

A Varnish Catechism

for
Varnish
Men

Comprising terse practical
definitions of varnishes and varnish
materials; physical tests for
varnishes; and answers to the
questions met in the
sale and use of
varnish.

PRICE
Twenty-Five
Cents

Compiled and Published by
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facturers' Association, 634 The
Houses, Philadelphia, Pennsylvania

Why Prepared

A PAINT TO
TO PAINT DE

By
G. B. HECKEL

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"Why Paint Peels," "Paint Gu



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Why Prepared Paint?

BY WAY OF EXPLANATION

In the July, 1909, issue of its "Paint Modernism," the Bureau of Promotion and Development propounded to Paint Dealers certain pointed questions offered a series of cash awards for best answers received.

The questions were:

"If your customer should ask you, would you answer these questions:

"First. Would you paint your house with Scientifically Machine-Made Paint (commonly called 'ready-mix paint')?"

"Second. What are your reasons?"

The writer has been permitted to go over the mass of responses called for by this inquiry, and has thought every dealer should know not only what these writers have to say, but also what others, who have from time to time expressed themselves on the same subject, have to say; the object being to assist the dealer in selling prepared paints.

For, after all, paint is made to sell: the dealer wants to make a collection of beautifully labeled cans, and, no matter how valuable the contents, a can of paint is no use to anybody until those contents have been spread where they belong.

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This "talk," then, is intended to help the paint dealer sell paint. To sell paint one must know paint and be able to talk paint—to tell the whys and wherefores, and to convince the owner of the nimble dollar that the paint on his property will do him more good than the dollar in his pocket.

A well-known paint manufacturer used to advertise that "good paint costs nothing, because it saves more than it costs." Here is a clearly demonstrable fact that ought to be hammered hard into the head of every possible paint purchaser, and the dealer is the only man in close enough touch with the consumer to get in the necessary "knocks." For the first essential to increasing the paint business is to increase the demand for paint, and until the possibilities in this line are exhausted, squabbling over the business that comes begging to the store is foolish and expensive. The good fisherman allows the boat to take care of the fish that insist on jumping aboard; his concern is to lure the fish that don't know they were born to be caught.

An unpainted or an ill-painted building in any community is a standing rebuke to the enterprise of the paint dealers of that vicinity. If the owner can afford to paint and don't know that it will pay him

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to paint, the local paint dealer is a poor missionary of the Gospel of Paint.

Thus far, all interests can pull together, and there is no apparent reason why the dealers in any vicinity should not pool their resources in teaching their neighbors the value of paint as insurance against deterioration and as a financial asset, just as the evangelical churches often unite in a non-sectarian religious revival. After conviction of delinquency has come is time enough for individual efforts.

This talk properly comes into play after the prospective consumer has been convinced that he needs paint, and is intended to help the dealer to convince him that the kind of paint he should select is Scientifically Machine-Made Paint, in preference to paste paints, mixed for use by hand.

There is no doubt that the advocate of such paint has the better argument, all the way through, if he knows how to use it.

WOULD YOU USE PREPARED PAINT ON YOUR OWN HOUSE?

The writer once asked a white lead manufacturer: "Would you use straight lead or a combination on your own house?"

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His answer was: "I would add a percentage of zinc, but I'm not advertising that fact."

This answer covers a part of the question at the head of this page. It means that this manufacturer's experience had taught him that two white pigments in combination are better than one alone. It, however, leaves untouched the question of mechanical efficiency and initial economy.

As a matter of fact, it appears from abundant evidence, that the paint dealers of the United States do, as a rule, use prepared paints on their own property, and that they have good reasons, backed by experience, for so doing.

WHAT IS PREPARED PAINT?

Prepared paint is, first of all, paint in its most modern form. It is as up-to-date as wireless telegraphy, the telephone, the automobile, package biscuits or ready-made shoes. The struggle against its advance is as futile as any other attempt to set back the hands on the clock of progress.

Paint is still obtainable in three forms:

First, as dry pigments and thinners. All paints used to be made by the painter from such materials, laboriously grinding

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the dry pigments in oil; then laboriously mixing the product with more oil, turpentine, dryers, etc.

Second, as paste colors, oil, turpentine, Japan, etc. Painters of a later date found it more profitable and infinitely more satisfactory to allow the manufacturer to do the grinding of the dry pigments in oil by machinery. Some of the "moss-backs" fought hard against his new-fangled idea, but it long since prevailed, as common-sense improvements have the habit of doing. The custom is still common and many painters of to-day are insisting as strongly upon the privilege of mixing as their predecessors insisted upon their prerogative of grinding paints.

Third, as paints in sealed packages, practically ready for use. Many painters who, for ordinary purposes, advocate and prefer paints hand-mixed in their shops, when ordering paint in quantity for use on large operations, have the entire work of preparation done in the paint factory, thus testifying to the superiority of paints so made.

Elbert Hubbard has said, "When a machine will do the work better than a man, we let the machine do it." Another writer has remarked, that "life is too short to spend in pushing a paint paddle."

This is the kernel of the argument in favor of prepared paint: A machine will

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do mechanical work better than a man, will do more of it in a given time and at a lower cost. In competition with machinery at mechanical labor, the machine always wins, and this victory inevitably means the employment of more workmen at higher wages. Prepared paint is mechanical efficiency plus concerted intelligence; hand-mixed paint is human brawn plus individual luck.

Moreover, prepared paint is the product of exceptional facilities and complete organization. Accuracy and duplication of results are assured at every stage of its production; while hand-mixed paint always involves a series of try-it-on, a-little-more-of-this-and-a-little-less-of-that attempts, before the required result is obtained.

Prepared paint is made by formula from materials that have passed chemical investigation and been calculated to standard. The paint manufacturer knows at every moment to the fraction of a per cent. exactly what is in his product and why. Assurance as to the character and quality of raw materials is of the utmost importance in the character of the paint produced. Such assurance is impossible without the aid of chemical and physical experts, who are not available to the painter or contractor who buys and mixes

Why Prepared Paint?

his own materials by the gallon or barrel.

When a formula has been proved by test or experience to be right, it is important that it shall be duplicated, in order to duplicate results. Such duplication is impracticable in small quantities out of the laboratory, hence every lot of prepared for use by hand in the shop varies from the accepted standard. In the paint factory duplication is, within narrow limits, absolute.

This is a labor-saving age. Most workmen work eight or nine hours a day, whereas their forerunners worked "from sun to sun"—and longer. The day was prolonged by the introduction of gas and electricity. Mechanical progress has effected the revolution. Machinery not only facilitated production and improved manufactured products, but by cheapening commodities, placed them within the reach of the common people, and thus vastly broadened consumption. An unpainted building is today a reproach, simply because mechanical progress has made paint plentiful and cheap.

Now a power-mixer will tint a uniform gray, in eight or ten minutes, one thousand gallons of white liquid with lamp-black. To obtain a uniform tint in one gallon of these materials

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hand, would require hours of constant stirring. The cost of the mechanical work on the thousand gallons would be very small per gallon. The cost of hand labor is from fifteen cents to forty cents per hour. Lamp-black is an extreme example of difficult mixing, but the same relative ratio obtains throughout the entire list of tints and shades.

Moreover, the machine-mixed paint is sold in packages of various convenient sizes, so that the buyer can have exactly as much as he needs and no more. If he runs short, another can will make up the shortage without waste. Hand-mixed paint, on the other hand, cannot be made to the exact tint required without either excess or shortage. Tinting colors vary in strength. If too much is used, more white must be added—and someone must pay for the excess of paint. If not enough is made, it is almost impossible to match exactly by mixing a small additional quantity—and here also is a loss to be paid for by someone.

Any painter will admit that he can make better paint by stirring his ingredients together half an hour than by stirring only fifteen minutes, or by stirring a full hour instead of only half an hour. But the mechanical efficiency of the paint machine, working a few minutes, is greater than that of a man working a

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whole day. Consequently, whatever virtue there is in uniformity of composition and thorough incorporation of materials is always present in prepared paints and never in hand-mixed paints.

Prepared paints have all the advantages of uniformity, economy and convenience.

SOMETHING ABOUT FORMULAS

The composition of a paint is important within certain limits, but the method of manufacture is at least of equal importance. Using exactly the same materials, good paint can be produced by one method; bad paint by another.

In mixing together white lead, zinc oxide and barytes, for example, it makes a great deal of difference in the quality of the paint which is put in first. If we add the zinc to the lead and the barytes it will be almost impossible to get a uniform mixture, while if the lead and barytes are added to the zinc, the work is comparatively easy. It matters seriously, too, what kind of dryer is used in the different kinds of paint and how much. The manufacturer knows the nature of the dryers he uses and how much to use in any case. The hand-mixer seldom knows anything about the composition of the dryers he uses, nor why their composition and quantity should be varied according to the

Why Prepared Paint?

other materials in his paints. If he did know the latter facts, the knowledge would not help him, because he could not learn the composition of the dryers.

Good paint is the sum of a good formula plus proper procedure. Bad paint may be either the result of a bad formula or the sum of a good formula plus bad procedure.

Each paint manufacturer has evolved through experimentation, factory experience and service results, the formula or formulas he uses. Each contends that his own are the best, and each has abundant testimony to support his claims. The accredited brands of paint—that is, the whites and tints—are made chiefly of zinc oxide and white lead (corroded or sublimed), usually with a proper percentage of the reinforcing pigments (barium sulphate, calcium carbonate, asbestos, silica and the silicates, etc.). Some contain only two of these pigments, others three or more, and at the present day no one is competent to say which is the best or the most economical combination. It may be affirmed, however, without fear of successful contradiction, that a combination of two or more of these pigments, properly balanced, yields far more satisfactory service in ordinary use than any one of them alone.

Why Prepared Paint?

Modern prepared paint, considering its cost, convenience and efficiency, is the cheapest manufactured commodity offered to consumers, while modern paste paints are among the dearest—for the two can be produced, gallon for gallon, at nearly the same manufacturing cost.

The general public, through the recent clamor over the purity of products, has generally lost sight of the fact that in something like half the paints consumed, neither lead nor zinc has any place. Yet we occasionally hear of intelligent people gravely proposing the use of a blow-pipe to determine the purity of paint. Let it be understood that the blow-pipe will serve only to determine the purity of untinted white lead. If color or if any other white pigment has been added to the lead, it is useless even for this. Furthermore, pure white leads differ widely in quality, and of these differences the blow-pipe will give no hint. Finally its use is limited to one kind of white lead only, as sublimed white lead—the most stable of its class—will not yield a lead bead to the blow-pipe in unpracticed hands. No colored paint is susceptible to the blow-pipe test and for other determinations it should be limited to the chemical laboratory, where it has an important place, in the hands of those capable of interpreting its results.



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ready-mixed form is that the materials would be run through the mills together, and would undoubtedly be more uniform than if the small consumer prepared his own mixture, while also in the latter case there would be greater liability to poor results, due to excess of Japan."

These are but two of a number of authorities responsible for a vast consumption of paints, whose opinions in similar vein might be quoted. But enough is as good as a feast; no competent authority opposes these conclusions.

PREPARED PAINT FOR THE PAINTER

That the property-owner profits by the use of prepared paint admits of no counter-argument. Some painters, however, still believe that whatever may be the case with the consumer, they lose if they use such products. It is admitted by them that prepared paint is much more economical than shop-mixed paint and many of them will allow all the other contentions of the manufacturers—beauty, convenience, service, etc. They maintain, however, that paint in this form takes from them all the profit of preparation, leaving to them only the labor item of application—which also is endangered by paint in too convenient a form. Still other

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painters, of the old and fast vanishing class of skilled artisans, argue with some reason that as paint should be modified for various purposes and for the several coats, prepared paint is not technically practical.

To the first class we may answer that the cost of the paint in any job of painting is inconsiderable—about 10 per cent. to 20 per cent. of the whole,—while the cost of labor makes up the bulk of the charges. Why, then, burden the cost of the material with additional charges for labor which can yield only an unsatisfactory product? At the same cost for the job, will there not be more profit for the painter if the labor cost is reduced?

To the second class, we may answer: Skilled artisans of your type, however regrettable the fact, are scarcely available to-day, and to-morrow will be no more. Why, then, cling to customs which are henceforth impracticable? You know that by using and properly tempering the more and the less liquid portions of the paint in the can, you can temper and vary its characteristics within very wide limits; why not, then, accept the results of modern mechanical progress and adapt your practice to twentieth century conditions? The clock of progress will not turn back for you and you can no more bring back the conditions of yesterday in your trade

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than you can summon back to earth the mammoth and the mastodon. As progress has forced the majority of us to adopt ready-made shoes, collars and stockings, so it will eventually compel all of us to use prepared paints or go paintless.

POT AND KETTLE

The pot gains no repute by calling the kettle black. The manufacturer of one kind of paint material gains nothing by condemning the formulas of the rest. "Pure paint," so called, may be very poor paint, and, as Drs. Dudley and Job have shown, highly reinforced paint may be and often is most excellent paint. White lead, zinc oxide and the rest, properly used, are all excellent paint materials, each within its own proper limits; but none has any more right to call the other an adulterant than the linen collar has so to designate the starch which makes it a serviceable article of apparel.

**THE TEACHINGS OF PRACTICAL
FIELD TESTS.**

The fact that paint is not a simple product like apples, which grow on trees ready to be eaten, but is a complex material which must be manufactured with a full knowledge of the properties of its constituents and with due regard

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to specific service requirements, has been realized by technical consumers. We have seen that the railroad experts know what to require in paints and the reasons for these requirements. The general paint-consuming public, however, have naturally been the last to profit by this knowledge, except through the efforts of paint manufacturers to produce the best possible paint at the lowest possible price; and not infrequently competition among dealers has forced the selling price of high-grade house paints very close to the actual cost. But the consumer buys green, black, or red paint, grumbles about the price, and then, moved by the reading of current advertising, expresses grave doubts whether it is "pure lead."

It is the paint dealer's privilege and opportunity to demonstrate to the consumer, first, that most paints could not be "pure white lead" or pure anything else, that "pure paint" and "good paint" are usually irreconcilable terms, and that what concerns him is not the composition of the paint, but its value in beauty and protection and its comparative annual cost to him in dollars and cents.

Some public tests on a large scale have been under way during the past few years, which are likely to be of assistance in enlightening the every-day consumer of

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paint. Large test fences were erected, at the suggestion of the Paint Manufacturers' Association of the United States, at Fargo, North Dakota; Atlantic City, N. J., and Pittsburgh, Pa. Each fence was placed under the supervision of a competent technical body. Forty or fifty paint formulas are under test on each of these three fences, the formulas representing various types of prepared or ready-mixed paints. Reports have been made on the Pittsburgh and Atlantic City fences, the conclusion being that "a mixture containing more than one prime white pigment (white lead, zinc oxide, etc.—either with or without a small percentage of reinforcing pigments—barytes, silica, whiting, etc.) makes a paint far superior to one manufactured from one pigment alone, under the conditions of exposure prevailing in these localities. . . . "The intelligent use of the inert pigments within certain limits is necessary for the production of a satisfactory mixed paint."

These results confirm the conclusions of experts and prove that the manufacturers of prepared paint are correct in using two or more pigments in their formulas.

"The Production of Mineral Paint," in 1908, by Ernest F. Burchard, United States Geological Survey Bulletin.

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The consumer who allows himself to be persuaded to use other materials when good modern prepared paint is obtainable, acts to his own detriment. He has, of course, a personal right to use tallow candles for light, a crooked stick for plowing, a sickle for reaping, if he so chooses, since only he pays the cost and suffers the inconvenience, but he ought at least to have the opportunity to know that all these practices, including the practice of using hand-mixed paints, are as much out of date as nose-rings and war-clubs.