and sees potential benefits in the inherent

flexibility of acrylic grounds. In recently published research looking at composites of various grounds paired with various paints, a professional oil paint applied to GOLDEN Gesso proved extremely flexible, with no fracture observed even at 20% elongation and after subjecting the piece to 100 folds. This was performed on a relatively 'young' oil paint film of 2 years and it would be expected that with time the oil paint will embrittle and such degree of flexibility will be more unusual. Even so, it is instructive to compare this to the same oil paint on an oil-modified alkyd ground where cracking occurred when stretched 11.6%. As the oil paint is the same, the performance appears to be strongly correlated to the more brittle underlying ground layer. Further comparison of the performance of flexible acrylic gesses versus stiffer alkyd grounds can be seen when considering their performance when alkyd paints are applied on top of each. As the authors of the study concluded, the "acrylic primings reduced the amount of cracking in the alkyd top layers, appearing to retard their normal brittle behavior." If nothing else, these results suggest areas for new research into the possibility that flexible primings could actually have beneficial effects through some form of interfacial dynamics or stress reduction.

Conclusion

So, in the end, the question remains: can one safely use oils on top of acrylics? And if so, what are the guidelines and best practices? We believe some concerns are overblown in the public's mind, and not a cause for alarm, such as the amount acrylics might swell or shrink in response to normal environmental changes. Other areas, however, clearly warrant additional research to fully understand, such as the extreme brittleness displayed by alkyd and oil grounds at lower temperatures when compared to acrylic-based ones, or the apparent ability of acrylic grounds in some cases to lessen the brittleness of alkyds and oils applied on top. We continue to believe that adhesion of oils to acrylics per se is not a concern, while also recognizing that the problems being seen with oil-based products containing zinc oxide is very real and should lead painters to exercise great caution when using any of these paints. Indeed, in response to the research coming out, we have adjusted some Williamsburg Handmade Oil Colors to lower the percentage of zinc oxide in those mixtures where it is used, or eliminate it all together when possible. For now what constitutes a "safe level" of zinc is simply not known, and any level is merely a best-guess. While we have currently adopted 15% as a maximum, we also recognize future testing is needed for full confidence. Other things point to opportunities for updating our guidelines, such as applying multiple layers of an acrylic ground to achieve more stiffness, or simply reaffirmed long standing recommendations, such as the benefits of a toothy surface for assuring maximum adhesion. And lastly, there are areas where we recognize that improvements can be made, such as formulating an even stiffer size that can block oil while fully maintain the tension of stretched fabric, even at higher humidities.

Visit www.goldenpaints.com/technicaldata/techsheets.php for updated Product Info Sheets on best practices for using oils over acrylics and other issues related to acrylic grounds.

Bibliography

Alba, Ana, Susan Lake, Mel Wachowiak, 2010, *A Question of Technique: Condition Issues Associated with Layering Structure in Richard Diebenkorn's Ocean Park Series*, AIC Conference Paper

Erlebacher, Jonah D., Eric Brown, Marion F. Mecklenburg, and Charles S. Tumosa. 1992. *The Effects of Temperature and Relative Humidity on the Mechanical Properties of Modern Painting Materials*. In *Materials Issues in Art and Archaeology III: Symposium Held April 27-May 1, 1992*, San Francisco, California, U.S.A, ed. Pamela B. Vandiver, James R. Druzik, George Segal Wheeler, and Ian C. Freestone, 359-70. Materials Research Society Symposium Proceedings. vol. 267, Pittsburgh, Pa.: Materials Research Society.

Hagan, Eric, Maria Charalambides, Thomas J. S. Learner, Alison Murray, Christina Young, 2006, *Factors Affecting the Mechanical Properties of Modern Paints*, *Modern Paints Uncovered*, Getty Conservation Institute, pp. 227-235

Learner, Thomas, 2004, *Analysis of Modern Paints*, Getty Publications, Canada

Maor, Yonah and Alison Murray, 2007, *Delamination of Oil Paints on Acrylic Grounds*, Materials Research Society Meeting, Materials Issues in Art and Archaeology VIII, Symposium, Proceedings Volume 1047, Materials Society (MRS) Fall Meeting, Boston, November 2007 (Warrendale, PA: MRS, 2008) 1047-Y04-01

Maor, Yonah, Alison Murray, Bruce Kaiser, 2008, *Using XRF for Semi-Quantitative Analysis in a Study of Delaminating Paint*, 9th International Conference on NDT of Art, 25-30

Maor, Yonah, 2008, *Delamination of Oil Paint from Acrylic Grounds*, Master's Thesis, Queen's University, Canada

Mecklenburg, Marion F., 1990, *Art in Transit: Studies in the Transport of Paintings*, Washington, DC: National Gallery of Art

Mecklenburg, Marion, Matteo Rossi Doria, Laura Fuster Lopez, 2006, *Failure Mechanisms in Canvas Supported Paintings: Approaches for Developing Consolidation Protocols*, In: CESMAR 7, *The Care of Painted Surfaces. Materials and Methods for Consolidation,*

and Scientific Methods to Evaluate their Effectiveness. Proceedings of the Conference, Milan, Saonara, Italy: il Prato, pp.49-58

Mecklenburg, Marion F., 2007a, *Determining the Acceptable Ranges of Relative Humidity and Temperature in Museums and Galleries*, Part 1, Structural Response to Relative Humidity, <http://eprints.sparaochbevara.se/165/1-57>. (<http://si-pddr.si.edu/dspace/handle/10088/7056>)

Mecklenburg, Marion F., 2007b, *Determining the Acceptable Ranges of Relative Humidity and Temperature in Museums and Galleries*, Part 2, Structural Response to Temperature, <http://eprints.sparaochbevara.se/165/1-29>. (<http://si-pddr.si.edu/dspace/handle/10088/7055>).

Ploeger, Rebecca, Dominique Scalrone, Oscar Chiantore, 2008, *The Characterization of Commercial Artists' Alkyd Paints*, *Journal of Cultural Heritage*, Vol. 9, Issue 4, pp. 412-419

Ploeger, Rebecca, Dominique Scalrone, Oscar Chiantore, 2009, *Thermal Analytical Study of the Oxidative Stability of Artists' Alkyd Paints*, *Polymer Degradation and Stability*, Vol. 94, pp. 2036-2041

Rogala, Dawn, Christopher Maines, Marion Mecklenburg, 2010, *A Closer Look: Condition Issues in Abstract Expressionist Ground Layers*, AIC PSG Postprints 22

Young, Christina, Rebecca Gregg, Roger Hibberd, James Walker and Tom Learner, 2004, *The Physical Properties of Modern Commercially Available Primings and Their Interaction with Subsequent Paint Layers*, *Modern Art*, New Museums, Contributions to the Bilbao Congress, p.244

Young, Christina, 2006, *Interfacial Interactions of Modern Paint Layers*, *Modern Paints Uncovered*, Getty Conservation Institute, pp.247-256

Young, Christina, and Eric Hagan. 2008. *Cold Temperatures Effects on Modern Paints used for Priming Flexible Supports*. In *Preparation for Painting: The Artist's Choice and Its Consequences*, ed. Joyce H. Townsend, Tiarna Doherty, Gunnar Heydenreich, and Jacqueline Ridge, 172-179. London: Archetype

ASTM NEWS

By Sarah Sands

With a healthy dose of self-deprecating humor, ASTM members often declare that its well-known acronym actually stands for “Awfully Slow and Tedious Method,” and if gauged simply from the standpoint of the time it takes to complete a Standard, one can see their point. The ASTM Standard for Acrylic Dispersion Grounds started 7 years ago, under the guidance of its original task chair, Bill Berthel of GOLDEN. In 2008 those reins were passed to me, with faith the committee would see the job to the finish. If all goes as planned, this Standard will be approved by the Subcommittee on Artists’ Paints and Related Materials (D01.57) late January, and by the ASTM body, sometime that spring. Thank you to all who so tirelessly helped along the way, as this work can only happen with cooperation from the entire committee. We would like to single out Bill Berthel, Mark Gottsegen, Karyn Meyer-Berthel, and the Committee Chair, Michael Skalka, for their humor, patience, and willingness to participate in the round-robin testing the Standard is based upon. The hope is that conformance to this standard will provide artists with confidence that acrylic dispersion grounds and primers will meet minimum thresholds for flexibility, adhesion, and the ability to block oil strike-through. Currently no such standards exist and artists have no means of gauging performance before purchasing this essential material that artwork is entrusted to.

While this chapter is coming to a close, work on a pre-primed canvases standard is already underway. In 2007, when GOLDEN published a *Just Paint* article highlighting the potential problems of acrylics adhering to some pre-primed canvases, we expressed our hope the ASTM Subcommittee would establish minimum performance and quality standards for these critical products. In the last year, the work has taken shape under the leadership of Task Chair, Rick January of Tara Materials, with assistance from Mark Gottsegen of AMIEN, Sarah Sands of GOLDEN, and Michael Skalka, Conservation Administrator for the National Gallery of Art as well as the Subcommittee’s Chair. While much still lies ahead, we are confident the team is in a good position to build on the accomplishments that have culminated in the ASTM Standard for Acrylic Dispersion Grounds. And you never know, perhaps even to do it in record time.

Make a Mark

By Amy McKinnon

Make a mark, erase it? Can you? Is it permanent? Will it remain with stubborn pride? Will it all wipe away except for a stain that tells of its past? Will it disappear as if it had never been there? Was it ever there? Will it smudge and spread like a tumultuous rumor imbuing itself into everything it comes in contact with? Will it be blown away in particles by a breeze from a space between the floor boards? Will it hold in some areas and crawl away from the surface in others? Will it rip apart and destroy the surface as you use it? Mark it, stroke it, smear it, smudge it, hatch it, blend it, stipple it and scribble it. Any way it is applied, artists are often compelled to incorporate drawing into their paintings. Painting, even in the most expressive manners, can feel so planned out and calculated in comparison to charcoal in the hand to

the surface. Drawing has an immediacy and nostalgia that few other mediums have. Drawing speaks to our human nature and our desire to communicate and express, it is the visual outcome of what our minds tell our muscles. The use of drawing material allows an artist a mark unattainable and separate from that made with a brush.

If you happen to work in a manner in which your supply cabinet is your palette you have most likely encountered unexpected interactions between materials, some being pleasant discoveries others being less than ideal solutions. Acrylics can offer a stable support on which a wide variety of drawing media can be applied although some acrylics can be more accepting than others. We prepared a variety of acrylic surfaces and applied numerous drawing media to those surfaces to evaluate how the media held to the surface. Once we saw how the acrylics accepted the drawing media we altered the marks made to see how they reacted to manipulation.

What we found was that the vast majority of drawing media could be used over a number of acrylic surfaces. The majority of marks we made held to the surface. We found that measuring the acrylic surfaces in terms of hardness and tooth was a telltale sign of how media would work upon it. Whether hard or soft, acrylics with tooth appear to provide a good adhesive surface for most if not all the drawing media we tested (Fig. 1a, 1b). An acrylic film that possesses a combination of hardness and tooth provides a surface that on much closer inspection, resembles a micro landscape of jagged rocks. As something is dragged or pushed over that surface much of that material would be snagged and remain on that rough terrain.

The textures of the hard and toothy surfaces range from Fiber Paste to Fine Pumice Gel. Fiber Paste (Fig. 2a), which resembles





Figure 1a: GAC 200 is a good example of a hard, smooth surface.



Figure 1b: Acrylic Ground for Pastels displaying a hard, toothy surface.



Figure 2a: Fiber Paste exhibits a broken line when drawn upon.



Figure 2b: Fine Pumice Gel allows for a continuous line when drawn upon.

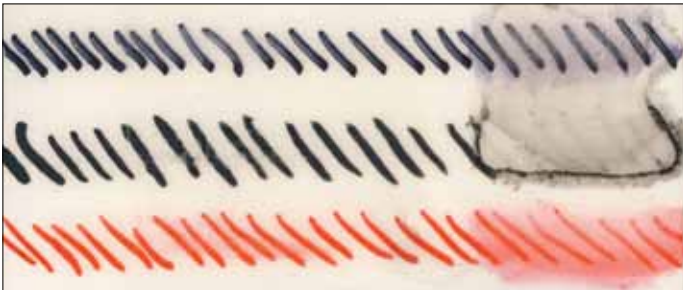


Figure 3: Wet Media on Regular Gel (Gloss).



Figure 4: Glass Bead Gel tended to hold wet media within its crevasses while allowing the tops of the glass beads to be wiped clean.

handmade paper when drawn upon, will exhibit a broken line due to a rough texture as opposed to a continuous line achieved with Fine Pumice Gel (Fig. 2b). The thicker and softer films have a greater susceptibility to damage from harder media. For example, Light Molding Paste and Crackle Paste, which both lend themselves to thicker application, will provide a fine, soft surface for vine charcoals and dry pastels but media like graphite and Conté® crayons will etch the acrylic surface without imparting any actual media.

Smoother and glossier acrylic surfaces held wetter media better than that of dry (Fig. 3). Markers, inks and oil based media were applied easier but manipulation of that mark

sometimes proved to be a fugitive marriage. The glossy and hard surfaces accepted most media applied to it but when rubbed or wetted much of the media could be removed. The surface was too slick to provide adhesion. It did however, support the hardest of the graphite pencils, which etched and marred many of the softer acrylic films. The texture of hard, glossy surfaces sometimes provided a unique tooth that allowed for interesting manipulation with the wetter and softer media. An example of surfaces like this would be Glass Bead Gel or Clear Granular Gel which seems to simultaneously provide a non-porous surface with a toothy texture, which held media within the crevasses of the film but allowed the glossy tops of the

glass bead and granules to be wiped clean (Fig. 4). Glossy and soft surfaces provided enough tack to have slightly better adhesion than a glossy hard surface.

When looking at the media used for drawing, the possibilities are almost endless. We chose to look at some of the more common options that artists may use. We tested vine and compressed charcoal, 5H, 2B and 9B graphite pencils, Conté® crayons, sanguine pencil, wax crayon, pastel pencil, water soluble oil pastels, water soluble colored pencils, dry pastels, oil pastels, markers, and inks. Each was applied in a series of short strokes over 24 acrylic surfaces. The nature of how each behaved when applied and adhered to the acrylic surface was

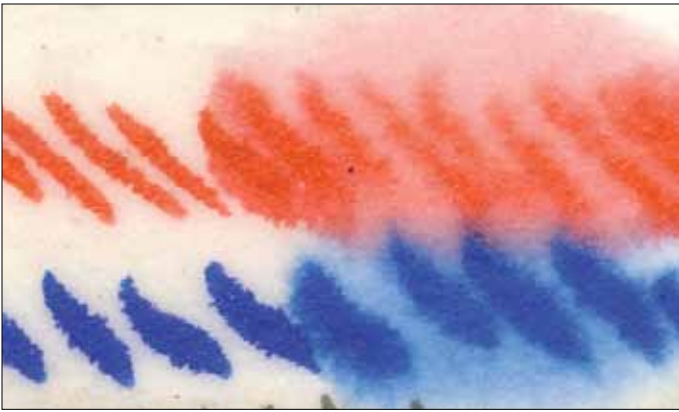


Figure 5: Coarse Molding Paste washed with water (left) and alcohol (right).

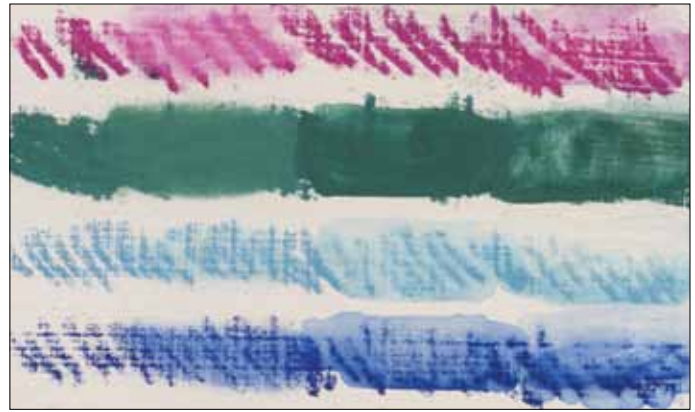


Figure 6: Absorbent Ground received all media and allowed for easy manipulation.

noted. Each piece of drawing media was applied in a series of small strokes to each of the 24 acrylic surfaces and then manipulated by rubbing, washing with water or washing with alcohol. The initial drawn marks were observed for how they lay on the surface, how they responded to the texture of the acrylic and how they held to that surface. The rubbed area served two main purposes: to see if the media could be removed by mechanical rubbing or if it would adhere and how it responded to blending or smudging? Did it blend seamlessly? Did it leave a trace of the mark made? Or, did it not do anything? The area washed with water showed how the media reacted to water, how it dispersed, and how the wet media was accepted to the acrylic surface. The area washed with alcohol showed the solubility of the media and how it reacted with the acrylic surface, how it dispersed and if it changed the nature of the media (Fig. 5).

We applied the drawing media to 24 different acrylic surfaces. Those surfaces can be roughly grouped into six different categories based on their characteristics. The first is a group of grounds, which are surfaces that are typically absorbent and toothy and formulated to accept a wide variety of materials. The next group is acrylic paint in which we chose Fluid Acrylics as well as Matte Fluid Acrylics. The third group included liquid mediums that dry glossy with a fair degree of hardness to their finish. The fourth group consisted of very matte and toothy surfaces. The fifth group was made up of soft and flexible films and the final group was the pastes, which tended to offer the largest range of

textures and surfaces, hardness and softness but all contained opacity and a fair amount of porosity and tooth.

The drawing media could be grouped based on a number of different criteria: hardness and softness, the base or pigment, the vehicle or lack thereof or how it responded to the paper. It presents itself as being most logical to group the drawing media on its hardness and softness followed by its vehicle. Utilizing grouping by the vehicle or its solvent is only applicable if the vehicle/solvent is presumed to be the catalyst when manipulated. The charcoal (vine and compressed) and the sanguine pencil made up the first group. The second group was the 5H, 2B and 9B graphite pencils and the Conté® crayons and wax crayon, the third. The fourth group was the oil crayons and oil pastels, while the fifth group was made up of the water based or water soluble colored pencils, chalk pastels and pastel pencils. The sixth group contained all the wet media, including markers and inks.

The GOLDEN Acrylic Grounds used for this testing were Gesso, Sandable Hard Gesso, Absorbent Ground, Silverpoint / Drawing Ground, and a mixture of one-third Gesso, one-third Light Molding Paste and one-third Hard Molding Paste (synthetic chalk ground). These grounds accepted all of the drawing media applied to them with no adverse results. The more porous grounds provided better blending. Absorbent Ground, being the most absorbent without too much flexibility, allowed for not only a well received mark by all media but also permitted the media to be easily manipulated (Fig. 6).

The drier and more friable media, like charcoal and pastels, were able to be blended and smudged evenly and maintained adhesion to the Absorbent Ground. The sponge-like absorbency without the flexibility afforded by the Absorbent Ground allowed for the water and alcohol to disperse some of the marks into a wash without entirely obliterating the original mark.

In the case of the waterproof inks, the alcohol was the most effective in creating a wash, as the water left the mark unaffected.



Figure 7: The harder, less porous surface of burnished Sandable Hard Gesso allowed for sharp, crisp lines.

The Gesso, Sandable Hard Gesso and synthetic chalk ground reacted similarly with only slight variations to one another. The Sandable Hard Gesso was wet sanded to a burnished finish before the media was applied. The harder, less porous surface allowed for sharper and crisper drawn lines (Fig. 7). When those drawn lines were blended, the product was less likely to produce a soft edge and had a better chance of removing the original mark. Being an absorbent and spongy surface, the synthetic chalk ground accepted more of the media than the other two, leaving a softer and wider mark. Blending the media on synthetic

chalk ground left a very soft and well blended area, especially with softer media such as charcoal and pastel (Fig. 8). When the media was scrubbed with water and alcohol on the three surfaces, Sandable Hard Gesso had the least amount of bleed to the area around the application, while the synthetic chalk ground had the most. In the case of these mixtures, the harder the surface, the more responsive it was to harder media. The softer the surface, the more likely it was to be etched by hard media, such as the graphite pencils. The Silverpoint / Drawing Ground in all cases similarly accepted drawing media in comparison to Gesso. When scrubbed with alcohol, Silverpoint / Drawing Ground had an inclination to resolubilize small amounts of Titanium White within the ground, resulting in a tint of the drawing media used (Fig. 9). Other than this anomaly, the Silverpoint / Drawing Ground was one of the best receptive surfaces for drawing media.

The next group contained products not commonly thought of as grounds, including GOLDEN Heavy Body and Fluid Acrylics. These paints allow each individual pigment to retain its natural sheen. The glossier paints are less likely to hold drawing media in the same manner that the matte paints do. The Matte Heavy Body and Matte Fluid Acrylics, formulated for a more

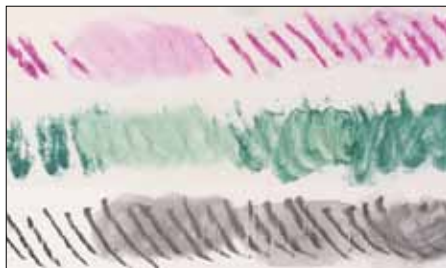


Figure 8: The absorbent, spongy surface of synthetic chalk ground allowed for great blending, especially with softer media such as charcoal and pastels.



Figure 9: Silverpoint / Drawing Ground when scrubbed with alcohol had an inclination to resolubilize small amounts of Titanium White.



Figure 10: Fluid Cerulean Blue Deep (left) as compared to Matte Fluid Cerulean Blue, Chromium (right).

matte surface, allow for good adhesion throughout, regardless of the natural sheen of the pigment (Fig. 10). The glossier of the paints were less likely to receive the softer and more friable drawing media such as charcoal, pastel and sanguine charcoal pencil, thus making them more easily removed in both blending and wetting with either the water or alcohol. So, regarding the results for drawing media over paints, we see that they all accept the drawing media, although they are more fragile on glossier surfaces and may need to be protected.

The third group consisted of harder, glossier and less porous surfaces. We

Matte surfaces are the best candidates for an adhesive drawing surface. The matting solids contained in these polymers helps contribute to a toothy surface that will physically hold the drawing media and allow for more controlled blending and greater permanence due to greater adhesion. All of the matte surfaces tested in this group have a different level of translucency. While none are clear, Matte Medium, Fluid Matte Medium and Acrylic Ground for Pastels offer a considerable amount of transparency and can be used in addition to or on top of the colors if drawing media is to be applied. Fluid Matte Medium



Figure 11: Harder, glossier and less porous surfaces like Polymer Medium (left) and GAC 200 (right) did not facilitate blending well.

included Polymer Medium and GAC 200 in this group. Polymer Medium is softer and more flexible than GAC 200 and although both accepted the media, neither facilitated blending with the harder media (Fig. 11). The Polymer Medium did not accept the wax crayon and very little of the graphite pencil, while the GAC 200 accepted most. The wet media fared well on these surfaces, although the marks seemed to wash away easily with isopropyl alcohol.

did not hold graphite and wax crayon very well and what did remain on the surface was easily wiped away. Acrylic Ground for Pastels functioned beautifully in application as well as in manipulation, followed by the Fine Pumice Gel and Super Loaded Matte Medium (Fig. 12).

The fifth group, made up of softer and more flexible gels, has the least tendency to hold drawing media. The acrylics used for this group were

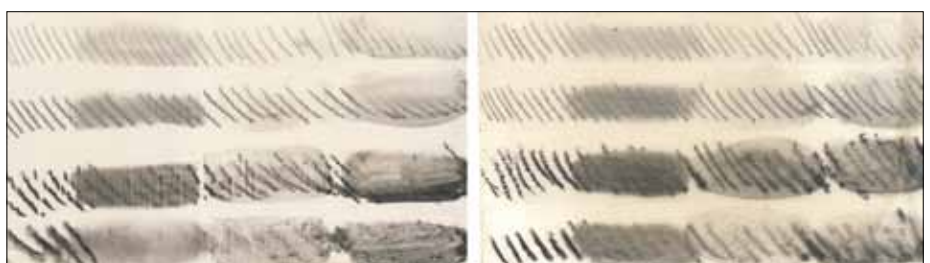


Figure 12: Super Loaded Matte Medium (left) and Fine Pumice Gel (right) held graphite and crayon very well.

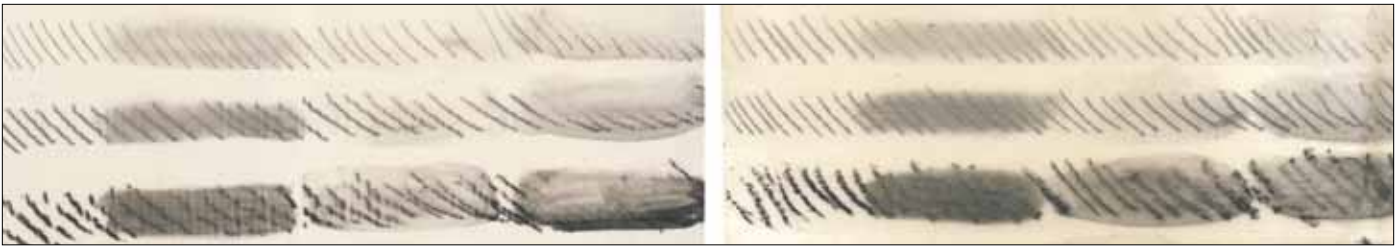


Figure 13: Regular Gel (Semi-Gloss) and Regular Gel (Matte). The Matte Gel provided the best drawing surface in the soft and flexible group.

Regular Gel (Gloss), Regular Gel (Semi-Gloss), Regular Gel (Matte) and Glass Bead Gel. As with the fourth group, Regular Gel (Matte) provided the best drawing surface of these four gels although because of its flexibility, the harder media such as the graphite pencils, did not adhere well (Fig. 13). Regular Gel (Gloss and Semi-Gloss) exhibited poor adhesion with several of the drawing mediums. Glass Bead Gel acted like no other surface and each different media delivered varied results. The glossiness of the gel and the non-porous nature of the glass beads seemed to resist any media while the texture allowed it to hold on to friable/dry, and wet media although would not exhibit any mark from the graphite pencils until blended. When the media was blended over Glass Bead Gel, the color or pigment would remain in the grooves of the film while the tallest points of the beads could be wiped clean providing an interesting result (Fig. 14). With the gels, removal by blending was very possible, especially with the glossier varieties. Wet media did best on these surfaces, although manipulation was either unachievable or resulted in complete removal.

The final group was made up of a wide variety of textured pastes. The pastes are opaque and each has its own unique texture, degree of hardness and porosity. The softer and spongier surfaces, such as Light Molding Paste and Crackle Paste accepted the softer and more friable media as well as the markers and water soluble oil pastels



Figure 14: Glass Bead Gel acted like no other media. Color remained in grooves after being wiped.

but harder media such as graphite pencils, wax crayons and Conté® crayons etched the surface, holding no trace of the drawing implement applied (Fig. 15). Fiber Paste with its handmade paper texture did not hold the crisp line delivered by the graphite pencil but did allow for soft blending of what was drawn (Fig. 16). The top most points of the texture held most of the media, emphasizing the bumpy texture even more when drawn upon.

The Molding Pastes: Light, Regular, Hard and Coarse all provided good adhesion for the media. The Light and Regular Molding Pastes allowed for

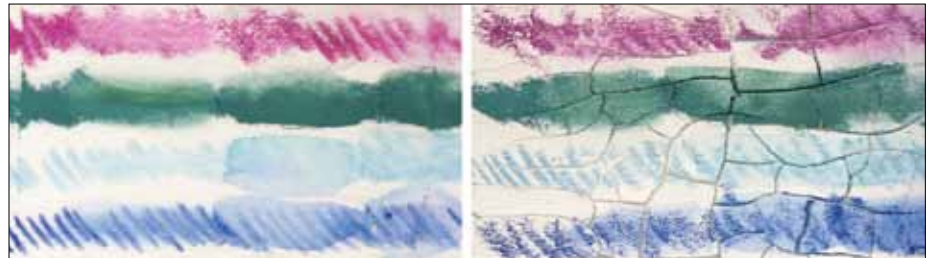


Figure 15: Soft and spongy surfaces like Light Molding Paste (left) and Crackle Paste (right) accepted most media while still providing their own unique texture.

controlled and even blending while the Coarse Molding Paste surface allowed for very diffused and softer blended edges. Hard Molding Paste did not facilitate blending as well as the other Molding Pastes and retained much of the original drawn mark. Scrubbing the Molding Pastes with water and isopropyl alcohol did allow for even blending except with the Hard Molding Paste, in which the water beaded up in some areas and completely removed the product in

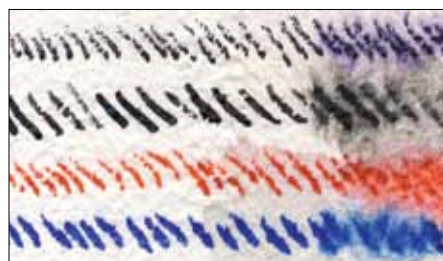


Figure 16: Fiber Paste did not hold sharp lines due to its bumpy texture.

others. This again showed that harder and less porous surfaces had less adhesion when scrubbed with water or solvent.

In conclusion there are a vast amount of outcomes one can achieve depending on what you want to draw with, what you want to draw on and the desired results. The ease of using acrylics in order to create a suitable drawing surface onto paintings, sculptures or any surface an acrylic film can be applied to, allows an artist to expand their language of communication that is not always afforded by utilizing the substrate

or available surface alone. To some artists, the use of drawing to express immediacy, intimacy and identity is imperative – as essential to the work as is the permanency and archival nature of the materials used and methods used to apply those materials. As with any material or method that is not clearly documented, experimentation and testing can provide better results, less surprises and amazing discoveries. Understanding the nature of the materials you are using is a valuable tool that is more often than not instinctual. Not knowing is an opportunity to learn and grow and understand your materials beyond what you thought or could anticipate.

To see the complete study of media that underwent testing, go to <http://www.goldenpaints.com/justpaint/index.php>



Williamsburg™ HANDMADE OIL COLORS

By Mark Golden

Bringing the Williamsburg brand under our care has brought a high level of excitement throughout our GOLDEN community. One would think that after 600 years of history, study, trial, and error, all that needs to be known about the oil media is already known – no space for discovery, argument or conjecture as to its technical requirements or manufacture. Yet it may be possible this time honored media may hold even more discoveries than the much more complex formula of the modern acrylic media. As we fill in many of the gaps with our research, it is incredibly energizing to see there are still so many areas of study and investigation for us to pursue. We are determined to begin sharing this research and even more importantly, to begin to peel back some of the mythology that surrounds the requirements for the highest level of expression of an oil paint.

Carl Plansky developed a line of color in which each pigment has its own characteristic and sensibility, so with Williamsburg Handmade Oil Colors, we don't have one line of oil paint, we have over 140 different oil paints. We have had so many wonderful responses from dedicated Williamsburg customers – artists devoted to Carl's paint – all with the concern that we maintain the quality and essence of the brand. That we continue to honor the context in which each of these colors was developed. Our commitment to all our customers is that we will continue to maintain that clear voice that Carl expressed in his colors. To that we will add the very significant resources of this company, to make sure that this promise doesn't drift and that every artist can have the confidence that these will continue to be amongst the best oil paints made.



What's Your Favorite Color?

By Jodi O'Dell

With thousands of hours of paint research all on one page and almost one thousand swatches of color, it's now easier than ever to see the full range of GOLDEN colors. Having comparative information for each one as they transform through tint and glaze mixing on a 26" tall by 39" wide poster, makes this an impressive color tool for every painter.

"We're pleased to be able to offer this kind of resource to artists," said Golden Artist Colors' Creative Director, Christopher Farrell. "We used a special six-color printing process, elevating the richness of the printed spectrum in the orange, red and green range, allowing this printed version to get closer to the real color than we had imagined a printed color chart could ever get."

The GOLDEN Lab wanted a systematic representation of paints drawn out to consistent tints and glazes. This exploration started with research on a few dozen colors conducted for the *Subtleties of Color* article in *Just Paint 21*. A few dozen colors turned into several dozen and finally one hundred colors, each mixed precisely to create five tints from

10:1 to 1:10 paint to white ratio and four glazes from 1:1 to 1:50 paint to medium ratio. That's 900 paint mixtures that were then drawn out to a precise thickness on test cards. From there, spectrophotometer readings were taken over white, and for glazes, masstone black. Now the 900 mixtures plus the original 100 colors become 1,500 unique color readings.

Those readings have been translated into a poster that includes the color names in English, French, German and Spanish. It also includes the pigment ID numbers and ASTM lightfastness ratings, along with the range of tints and glazes that were created. Also added were the Neutral Gray masstones over white and black, making this a complete reference of the standard colors available in GOLDEN Heavy Body colors.

Get your Tint & Glaze Poster now from the GOLDEN Web site <http://www.goldenpaints.com/products/promotional/tintAndGlazePoster> or check with your local art supply retailer to see if they are stocking the poster, which will save you shipping and handling costs.



Technical Support Close Up: Artist Scott Bennett

Mark Golden: Did you always want to be an artist?

Scott Bennett: I was always drawing as a kid, and while I wasn't sure when I was six years old that I wanted to paint, I always felt I would be involved in the arts.

Mark: Was this encouraged by your parents?

Scott: Yes, they encouraged me. I requested things like John Nagy drawing kits, so I would always have paper, pencils and stuff to draw with.

Mark: Early on you created incredible renderings and realistic drawings of flowers and plants.

Scott: The ones that you've seen – the botanical paintings of carnivorous plants – started later. I was in my early 20s but my fascination with these plants started very early – around 7 or 8. I was dissatisfied with illustrations in books so I made my own drawings and paintings from life. I also took field trips to photograph them in the wild. It was a natural outgrowth of my interest in the plants to start drawing them – to make images of them.

Mark: Those particular drawings were created when you were doing the large abstract paintings?

Scott: Yes.

Mark: Wow! I guess I imagined some predated the others. In high school you continued to focus on art?

Scott: Yes, and I had a really formative experience in 9th grade that relates to acrylic.

My art teacher was an ambitious painter and had knowledge about what were still very new, acrylic paints and mediums.

He had us using acrylic mediums with paper – collaging the paper – to make textured surfaces and this experience carried over. It was my first experience with what acrylic paints and mediums could do.

Mark: Did you go right from high school to Syracuse University?

Scott: Yes, into the art school but not as a painting major. I didn't know I was a painter until after I graduated.

Mark: What was your major?

Scott: Synaesthetic Education. It was the name for the Art Education Department at that time. I found the professors and philosophy fascinating. The idea was that we don't need to teach kids how to draw or paint. They do fine by themselves. We need to provide an environment that supports what they're already really good at. Studying synaesthetic education allowed me to intellectually explore the nature of creativity. I was dabbling and exploring several different areas to discover what had the strongest pull for me. When I graduated I took a road trip across country and started painting more.

After returning home, I stayed at my parents' house for several months. I created a small studio in my bedroom. With my bed tilted up on the wall, plastic on the floor and canvas stapled to a board, I was dripping acrylic paint. Shortly after, I moved back to Syracuse to be around my friends – an ambitious group of painters. I needed to be around other artists so I got an apartment with a room in the basement for my first studio. I bought my first big batch of paint, which was Bocour Acrylic in quarts and I also bought jugs of Rhoplex AC 234. There was a lot of pouring and spreading going on then.

Mark: Finding this community of other artists after graduation was really important to defining your next path?

Scott: Definitely. That's why I came back. I needed other eyes on my work, people whose eyes I trusted and who I felt I could grow with and share ideas with.

Mark: At some point, you had people outside of this community seeing your work.

Scott: In 1980, I was introduced to the art critic and writer Clement Greenberg, and started showing him my work. My friend Mark Raush and I would visit him in Norwich with rolls of paintings in the truck and sit and talk and show paintings. It was wonderful and most beneficial. Having Clem's eyes on my work was a great experience and I learned a lot. There was always something I took away from each visit.

Mark: That's fabulous. So it was from one of those trips that you came to us...

Scott: I remember the first trip in 1980 very clearly; I'll never forget it. I pulled up the gravel driveway to a cute little house, a barn and an incredible view. Sam came outside with you to greet me.

I remember Sam talking about being so proud of his paint, saying things like, "Tell us what you think. We've got these gel mediums. We're making different viscosities and surfaces, and we have all this pigment load in the paint."

I forget whether Adele made me a sandwich that time, but that is often what would happen. I'd buy paint, have lunch and we'd talk. I have such wonderful memories. I always left feeling so alive. There were these people who were really interested and curious about what I was doing and they were making great paint. That first visit will forever be in my memory.

Mark: I remember how exciting it was to have artists come to the factory, truly interested in what we were doing. We were thrilled to have you here. Scott, you began using the material early on in our history and became really familiar with a wide range of

products, always providing insight on the use of those materials. Can you talk about how that continued?

At some point you started using a lot of material.

Scott: It was the first time I used gel mediums – thickened, acrylic emulsions. And because I could get them in gallons or even five gallon pails, it facilitated new ways of working that before were not quite possible. I became fascinated with the possibilities of thicker paint films and what happens when you switch around the ratios. I had a fairly large painting platform (12' x 12') so I'd staple canvas to the floor surface and work on multiple paintings at a time. I was pouring paint a lot, but also using thick mixtures worked into thinner mixtures. I was pushing the materials to their limits to see the outcome.

Mark: And most of this work was abstract, non-figurative?

Scott: It was all abstract. I really come out of abstraction and non-objective painting. I was using a lot of pretty rudimentary tools and rarely using a brush. There was a whole period when I was pouring and spreading.

Mark: So it was a lot of invention, mark making and working with these transparencies and translucencies, building up a whole repertoire of ways to work with these new materials...

Scott: Exactly. I was learning ways that acrylic paint could be handled and any parameters that existed. I started as a watercolorist out of high school, so it felt natural to flow into using acrylic, so to speak.

I wanted to do whatever felt right. I was experimenting with spraying. I would often spray on top of very, very wet liquid paint, which would cause a type of cracking, crazing. I could create this wonderful colored crazing by spraying on top of piled up soft mounds of paint and gel.

As it dried, the skin on the surface would open up and you'd have these wonderful colored crazes. This created a period when I was fascinated with allowing what we think of as surface defects (what we call surface defects in tech land today) and using them in the work.

Mark: You developed a wonderful ability to speak to how you were achieving these things and the real knowledge base that you were building. How these things work and how the material interacts, the kind of alchemy of working with the paint versus technical. That's why it was really appealing to me when you said you'd be willing to learn the technical side and do presentations around the country.

Scott: Yes, our first trip was in 1990 to Edmonton, Alberta.

Mark: While you're teaching, sharing these tools with other people, how did that investigation – or did that investigation into materials and the more technical side – did that have an influence on your art making?

Scott: I know that I'm certainly more quickly aware of new products that come out and with my technical knowledge, much more aware of certain aspects of acrylic paint that I think does help me in the studio.

Mark: You've always been able to separate your role in providing a technical resource from your painting world. I think you've really been able to pick and choose those things that fit your aesthetic.

Scott: Yes, I do. There could easily be the tendency to want to use everything because of my increased awareness of what's available.

Mark: You've taught the other things but that's because that was part of the requirement; to learn what the other tools are and how artists might manipulate them.

Scott: I enjoy talking to other artists, seeing what they're trying to do with the paints. I always enjoy when an artist calls up or I'm emailing an artist, and it's a question that I know I have a lot of experience in, and I can help them and pass on that experience. And I realize – in the course of a day in the studio, I'm not thinking about my knowledge. I'm making a painting. However, now and then, I realize how lucky I am to have amassed so many years of experience with acrylic paints and mediums. Being a part of GOLDEN has been a very fortunate situation for a variety of reasons and

not only because I have employment with a wonderful company. The technical knowledge adds to my expertise in the studio.

Mark: It's been exciting to see so many lovely letters and emails written back to you, Scott, thanking you for the care and responding to their needs as another artist. I don't think we could do it any better than having an artist with your level of skill being able to respond back to someone else.

It's a great service for folks – to be able to provide that information. Where sometimes it just seems like you can't find it on a website. You can't find it other places. But there's a live person who responds no matter what your question is.

Scott, at some point in your career, you managed to pull together your own world of these mechanical slants and the illustration and the abstract, and all of the mark making that you've produced to come up with a whole other style of working with materials.

Scott: I painted non-objective pictures from about 1974 to around 1991, when I started making representational pictures. At that time I decided to focus on one or the other. If I was going to make landscapes and still lifes and explore that, I felt that I needed to focus on it exclusively.

So I stopped making non-objective pictures for quite some time. It was two years ago that I started making new abstract or non-objective pictures. And I've been making landscapes, still lifes, and a new series of abstract pictures, and going back and forth.

I've become fascinated again with the kind of mark making that I had in my past; very loose, traditional ways of handling acrylic paint combined with alternative methods and tools. I'm combining pouring, pushing, scraping, piling on paint with what's considered more traditional brush handling. And so, I've been able to make my way as a painter.

To learn more about
Scott Bennett and see his
artwork, visit his web site:
www.scottbennettart.com

Art Basel Miami

The entire Golden Artist Colors' Marketing Team and Technical Support Group, 15 of us in all, headed down to Art Basel in Miami. It was an incredibly inspiring trip and valuable to be able to share the insights and observations from the artists in our group as well as many of the artists we met during our whirlwind tour of this eclectic art market. In speaking to the many galleries, it seems that at least the Art Fair market remains positive, even in these crazy times.

It was wonderful to see so much painting, but clearly the stand out observation was the amount of mixed material work we saw. What might in the past have been termed mixed media, seemed to move to an even broader scale. Artists were using a vast array of materials; some quite durable, yet many other materials clearly not intended for permanent artwork. This points to a new complex set of questions with colliding concerns...of longevity vs. creativity and ethics vs. commerce. As these conflicts resolve themselves, we are committed to work with artists to allow them the greatest level of expression while also improving the durability of the materials chosen to use. Clearly, the Art Fair is a difficult place to really see art, but if you don't mind viewing the work coming at you at the speed of light, it was quite exhilarating.



13624

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