
The Art and Craft of the Machine

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THE ART AND CRAFT OF THE MACHINE *

As we work along our various ways, there takes shape within us, in some sort, an ideal—something we are to become—some work to be done. This, I think, is denied to very few, and we begin really to live only when the thrill of this ideality moves us in what we will to accomplish.

In the years which have been devoted in my own life to working out in stubborn materials a feeling for the beautiful, in the vortex of distorted complex conditions, a hope has grown stronger with the experience of each year, amounting now to a gradually deepening conviction, that in the machine lies the only future of art and craft—as I believe, a glorious future; that the machine is, in fact, the metamorphosis of ancient art and craft; that we are at last face to face with the machine—the modern Sphinx—whose riddle the artist must solve if he would that art live—for his nature holds the key.

The great ethics of the machine are as yet, in the main, beyond the ken of the artist or student of sociology; but the artist mind may now approach the nature of this thing from experience, which has become the commonplace of his field, to suggest, in time, I hope, to prove, that the machine is capable of carrying to fruition high ideals in art—higher than the world has yet seen!

Disciples of William Morris cling to an opposite view. Yet William Morris himself deeply sensed the danger to art of the transforming force whose sign and symbol is the thing of brass and steel we familiarly call a machine, and though of the new art we eagerly seek he sometimes despaired, he quickly renewed his hope. He plainly foresaw that a blank in fine art would follow the inevitable abuse of new-found power, and threw himself body and soul into the work of bridging it over by bringing into our lives afresh the beauty of art as she had been, that the new art to come might not have dropped too many stitches nor have unraveled what would still be useful to her. That he had abundant faith in the new art his every essay will testify. That he miscalculated the machine does not matter. He did sublime work for it when he pleaded so well for the process of elimination its abuse had made necessary; when he fought the innate vulgarity of theocratic impulse in art as opposed to democratic; and when he preached the gospel of simplicity.

All artists love and honor William Morris. He did the best in his time for art, and will live in history as the great socialist, together

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with Ruskin, the great moralist: a significant fact worth thinking about, that the two great reformers of modern times professed the artist. The machine these reformers protested, because the sort of luxury which is born of greed had usurped it and made of it a terrible engine of enslavement, deluging the civilized world with a murderous ubiquity, which plainly enough was the damnation of their art and craft. It had not then advanced to the point which now so plainly indicates that it will surely and swiftly, by its own momentum, undo the mischief it has made, and the usurping vulgarians as well. Nor was it so grown as to become apparent to William Morris, the grand democrat, that the machine was the great forerunner of democracy. The ground plan of this thing is now grown to the point where the artist must take it up no longer as a protest: genius must progressively dominate the work of the contrivance it has created; to lend a useful hand in building afresh the "Fairness of the Earth."

That the machine has dealt art in the grand old sense a death-blow, none will deny. The evidence is too substantial. Art in the grand old sense—meaning art in the sense of structural tradition, whose craft is fashioned upon the handicraft ideal, ancient or modern; an art wherein this form and that form as structural parts were laboriously joined in such a way as beautifully to emphasize the manner of the joining: the million and one ways of beautifully satisfying bare structural necessities, which have come down to us chiefly through the books as "art."

For the purpose of suggesting hastily, and therefore crudely, wherein the machine has sapped the vitality of this art, let us assume architecture in the old sense as a fitting representative of traditional art, and printing as a fitting representation of the machine. What printing—the machine—has done for architecture—the fine art—will have been done in measure of time for all art immediately fashioned upon the early handicraft ideal.

With a masterful hand Victor Hugo, a lover and a great student of architecture, traces her fall in "Notre Dame." The prophecy of Frollo, that "The book will kill the edifice," I remember was to me as a boy one of the sad things of the world. After seeking the origin and tracing the growth of architecture in superb fashion, showing how in the middle ages all the intellectual forces of the people converged to one point—architecture—he shows how, in the life of that time, whoever was born poet became an architect. All other arts simply obeyed and placed themselves under the discipline of architecture. They were the workmen of the great work. The architect, the poet, the master, summed up in his person the sculpture which carved his façades, the painting which illuminated his walls and windows, the music which set his bells to pealing and breathed into his organs—there was nothing which was not forced in order to make something of itself in that time, to come and frame itself in the edifice.

Thus down to the time of Gutenberg architecture is the principal writing—the universal writing of humanity. In the fifteenth century everything changes. Human thought discovers a mode of perpetuating itself, not only more resisting than architecture, but still more simple and easy. Architecture is dethroned. The book is about to kill the edifice.

See how architecture now withers away, how little by little it becomes lifeless and bare. How one feels the water sinking, the sap departing, the thought of the times and people withdrawing from it. The chill is almost imperceptible in the fifteenth century the press is yet weak, and at most draws from architecture a superabundance of life, but with the beginning of the sixteenth century, the malady of architecture is visible. It becomes classic art in a miserable manner; from being indigenous, it becomes Greek and Roman; from being true and modern, it becomes pseudo-classic. It is this decadence which we call the Renaissance. It is the setting sun which we mistake for dawn. It has now no power to hold the other arts; so they emancipate themselves, break the yoke of the architect, and take themselves off, each in its own direction. Sculpture becomes statuary, the image trade becomes painting, the canon becomes music. Hence Raphael, Angelo, and those splendors of the dazzling sixteenth century.

Meanwhile, what becomes of printing? All the life, leaving architecture, comes to it. In proportion as architecture ebbs and flows, printing swells and grows. That capital of forces which human thought had been expending in building is hereafter to be expended in books; and architecture, as it was, is dead, irretrievably slain by the printed book. Thenceforth, if architecture rise again, reconstruct, as Hugo prophesies she may begin to do in the latter days of the nineteenth century, she will no longer be mistress, she will be one of the arts, never again *the* art.

So the organic process, of which the majestic decline of architecture is only one case in point, has steadily gone on down to the present time, and still goes on, weakening the hold of the artist upon the people, drawing off from his rank poets and scientists until architecture is but a little, poor knowledge of archeology, and the average of art is reduced to the gasping poverty of imitative realism; until the whole letter of tradition, the vast fabric of precedent, in the flesh, which has increasingly confused the art ideal while the machine has been growing to power, is a beautiful corpse from which the spirit has flown.

So the artist craft wanes. And, invincible, triumphant, the machine goes on, gathering force and knitting the material necessities of mankind ever closer into a universal automatic fabric, the works of art of the century!

The machine is intellect mastering the drudgery of earth that the

plastic art may live; that the margin of leisure and strength by which man's life upon the earth can be made beautiful, may immeasurably widen; its function ultimately to emancipate human expression! It is a universal educator, surely raising the level of human intelligence, so carrying within itself the power to destroy, by its own momentum, the greed which in Morris's time and still in our own time turns it to a deadly engine of enslavement. The only comfort left the poor artist, side-tracked as he is, seemingly is a mean one: the thought that the very selfishness which man's early art idealized, now reduced to its lowest terms, is swiftly and surely destroying itself through the medium of the machine.

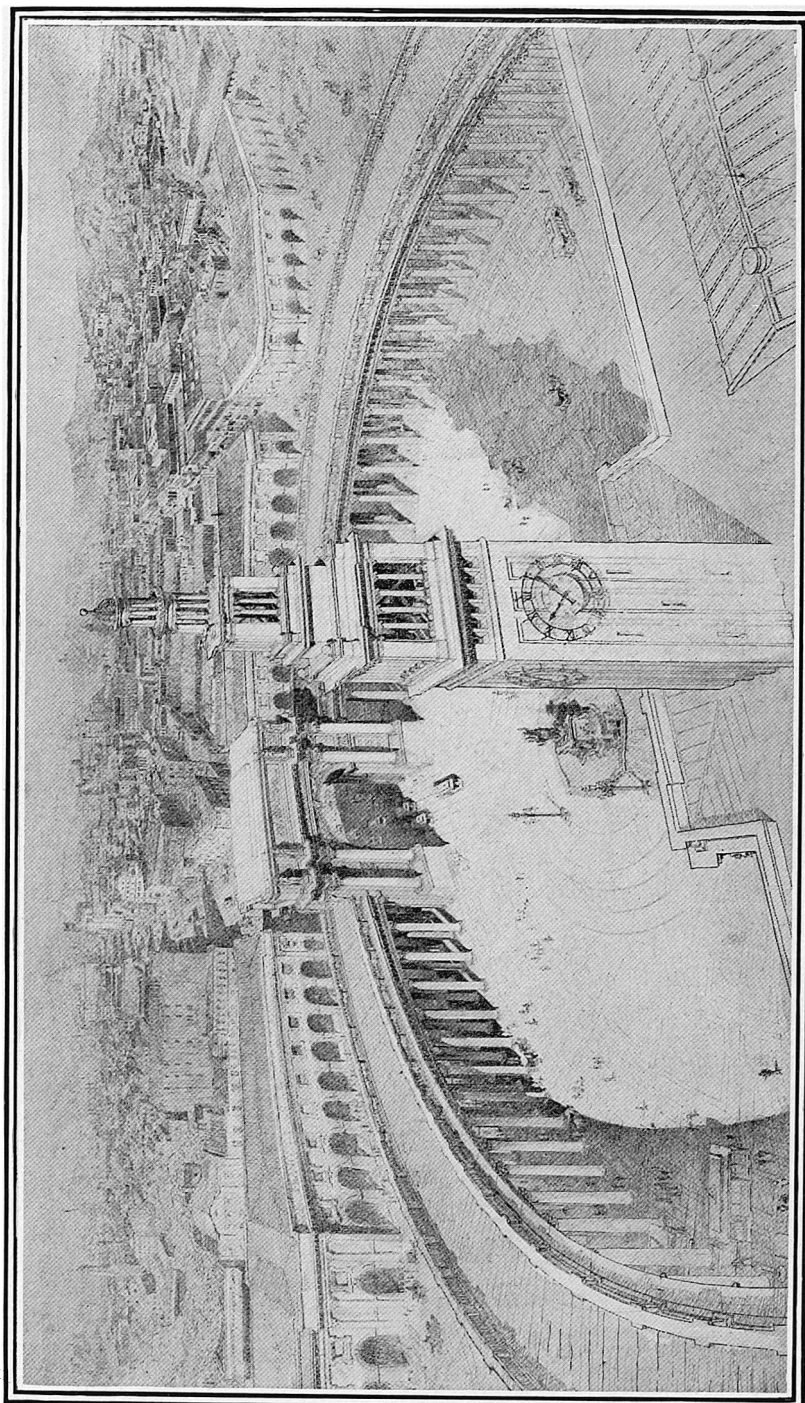
The artist's present plight is a sad one, but may he truthfully say that society is less well off because architecture, or even art, as it was, is dead, and printing, or the machine, lives? Is it not more likely that the medium of artistic expression itself has broadened and changed until a new definition and new direction must be given the art activity of the future, and that the machine has finally made for the artist, whether he will yet own it or not, a splendid distinction between the art of old and the art to come?

To shed some light upon this distinction, let us take an instance in the field naturally ripened first by the machine—the commercial field. The tall modern office building is the machine pure and simple. We may here sense an advanced stage of a condition surely entering all art for all time; its already triumphant glare in the deadly struggle taking place here between the machine and the art of structural tradition reveals "art" torn and hung upon the steel frame of commerce, a forlorn head upon a pike, a solemn warning to architects and artists the world over.

We must walk blindfolded not to see that all that this magnificent resource of machine and material has brought us so far is a complete degradation of every type and form sacred to the art of old; a pandemonium of tin masks, huddled deformities, and decayed methods; quarreling, lying, and cheating. None of the people who do these things, who pay for them or use them, know what they mean, feeling only—when they feel at all—that what is most truly like the past is the safest and therefore the best.

A pitiful insult, art and craft! With this mine of industrial wealth at our feet have we no power to use it except to the perversion of our natural resources? A confession of shame which the merciful ignorance of the yet material frame of things mistakes for glorious achievement.

We half believe in our artistic greatness ourselves when we toss up a pantheon to the god of money in a night or two, or pile up a mammoth aggregation of Roman monuments, sarcophagi, and Greek temples for a postoffice in a year or two—the patient retinue of the machine pitching in with terrible effectiveness to consummate this



PROPOSED PERISTYLE AND ARCH AT THE FOOT OF MARKET STREET, SAN FRANCISCO
 Willis Polk, Architect
 See article, "Work of the Younger Architects"



unhallowed ambition—this insult to ancient gods. The delicate impressionable facilities of terra-cotta become imitative blocks and voussoirs of tool-marked stone, are badgered into all manner of structural gymnastics, or else ignored in vain endeavor to be honest; and granite blocks, cut in the fashion of the followers of Phidias, are cunningly arranged about the steel beams and shafts, to look “real”—leaning heavily upon an inner skeleton of steel for support from floor to floor, which strains beneath the “reality.”

See now, how an element—the vanguard of the new art—has entered here. This element is the structural necessity reduced to a skeleton, complete in itself without the craftsman’s touch. At once the million and one little ways of satisfying this necessity beautifully, coming to us chiefly through the books as the traditional art of building, vanish away—become history. The artist is emancipated to work his will with a rational freedom unknown to the laborious art of structural tradition—no longer tied to the meager unit of brick arch and stone lintel, nor hampered by the grammatical phrase of their making. But he cannot use his freedom. His tradition cannot think. He will not think. His scientific brother has put it to him before he is ready.

The art of old idealized a structural necessity—now rendered obsolete and unnatural by the machine—and accomplished it through man’s joy in the labor of his hands. The new will weave for the necessity of mankind, which his machine will have mastered, a robe of the ideal no less truthful, but more poetical, with a rational freedom made possible by the machine, beside which the art of old will be as the sweet, plaintive wail of the pipe to the outpouring of full orchestra. It will clothe necessity with the living flesh of virile imagination.

This distinction is one to be felt now rather than clearly defined. The definition is the poetry of this machine age, and will be written large in time; but the more we, as artists, examine into this premonition, the more we will find the utter helplessness of old forms to satisfy new conditions, and the crying need of the machine for plastic treatment—a pliant, sympathetic treatment of its needs that the body of structural precedent cannot yield.

To gain further suggestive evidence of this, let us turn to the decorative arts—the immense middle-ground of all art now mortally sickened by the machine. Here we find the most deadly perversion of all. Without regard to first principles or common decency, the whole letter of tradition—that is, ways of doing things rendered wholly obsolete and unnatural by the machine—is recklessly fed into its rapacious maw until you may buy reproductions for ninety-nine cents of that which originally cost ages of toil and cultivation, reproductions worth intrinsically nothing—harmful parasites befogging the sensibilities of our natures, belittling and falsifying any true perception of normal beauty the Creator may have seen fit to implant in us.

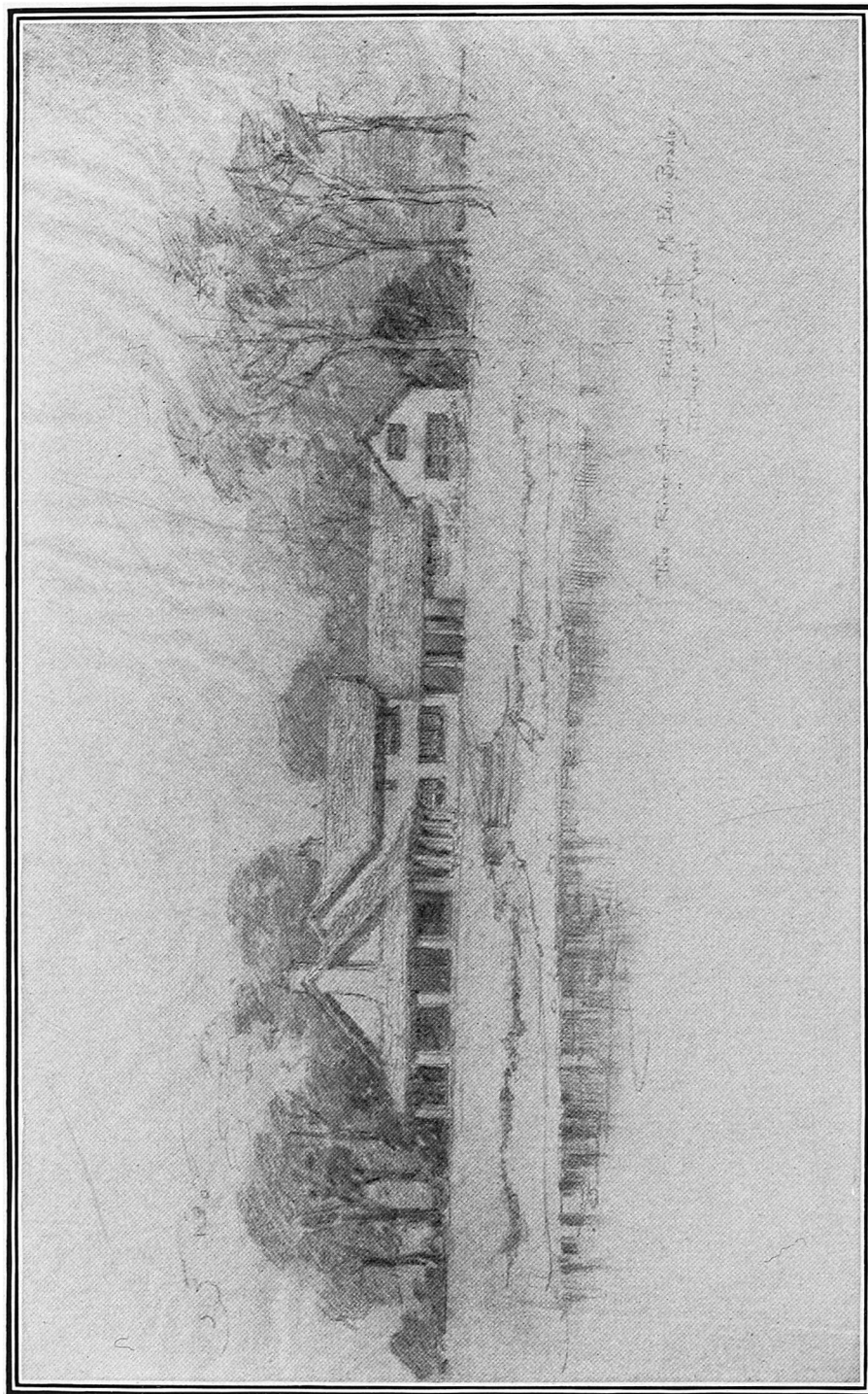
The idea of fitness to purpose, harmony between form and use with regard to any of these things, is possessed by very few, and utilized by them as a protest chiefly—a protest against the machine! But the machine is the creature and not the creator of iniquity; the machine has noble possibilities unwillingly forced to degradation in the name of the artistic; the machine, as far as its artistic capacity is concerned, is itself the crazed victim of the artist who works while he waits, and the artist who waits while he works.

They are artists clinging sadly to the old order, and would wheedle the giant frame of things back to its childhood or forward to its second childhood, while this machine age is suffering for the artist who accepts, works, and sings as he works, with the joy of the *here and now!* We want the man who eagerly seeks and finds, or blames himself if he fails to find, the beauty of this time. Artists who feel toward modernity and the machine now as William Morris and Ruskin were once justified in feeling, had better wait and work sociologically where great work may still be done by them. In the field of art activity they will do distinct harm. Already they have wrought much mischief.

If the artist will only open his eyes he will see that the machine he dreads has made it possible to wipe out the mass of meaningless torture to which mankind, in the name of the artistic, has been more or less subjected since time began; for that matter, has made possible a cleanly strength, an ideality and a poetic fire that the art of the world has not yet seen; for the minions of the machine now smooth away the necessity for petty structural deceptions, soothe this wearisome struggle to make things seem what they are not, and can never be; satisfy the simple term of the modern art equation as the ball of clay in the sculptor's hand yields to his desire—comforting forever this realistic, brain-sick masquerade we are wont to suppose art.

William Morris pleaded well for simplicity as the basis of all true art. Let us understand the significance to art of that word—simplicity—for it is vital to the art of the machine. We may find, in place of the genuine thing we have striven for, an affectation of the naïve, which we should detest, as we detest a full-grown woman with baby mannerisms. English art is saturated with it, from the brand-new imitation of the old house that grew and rambled from period to period to the rain-tub standing beneath the eaves. In fact, most simplicity following the doctrines of William Morris is a protest; as a protest, well enough; but the highest form of simplicity is not simple in the sense that the infant intelligence is simple.

Simplicity in art, rightly understood, is a synthetic, positive quality, in which we may see evidence of mind, breadth of scheme, wealth of detail, and withal the sense of completeness found in a tree or a flower. A work may have the delicacies of a rare orchid or the



THE RIVER FRONT OF HOUSE FOR MR. EDWARD BRADLEY
 Elmer Grey, Architect
 See article, "Work of the Younger Architects"



stanch fortitude of the oak, and still be simple. A thing to be simple needs only to be true to itself in organic sense.

With this ideal of simplicity, let us glance hastily at several examples of the machine and see how it has been forced by false ideals to do violence to this simplicity; how it has made possible the highest simplicity, rightly understood and so used. Machinery has been invented for no other purpose than to imitate, as closely as possible, the sentimental forms and the wood-carving of the early ideal—with the immediate result that no ninety-nine-cent piece of furniture is salable without some horrible botchwork meaning nothing unless it means that art and craft have combined to fix in the mind of the masses the old hand-carved product as the *ne plus ultra* of the ideal. Thus is the wood-working industry glutted, except in rarest instances. The whole sentiment of early craft degenerated to a sentimentality having no longer decent significance nor commercial integrity; in fact all that is fussy, maudlin, and animal, basing its existence chiefly on vanity and ignorance.

Now let us learn from the machine. It teaches us that the beauty of wood lies first in its qualities as wood. No treatment that does not bring out these qualities all the time can be plastic or appropriate or beautiful. The machine teaches us that certain simple forms and handling are suitable to bring out the beauty of wood and certain forms are not; that all wood-carving is apt to be a forcing of the material, an insult to its finer possibilities as a material having in itself intrinsically artistic properties, of which its beautiful marking is one, its texture another, its color a third.

The machine, by its wonderful cutting, shaping, smoothing, and repetitive capacity, has made it possible so to use it without waste that the poor as well as the rich may enjoy to-day beautiful surface treatments of clean, strong forms that the branch veneers of Sheraton and Chippendale only hinted at, with dire extravagance, and which the middle ages utterly ignored. The machine has emancipated these beauties of nature in wood; made it possible to wipe out the mass of meaningless torture to which wood has been subjected since the world began, for it has been universally abused and maltreated by all peoples but the Japanese. Rightly appreciated, is not this the very process of elimination for which Morris pleaded?

And how fares the troop of old materials galvanized into new life by the machine? Our modern materials are these old materials in more plastic guise, rendered so by the machine, itself creating the very quality needed in material to satisfy its own art equation.

Who can sound the possibilities of burned clay, which the modern machine has rendered as sensitive to the creative brain as a dry plate to the lens—a marvelous simplifier? And this plastic covering material, cement, another simplifier, enabling the artist to clothe the structural frame with a simple, modestly beautiful robe where before

he dragged in, as he does still drag in, five different kinds of material to compose one little cottage, pettily arranging it in an aggregation supposed to be picturesque—as a matter of fact, millinery, to be warped and beaten by sun, wind, and rain into a variegated heap of trash. Then there is the process of modern casting in metal—one of the perfected modern machines, capable of any form to which fluid will flow, to perpetuate the imagery of the most delicately poetic mind without let or hindrance—within reach of every one, therefore insulted and outraged by the bungler forcing it to a degraded seat at his degenerate festival.

Multitudes of processes are expectantly awaiting the sympathetic interpretation of the master mind; the galvano-plastic and its electrical brethren, a prolific horde, now cheap fakirs imitating real bronzes and all manner of the antique. Electro-glazing, a machine shunned because too cleanly and delicate for the clumsy hand of the traditional designer, who depends upon the mass and blur of leading to conceal his lack of touch. That delicate thing, the lithograph—the prince of a whole reproductive province of processes—see what this process becomes in the hands of a master like Whistler. He has sounded but one note in the gamut of its possibilities, but that product is intrinsically true to the process, and as delicate as the butterfly's wing.

So spins a rough, feeble thread of the evidence at large to the effect that the machine has weakened the artist; all but destroyed his hand-made art, if not its ideals, although he has made enough mischief meanwhile. These evident instances should serve to hint, at least to the thinking mind, that the machine is a marvelous simplifier; the emancipator of the creative mind, and in time the regenerator of the creative conscience.

Now, let us ask ourselves whether the fear of the higher artistic expression demanded by the machine, so thoroughly grounded in the arts and crafts, is founded upon a finely guarded reticence, a recognition of inherent weakness or plain ignorance? Let us, to be just, assume that it is equal parts of all three, and try to imagine an arts and crafts society that may educate itself to prepare to make some good impression upon the machine, the destroyer of their present ideals and tendencies, their salvation in disguise.

Such a society will, of course, be a society for mutual education. Exhibitions will not be a feature of its programme for years, for there will be nothing to exhibit except the shortcomings of the society, and they will hardly prove either instructive or amusing at this stage of proceedings. This society must, from the very nature of the proposition, be made up of the people who are in the work—that is, the manufacturers—coming into touch with such of those who assume the practice of the fine arts as profess a fair sense of the obligation to the public such assumption carries with it, and sociological workers whose interests are ever closely allied with art, as their prophets

Morris, Ruskin, and Tolstoy evince, and all those who have as personal graces and accomplishment perfected handicraft, whether fashion old or fashion new.

I suppose, first of all, the thing would resemble a debating society, or something even less dignified, until some one should suggest that it was time to quit talking and proceed to do something, which in this case would not mean giving an exhibition, but rather excursions to factories and a study of processes in place—that is, the machine in processes too numerous to mention, at the factories with the men who organize and direct them, but not in the spirit of the idea that these things are all gone wrong, looking for that in them which would most nearly approximate the handicraft ideal; not looking into them with even the thought of handicraft, and not particularly looking for craftsmen, but getting a scientific ground-plan of the process in mind, if possible, with a view to its natural bent and possibilities.

I will venture to say, from personal observation and some experience, that not one artist in one hundred has taken pains to thus educate himself. I will go further and say what I believe to be true, that not one educational institution in America has as yet attempted to forge the connecting link between science and art by training the artist to his actual tools, or, by a process of nature-study that develops in him the power of independent thought, fitting him to use them properly.

So let us call these preliminaries a process by which artists receive information nine-tenths of them lack concerning the tools they have to work with to-day—for tools to-day are processes and machines where they were once a hammer and a gouge. This proceeding doubtless would be of far more educational value to the artist than to the manufacturer, at least for some time to come, for there would be a difficult adjustment to make on the part of the artist and an attitude to change. So many artists are chiefly “attitude” that some would undoubtedly disappear with the attitude.

Granting that a determined, dauntless body of artist material could be brought together with sufficient persistent enthusiasm to grapple with the machine, would not some one be found who would provide the suitable experimental station (which is what the modern arts and crafts shop should be)—an experimental station that would represent in miniature the elements of this great pulsating web of the machine, where each pregnant process or significant tool in printing, lithography, galvano-electro processes, wood and steel working machinery, muffles and kilns would have its place, and where the best young scientific blood could mingle with the best and truest artistic inspiration, to sound the depths of these things, to accord them the patient, sympathetic treatment that is their due?

To me, the artist is he who can truthfully idealize the common sense of these tendencies in his chosen way. So I feel conception

and composition to be simply the essence of refinement in organization, the original impulse of which may be registered by the artistic nature as unconsciously as the magnetic needle vibrates to the magnetic law, but which is, in synthesis or analysis, organically consistent, given the power to see it or not. And I have come to believe that the world of art, which we are so fond of calling the world outside of science, is not so much outside as it is the very heart quality of this great material growth—as religion is its conscience.

Look out over the modern city at nightfall from the top of a great down-town office building, and you may see at a glance how organic the machine has become, how interwoven it is in the warp and woof of our civilization, its essential tool indeed, if not the very framework of civilization itself.

Thus is the machine, the forerunner of democracy, into which the forces of art are to breathe the thrill of ideality—a soul.

FRANK LLOYD WRIGHT.



THE CIGARETTE GIRL
By Anders Zorn