



Inventors News

We are on the web: www.inventors.asn.au

Inventors Association of Australia (SA) Inc Newsletter

November 2009 (NON-MEMBER)

NEXT MEETING

Function Room
Duke of Brunswick Hotel
207 Gilbert Street
Adelaide
Thursday 19th November
MEAL - Dining Room 6.00 pm
MEETING - DOORS OPEN at 7.00pm
For a 7.30pm start.

.....

GUEST SPEAKER

Roy Taylor from S&R Imports
speaking on
Inventing, Manufacturing and
Marketing

SUPPER and NETWORKING
Approximately 8.30 – 9.00

Inventors Presentations
and other business

10.00pm CLOSE

President's Report

With the IAA (Federal) Inc AGM to take place on 23 November 2009, I invite members to have their opinions heard about the newly formed association and how they would like to see IAA (Federal) Inc be involved in the future. Here are two points for possible discussion:

- The charter of the Federal Association in relation to both the state and Federal Governments.
- How such an organisation could assist inventors on the global stage.

Next month's meeting will see another year come to a close and the beginning of the school holidays. This could be a good time for families to reflect ideas off each other and perhaps bring to life some invention they have created.

With much help from Lou, the Inventors Association of Australia (NSW) Inc is starting with an Inaugural Annual General Meeting on Monday 23/11/09 at 9.00 am previous to the Federal Meeting. This allows their elected members representation at the Federal AGM. Well done Lou, all your effort has paid off.

Phillip Sanders President IAA (SA)Inc.

QUOTE OF THE MONTH

The difficulty lies not so much in
developing new ideas as in
escaping from old ones.

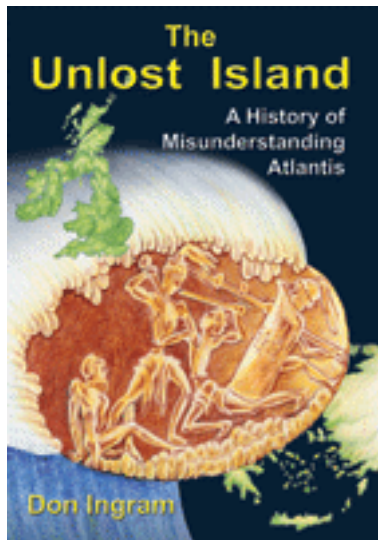
John Maynard Keynes

We have a Member who has published his own Book

- Don Ingram -

The Unlost Island:

A History of Misunderstanding Atlantis



The book has been published and can be found on the Zeus Publications website.

The addresses to look on are <http://www.zeus-publications.com> or more directly, http://www.zeus-publications.com/the_unlost_island.htm

ABOUT THE BOOK

From the end of the nineteenth century the Atlantis legend influenced people of the New Age movement. Anomalies in Plato's original story gave rise to speculation and fantastic constructions; unfortunately, the new versions of the story were based on false history and pseudo science.

Academics tried to force Atlantis back into the Mediterranean, suggesting Plato invented the story as a morality tale, despite his insistence that the story was true.

Starting with Plato's original story, *The Unlost Island: A History of Misunderstanding Atlantis* unravels the myths and legends, the misinterpretations and fallacies that have ensued since it was written more than 2000 years ago. Debates on the subject still continue because the issues have never been satisfactorily resolved; and resolution of these issues is the aim of this book.

Don states that "I did the coloured pencil drawings for the cover and they were compiled by the publisher with my suggestions."

NEW MEMBERS

We cordially welcome all our new members and trust that the Association can help you in your 'journey'. If you have any special requests please talk to any member of the committee and we will endeavour to help you. Committee members have a red dot on their nametags.

NEWSLETTER CLASSIFICATIONS

There are basically 3 types:

- A** The comprehensive INTERNET version on our website for *financial* members.
- Am** The MAIL copy for those *financial* members without email facilities.
- B** The B version (which is intended for FREE GENERAL RELEASE) and has been edited to remove items which are not intended for *non members*.

To receive a FREE email-newsletter

Apply through our website: www.inventors.asn.au

Should you NO LONGER wish to receive the email-newsletter CANCEL by simply replying in the SUBJECT field on your computer screen with...

'stop sending free newsletter'

If you have any problems receiving this document (a copy should be received 2 or 3 days before the monthly meeting) please contact our IT consultant admin@inventors.asn.au

Disclaimers: Inventors Association of Australia (SA) Inc accepts no responsibility for the accuracy of the information, the editorial comment, or the advertising in the Inventors News. Members and others should seek professional advice before acting on any matter herein.

Inventors Association of Australia (SA) Inc accepts no responsibility for ideas and inventions revealed to a second party where patent protection has either not been filed or protection has lapsed.

Paints, what's in them & why?

Credit to Wiki and CR4

Pigments are granular solids incorporated into the paint to contribute colour, toughness, texture or simply to reduce the cost of the paint. Alternatively, some paints contain dyes instead of or in combination with pigments. Pigments can be classified as either natural or synthetic types. Natural pigments include various clays, calcium carbonate, mica, silicas, and talcs. Synthetics would include engineered molecules, calcined clays, blanc fix, precipitated calcium carbonate and synthetic silicas. Hiding pigments, in making paint opaque, also protect the substrate from the harmful effects of ultraviolet light. Hiding pigments include titanium dioxide, phthalo blue, red iron oxide, and many others.

Pigments are granular solids incorporated into the paint to contribute colour, toughness, texture or simply to reduce the cost of the paint. Alternatively, some paints contain dyes instead of or in combination with pigments. Pigments can be classified as either natural or synthetic types. Natural pigments include various clays, calcium carbonate, mica, silicas, and talcs. Synthetics would include engineered molecules, calcined clays, blanc fix, precipitated calcium carbonate and synthetic silicas. Hiding pigments, in making paint opaque, also protect the substrate from the harmful effects of ultraviolet light. Hiding pigments include titanium dioxide, phthalo blue, red iron oxide, and many others.

Fillers are a special type of pigment that serve to thicken the film, support its structure and simply increase the volume of the paint. Fillers are usually comprised of cheap and inert materials, such as diatomaceous earth, talc, lime, baryte, clay, etc. Floor paints that will be subjected to abrasion may even contain fine quartz sand as filler. Not all paints include fillers. On the other hand some paints contain very large proportions of pigment/filler and binder. Some had lead – those now use titanium white (titanium dioxide).

Binders commonly referred to as the vehicle, is the actual film-forming component of paint. It is the only component that must be present; other components listed below are included optionally, depending on the desired properties of the cured film. The binder imparts adhesion, binds the pigments together, and strongly influences such properties as gloss potential, exterior durability, flexibility, and toughness. Binders include synthetic or natural resins such as acrylics, polyurethanes, polyesters, melamine resins, epoxy, or oils. Binders can be categorized according to drying, or curing mechanism. The four most common are simple solvent evaporation, oxidative cross-linking, catalysed polymerization, and coalescence. There are others.

Latex paint is a water-borne dispersion of sub-micrometre polymer particles. The term "latex" in the context of paint simply means an aqueous dispersion; latex rubber is not an ingredient. Latex paints cure by a process called coalescence where first the water, and then the trace, or coalescing, solvent, evaporate and draw together and soften the latex binder particles and fuse them together into irreversibly bound networked structures, so that the paint will not re-dissolve in the solvent/water that originally carried it. Residual surfactants in the paint as well as hydrolytic effects with some polymers cause the paint to remain susceptible to softening and, over time, degradation by water.

Curing paint, paints that cure by oxidative cross-linking are generally single package coatings that when applied, the exposure to oxygen in the air starts a process that cross-links and polymerizes the binder component. Classic alkyd enamels would fall into this category. Paints that cure by catalysed polymerisation are generally two package coatings that polymerize by way of a chemical reaction initiated by mixing resin and hardener, and which cure by forming a hard plastic structure. Depending on composition they may need to dry first, by evaporation of solvent. Classic two package epoxies or polyurethanes would fall into this category. Cooling of the binder forms other films. For example, encaustic or wax paints are liquid when warm, and harden upon cooling. In many cases, they will re-soften or liquefy if reheated.

Solvents are used to adjust the curing properties and viscosity of the paint. It is volatile and does not become part of the paint film. It also controls flow and application properties, and affects the stability of the paint while in liquid state. Its main function is as the carrier for the non-volatile components. In order to spread heavier oils (i.e. linseed) as in oil-based interior house paint, thinner oil is required. These volatile substances impart their properties temporarily—once the solvent has evaporated or disintegrated, the remaining paint is fixed to the surface.

Solvent-borne, also called oil-based, paints can have various combinations of solvents as the diluent, including aliphatics, aromatics, alcohols, ketones and white spirit. These include organic solvents such as petroleum distillate, esters, glycol ethers, and the like. Sometimes volatile low-molecular weight synthetic resins also serve as diluents. Such solvents are used when water resistance, grease resistance, or similar properties are desired.

Additives, besides the three main categories of ingredients, paint can have a wide variety of miscellaneous additives, which are usually added in very small amounts and yet give a very significant effect on the product. Some examples include additives to modify surface tension, improve flow properties, improve the finished appearance, increase wet edge, improve pigment stability, impart antifreeze properties, control foaming, control skinning, etc. Other types of additives include catalysts, thickeners, stabilizers, emulsifiers, texturizers, adhesion promoters, UV stabilizers, flatteners (de-glossing agents), biocides to fight bacterial growth, and the like.

Colour changing technologies exist for making paints that change colour. Thermo chromic paints and coatings contain materials that change conformation when heat is applied, and so they change colour. Liquid crystals have been used in such paints, such as in the thermometer strips and tapes used in fish tanks. Photo chromic paints and coatings contain dyes that change conformation when the film is exposed to UV light, and so they change colour. These materials are used to make eyeglasses.

Variants

Primer is a preparatory coating put on materials before painting. Priming ensures better adhesion of paint to the surface, increases paint durability, and provides additional protection for the material being painted.

Varnish and shellac provide a protective coating without changing the colour. They are paints without pigment.

Wood stain is a type of paint that is very "thin," that is, low in viscosity, and formulated so that the pigment penetrates the surface rather than remaining in a film on top of the surface. Stain is predominantly pigment or dye and solvent with little binder, designed primarily to add colour without providing a surface coating.

Lacquer is usually a fast drying solvent-based paint or varnish that produces an especially hard, durable finish.

Enamel paint is a paint that dries to an especially hard, usually glossy, finish. Enamel paints contain either glass powder or tiny metal flake fragments instead of the colour pigments found in standard oil-based paints. Enamel paint is also mixed with varnish to increase shine as well as assist its hardening process.

A glaze is an additive used with paint to slow drying time and increase translucency.

A roof coating is a fluid applied membrane, which has elastic properties that allows it to stretch and return to their original shape without damage. It provides UV protection to polyurethane foam and is widely used as part of a roof restoration system.

Finger-paint is a kind of paint intended to be applied with the fingers; it typically comes in pots and is used by small children, though it has very occasionally been used by adults either to teach art to children, or for their own independent use.

Titanium dioxide is extensively used for both house paint and artist's paint, because it is permanent and has good covering power. Titanium oxide pigment accounts for the largest use of the element. Titanium paint is an excellent reflector of infrared, and is extensively used in solar observatories where heat causes poor seeing conditions.

Graffiti repel. There are two categories, sacrificial and non-bonding. Sacrificial coatings are clear coatings that allow the removal of graffiti, usually by pressure washing the surface with high-pressure water, removing the graffiti, and the coating (hence, sacrificed.) They must be re-applied afterward for continued protection. This is most commonly used on natural-looking masonry surfaces, such as statuary and marble walls, and on rougher surfaces that are difficult to clean. Non-bonding coatings are clear, high-performance coatings, that allow the graffiti very little to bond to. After the graffiti is discovered, it can be removed with the use of a solvent wash, without damaging the underlying substrate or protective coating. These work best when used on smoother surfaces, and especially over other painted surfaces, including murals.

Anti-climb paint is a non-drying paint that appears normal while still being extremely slippery. It is usually used on drainpipes and ledges to deter burglars and vandals from climbing them, and is found in many public places. When a person attempts to climb objects coated with the paint, it rubs off onto the climber, as well as making it hard for them to climb.

Fillers are a special type of pigment that serve to thicken the film, support its structure and simply increase the volume of the paint. Fillers are usually comprised of cheap and inert materials, such as diatomaceous earth, talc, lime, baryte, clay, etc. Floor paints that will be subjected to abrasion may even contain fine quartz sand as a filler. Not all paints include fillers. On the other hand some paints contain very large proportions of pigment/filler and binder. Some had lead – those now use titanium white (titanium dioxide).

Binders commonly referred to as the vehicle, is the actual film-forming component of paint. It is the only component that must be present; other components listed below are included optionally, depending on the desired properties of the cured film. The binder imparts adhesion, binds the pigments together, and strongly influences such properties as gloss potential, exterior durability, flexibility, and toughness. Binders include synthetic or natural resins such as acrylics, polyurethanes, polyesters, melamine resins, epoxy, or oils. Binders can be categorized according to drying, or curing mechanism. The four most common are simple solvent evaporation, oxidative cross-linking, catalysed polymerization, and coalescence. There are others.

Latex paint is a water-borne dispersion of sub-micrometre polymer particles. The term "latex" in the context of paint simply means an aqueous dispersion; latex rubber is not an ingredient. Latex paints cure by a process called coalescence where first the water, and then the trace, or coalescing, solvent, evaporate and draw together and soften the latex binder particles and fuse them together into irreversibly bound networked structures, so that the paint will not re-dissolve in the solvent/water that originally carried it. Residual surfactants in the paint as well as hydrolytic effects with some polymers cause the paint to remain susceptible to softening and, over time, degradation by water.

Curing paint, paints that cure by oxidative cross-linking are generally single package coatings that when applied, the exposure to oxygen in the air starts a process that cross-links and polymerizes the binder component. Classic alkyd enamels would fall into this category. Paints that cure by catalysed polymerisation are generally two package coatings that polymerize by way of a chemical reaction initiated by mixing resin and hardener, and which cure by forming a hard plastic structure. Depending on composition they may need to dry first, by evaporation of solvent. Classic two package epoxies or polyurethanes would fall into this category. Other films are formed by cooling of the

binder. For example, encaustic or wax paints are liquid when warm, and harden upon cooling. In many cases, they will re-soften or liquefy if reheated.

Solvents are used to adjust the curing properties and viscosity of the paint. It is volatile and does not become part of the paint film. It also controls flow and application properties, and affects the stability of the paint while in liquid state. Its main function is as the carrier for the non-volatile components. In order to spread heavier oils (i.e. linseed) as in oil-based interior house paint, thinner oil is required. These volatile substances impart their properties temporarily—once the solvent has evaporated or disintegrated, the remaining paint is fixed to the surface.

Solvent-borne, also called oil-based, paints can have various combinations of solvents as the diluent, including aliphatics, aromatics, alcohols, ketones and white spirit. These include organic solvents such as petroleum distillate, esters, glycol ethers, and the like. Sometimes volatile low-molecular weight synthetic resins also serve as diluents. Such solvents are used when water resistance, grease resistance, or similar properties are desired.

Additives, besides the three main categories of ingredients, paint can have a wide variety of miscellaneous additives, which are usually added in very small amounts and yet give a very significant effect on the product. Some examples include additives to modify surface tension, improve flow properties, improve the finished appearance, increase wet edge, improve pigment stability, impart antifreeze properties, control foaming, control skinning, etc. Other types of additives include catalysts, thickeners, stabilizers, emulsifiers, texturizers, adhesion promoters, UV stabilizers, flatteners (de-glossing agents), biocides to fight bacterial growth, and the like.

Colour changing technologies exist for making paints that change colour. Thermo chromic paints and coatings contain materials that change conformation when heat is applied, and so they change colour. Liquid crystals have been used in such paints, such as in the thermometer strips and tapes used in fish tanks. Photo chromic paints and coatings contain dyes that change conformation when the film is exposed to UV light, and so they change colour. These materials are used to make eyeglasses.

Variants

Primer is a preparatory coating put on materials before painting. Priming ensures better adhesion of paint to the surface, increases paint durability, and provides additional protection for the material being painted.

Varnish and shellac provide a protective coating without changing the color. They are paints without pigment.

Wood stain is a type of paint that is very "thin," that is, low in viscosity, and formulated so that the pigment penetrates the surface rather than remaining in a film on top of the surface. Stain is predominantly pigment or dye and solvent with little binder, designed primarily to add colour without providing a surface coating.

Lacquer is usually a fast drying solvent-based paint or varnish that produces an especially hard, durable finish.

Enamel paint is a paint that dries to an especially hard, usually glossy, finish. Enamel paints contain either glass powder or tiny metal flake fragments instead of the color pigments found in standard oil-based paints. Enamel paint is also mixed with varnish to increase shine as well as assist its hardening process.

A glaze is an additive used with paint to slow drying time and increase translucency.

A roof coating is a fluid applied membrane, which has elastic properties that allows it to stretch and return to their original shape without damage. It provides UV protection to polyurethane foam and is widely used as part of a roof restoration system.

Finger-paint is a kind of paint intended to be applied with the fingers; it typically comes in pots and is used by small children, though it has very occasionally been used by adults either to teach art to children, or for their own independent use.

Titanium dioxide is extensively used for both house paint and artist's paint, because it is permanent and has good covering power. Titanium oxide pigment accounts for the largest use of the element. Titanium paint is an excellent reflector of infrared, and is extensively used in solar observatories where heat causes poor seeing conditions.

Graffiti repel. There are two categories, sacrificial and non-bonding. Sacrificial coatings are clear coatings that allow the removal of graffiti, usually by pressure washing the surface with high-pressure water, removing the graffiti, and the coating (hence, sacrificed.) They must be re-applied afterward for continued protection. This is most commonly used on natural-looking masonry surfaces, such as statuary and marble walls, and on rougher surfaces that are difficult to clean. Non-bonding coatings are clear, high-performance coatings, that allow the graffiti very little to bond to. After the graffiti is discovered, it can be removed with the use of a solvent wash, without damaging the underlying substrate or protective coating. These work best when used on smoother surfaces, and especially over other painted surfaces, including murals.

Anti-climb paint is a non-drying paint that appears normal while still being extremely slippery. It is usually used on drainpipes and ledges to deter burglars and vandals from climbing them, and is found in many public places. When a person attempts to climb objects coated with the paint, it rubs off onto the climber, as well as making it hard for them to climb.