

## The Roots of Belief

The beliefs and opinions that come to dominate a person's adult life take root in his impressionable childhood years, those years when he is vulnerable to so many outside influences and his mind a blank slate--or in contemporary metaphor, an empty computer disk. Every experience is indelibly recorded and with difficulty later amended or rejected. To change one's fundamental beliefs, early-acquired would require deep-seated, agonizing psychological self-appraisal which only a traumatic event could call forth. Parental influence, where it receives non-coersive attention within an atmosphere of warm, loving family relationships involving mutual respect between adults and children and between siblings and does not depend simply upon arbitrary authority, becomes the foundation not merely of principled behavior but also of beliefs and convictions, material and ethical, in later life.

The influences that directed my mental and moral development were from a Darwinian father and a humanist mother. My father was a young man at the time of Darwin's revolutionary ideas on biological succession. With a group of contemporaries, young men and women of Chicago who were similarly influenced, he helped found the Agassiz Association, which met frequently to discuss and exchange ideas on current scientific theories in biology, geology and evolution. My father became a dedicated protagonist of the scientific interpretation of natural phenomena, with an unshakeable belief in

causality and a fierce rejection of purpose as a driving force in the universe. And perhaps because he was the only child of a widowed mother, the wife of an Episcopal minister who died when my father was five years old, and had been brought up under the strict guidance of the Episcopalian faith, he retained, if not the religion, certainly its moral precepts.

My maternal grandparents were Unitarians. Mother's mother, Lucy Wadsworth, whom I remember as a sweet and affectionate granny, died when I was still very young. My maternal grandfather, William Eliot Furness, for whom I was named, was a veteran of the Civil War, a major who commanded a Negro battalion that never saw action. My mother's older sister, Grace, died of tuberculosis in California, a younger sister, Margaret, survived her, and a younger brother, Jim, died of typhoid in Cuba in the Spanish American War. My mother attended Bryn Mawr College where she developed ~~and~~ literary tastes<sup>and</sup> made life-long friends, some of whom became associated with Jane Addams' Hull House in Chicago. I suspect that it was not only family tradition but these friendships that encouraged an emotional bias for a liberal feminist and ~~a racial~~ <sup>racial</sup> point of view. She supported women's rights, the suffragist movement, racial equality, and progressive political movements.

It was against this background that my beliefs in many spheres of concern took shape. As a young man under the influence of Darwin's writings, my father professed agnosticism;



in later years he disclaimed such qualified skepticism and pronounced his disbelief in a god or the need for a supernatural explanation of existence as inconsistent with a purposeless world. We children were never taken to church. The only contact we had with religious ceremonies was at Sunday dinner next door at Grandmother's, when she always said grace before the meal. <sup>¶</sup> Although he seldom talked about his anti-religious beliefs, it is not surprising that I absorbed my father's point of view. Years later, how unknowingly beliefs are passed on to one's children was dramatically demonstrated, quite out of the blue, by a son who asked me, "Daddy, do you believe in God?" I was taken aback and tried to evade the question by saying there were differences of opinion on the question, but I was interrupted by his saying, "I know you don't believe in God, Daddy." <sup>¶</sup> My father's other influences were much more positive. He took us children camping and on Sunday walks and talked to us at length about geology, paleontology, and astronomy and about marine biology during our summers in Maine. My father, at heart a naturalist, instilled ~~into~~ his children, perhaps most profoundly in me, a fascination with the natural world.

My father's standards of moral conduct were equally positive. ~~Lying and cheating are inexcusable, only harmless~~ <sup>Truth, honesty and fulfillment of all promises were his</sup> ~~untruths to avoid hurt feelings are tolerable.~~ <sup>guiding principles.</sup> He didn't lecture us on these ethical matters; it was by example that we learned to honor and live by <sup>them</sup> ~~his principles~~ of behavior.

It was through my mother's influence that I learned racial and religious tolerance or, more correctly, was not exposed to social prejudices. Not until I was sixteen and went away to boarding school did I learn about ethnic distinctions and how they subverted personal and social judgments. I did not know the distinction between Jews and non-Jews because it was a difference to which I had not been exposed. The term Christian being uncommon in my family, I did not place myself in any particular <sup>religious</sup> category of belief. In the suburban community in which I grew up and went to school lived very few Negroes who were, by tradition and <sup>by</sup> my grandfather's Civil War experience, the freed people.

We were also exposed to differences of political opinion. My father was Republican throughout his life, whereas Mother, when women attained the franchise, voted Democratic or for third party candidates, which encouraged in her children a tolerance for not always acceptable political views. An example of political intolerance that had a lasting effect on me occurred during my first year in boarding school. World War I was drawing to a close and the Russian Revolution had deposed the Czar. A young teacher of history and government described to his class the workings of the Kerenski government. Word got around that he was subverting his students by promoting Bolshevism and he was summarily dismissed. The chairman of the board of the school, an old man in his dotage, was called upon to address the assembled school to explain what had



happened to the popular teacher. He was fired, he told us, because our minds were being poisoned by this dragon of Bolshevism.

And so I grew up in the liberal tradition, now considered politically obsolete, which, in the absence of convincing arguments to the contrary, I still subscribe to. That a government, any government, but particularly a democratic government dependent on popular sanction for its existence, should be responsible for the general welfare of the governed is a foregone conclusion that seems not to be universally accepted today. Social and economic welfare is currently sacrificed for military security to assure the survival of the society it has diminished for its own protection. Excessive militarism defeats its intended purpose in a constitutional democracy when the rights and liberties and economic welfare of the people are made secondary to their defense for which they are being defended.

My father's influence on my developing attraction to science and nature was supplemented by Mr. Boyle, my high school chemistry teacher. Chemistry became an overriding interest which lasted through my formal university and medical school education and with diminishing intensity for ten years thereafter until photography ultimately supplanted it. The influences of teachers, associates and mentors that guided the course of my professional career during these beginning years pushed me in a direction that I slowly began to recognize could

not lead to the fulfillment of my hopes and aspirations. I was not the dedicated scientist I had so romantically envisioned in my high school chemistry class. I had entrapped myself, been encouraged to do so by family and social pressure, in the belief that I could contribute by research to the elucidation of the way things work and how they happen. Discoveries were elusive, although simultaneously I enjoyed recording the outward appearance of things by photography. I suppose I might have used some other medium had circumstances been different, but photography was a means that anyone conversant with elementary chemistry could learn by himself.

In the beginning, however, it was not photography that held my youthful attention. It was nature and a fascination with birds. In the springtime when not incarcerated in school and during summer vacations, I spent many hours hunting for birds' nests, learned their identities and characteristics and, by subconscious processes of observation, something of the habits and behavior of their creators. I collected birds' eggs, but I did not rob the nests, a morally unacceptable act; I waited until the young had fledged, when occasionally there would be an infertile egg left behind in the nest. Because  
 My father was an enthusiastic amateur photographer who took landscapes with a postcard-size Kodak on all his camping trips, <sup>he gave me</sup> ~~I was given~~ a box Brownie when I was still quite young. With this instrument I tried unsuccessfully to photograph the nests I found. A year or two later in Maine during an expedition to a heron rookery on a neighboring island, I photographed with



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the Brownie a terrified juvenile great blue heron standing in a raspberry thicket that we had frightened from its nest by our intrusion, <sup>and he was</sup> The picture turned out to be one of those flukes of photography, much better than anything I had made before, which so impressed my father that he had an enlargement of it made. On my next birthday I was given an Eastman folding Kodak with a top shutter speed of one <sup>Two-</sup> ~~three~~-hundredth of a second. With this camera I started photographing the larger common birds of the Maine coast: gulls, terns and fish-hawks.

Gradually, photographing birds became a major summer avocation. Eventually I acquired a Graphlex camera with a focal plane shutter speed of 1/1000 sec., <sup>fast</sup> ~~short~~ enough to stop the motion of large birds in flight. As the years went by my interest shifted to the small passerine birds that <sup>occured</sup> ~~were native~~ in large numbers <sup>on</sup> ~~to~~ my Maine island in the breeding season. I became enchanted by the colorful wood warblers, ~~of which~~ <sup>of which</sup> ten to twelve species nested there. In the shady conditions prevalent in their woodland habitats, however, it was almost impossible to photograph in ways that met the standards of overall clarity and definition of the image that I had learned to require in other fields of photography. Most of the photographs of birds published in ornithological journals and popular magazines were, by even the most generous aesthetic standards, completely unacceptable. The presentation of an image of a bird only half in focus, unidentifiable, but never before photographed, in an environment not meaningful to the picture

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as a whole, was satisfactory to most critics (who had a low opinion of photography, in any case, compared to paintings of birds which were often made from collected specimens arranged by the artist and painted at leisure). To remedy this situation and make photos of birds comparable aesthetically to painting would require either much faster film or the use of high intensity artificial light. <sup>giving</sup> About this time flashbulbs were invented which, when used in multiple, close to a subject, permitted exposures at small apertures ~~with~~ an increase in definition and depth of focus. Most of the photographs I took using this technique were of nesting birds and were a great improvement, but a lot of planning for each subject was always necessary. One had to consider the position of the bird in relation to its nest and the adjacent foliage, and since the behavior of the subject was not easily predictable, many opportunities to make photographs had to be passed up. The guiding principle applicable to all subjects was the quality of the total picture, in which everything within the frame of the camera had to be important to its aesthetic content; ideally, nothing should be extraneous.

The chief disadvantage of the flashbulb technique was that the shutter speed of the camera determined the shortest exposure time available--usually about 1/200th of a second--which was not fast enough to stop wing motion. <sup>(The Graflex focal plane shutter is not adaptable to</sup> The result was, of course, that many pictures were spoiled by <sup>motion</sup> the subject <sup>moving</sup> <sup>(flash)</sup> during the exposure. <sup>^</sup> About this time I saw some stopped-motion



photographs of a hummingbird in flight by Harold Edgerton. His technique depended on high-voltage discharge of electricity through specially designed tubes producing a flash of light. The flash duration, which could be made as short as desired by proper design, determined the exposure and could easily be synchronized with a between-lens shutter. I wrote to Edgerton asking for information about the apparatus, and he very generously sent me plans for its construction, which I immediately set about to do. The device worked well but was unsatisfactory because the light output was too low to use with the small apertures I needed for maximum depth of field. <sup>Q</sup>The next step was to obtain more suitable equipment. I consulted Strobe Research, a commercial laboratory, and it built a special flash unit to meet my requirements. It gave a high light output at 1/5000 sec. distributed between three lamps which could be arranged to give natural illumination and, when placed three feet from the subject, permitted exposures at f/45. With this equipment and a 4 x 5 view camera, I was able to obtain bird photographs that met the standards ~~applicable to~~ <sup>accepted for</sup> other fields of photography.

When I tried to interest a publisher in a book of these bird photographs, I was told they could not be published because birds could not be identified in black and white; that they should be done in color. This is what started me photographing with the recently introduced Kodachrome film.

Since I usually had color film with my camera, I began using it to photograph other things besides birds, mostly

close-ups of natural subjects, some of which I had photographed before in black and white. Color film gradually stimulated a new kind of vision. Things that I had passed by as dull subjects in black and white, in color were transformed into brilliant and vibrant objects. Decaying wood, dead leaves, tree bark, lichens became things of beauty to which previously I had been blind. As I recorded these fresh experiences, I began to realize that I was seeing the world in a new light. Previous black and white subjects were much more general, much more conventional; they were wider views, architecture and landscapes. ~~but~~ With color I zeroed in on the closer horizons. The big views did not attract me as they had in black and white, which I think is because they become superficial and cheapened in color. Blue skies I found particularly objectionable; clouds, as they always do, help, whereas a general overcast often improved the situation. <sup>Atmospheric</sup> conditions strikingly influence the photographic possibilities of closer subjects. In subdued light colors become more harmonious, an effect which is lost in bright sunlight due to excessive contrast, even though the colors may actually be brighter. Woodland scenes are almost impossible to photograph in color on sunny days because the spots of sunlight that speckle the ground are so intense that they become disturbing elements in the subject. There are, however, no invariable rules for optimal conditions for photography, or, as a matter of fact, for composition either. <sup>Popular</sup> subjects for the amateur and the beginning photographer are flowers, whose



attraction is based on long established romantic appeal,  
~~great~~<sup>great</sup> ~~awesome~~ beauty, and the mystery of their very ~~existence~~<sup>origin</sup>.

To express these emotions, the photographer will usually focus on the blossom, isolating it from all connection with its environment to produce a botanical illustration or flower catalogue picture with ~~an~~<sup>out of focus</sup> ~~nebulous~~ background. This style of flower photography seldom contributes to the art of photography. What is missing is context; flowers do not exist in isolation except in horticulture. In the wild, every part of the habitat is integral to the whole and necessary to a resolution of the appeal, emotional and intellectual, that drew the attention of the photographer in the first place.

And so I began to accumulate pictures on a variety of subjects other than birds, although birds remained my major interest. In vain I tried to interest publishers in a book on birds, which was always rejected on grounds of cost. Color reproduction in the forties was ~~unheard of~~<sup>unusual</sup> for book publication; its use being confined to magazines and advertising. My wife told me that my nature photographs reminded her of Thoreau and that I might have more success with a book illustrating his writing ~~with my photographs~~<sup>give up</sup> and to ~~set aside~~ the bird idea for the time being, especially as ~~illustrations~~<sup>paintings</sup> of birds by ~~painters~~ were generally considered superior to photographs.

① I started reading Walden, which at first I found dull, went on to ~~his~~<sup>Thoreau's</sup> other books and ultimately to his journals, becoming more and more enchanted with what I found. Thoreau described the things that attracted me as ~~a~~<sup>a</sup> photographic ~~subjects~~<sup>ev</sup>; they were the small growing things of the woods and fields, the

intimate relationships, not the big views, and they had to be photographed in color to ~~illustrate~~ and compliment Thoreau's words.

For several years I worked on this book correlating photographs with passages from Thoreau. I ~~took~~<sup>showed</sup> the proposal to many publishing houses in Boston and New York. All turned it down on the ground that there ~~would be~~<sup>was</sup> no interest in Thoreau, that the ~~book~~<sup>project</sup> would sell only on Concord, Massachusetts. Eventually it was published by the Sierra Club under the title "In Wildness is the Preservation of the World", a quotation from Thoreau's essay on walking.

Up to this time I had not given much thought to environmental issues or the conservation of nature, but on becoming associated with the Sierra Club these matters were constantly brought to my attention, and I became what the developers and exploiters of wild areas disparagingly call an environmental extremist. My ~~Photographs~~<sup>however</sup> of nature ~~were said to~~<sup>can</sup> carry a conservation message and ~~could~~ be used to support environmental causes. But I never photographed with that purpose in mind because my ~~main~~<sup>first</sup> concern was with ~~photography~~<sup>good</sup>, with the aesthetics of the medium. ~~Photographs~~<sup>do</sup> ~~can~~<sup>They</sup> ~~however~~, serve a ~~positive~~ ~~purpose~~ conservation positively by showing the attractive features of nature, and negatively the ugliness of destruction.

When I became seriously involved in photography back in the thirties under the influence of Ansel Adams and Stieglitz, the f/64 school dominated the field. The accepted technique was straight photography, sharp focus and no manipulation of the image. This was a healthy reaction to the previous period of



soft focus sentimentality, of photography's self-justification by imitating painting. Tinted prints and combined negatives were scorned by the pure photographers. To <sup>reliance</sup> rely on these procedures manifests a failure to exploit the unique potentials of the photographic process that sets it apart from all other media. In recent years a turn away from straight photography, back again to the manipulation <sup>ed</sup> of the image has become popular, but this time by the application of numerous sophisticated techniques. Anything now goes. And simultaneous with the rise <sup>with images</sup> of experimentalism, a turning away from a direct approach to natural subjects is evident. Nature is considered passé and trite; subjects <sup>are arranged,</sup> ~~rather is~~ becoming contrived and surreal. I do not ~~effx~~ <sup>they are</sup> reject off-hand these trends, When sensitively applied and they do contribute to photographic art. But it is a pity that representationalism should be disparaged at a time when the non-material values of the natural world are being sacrificed for profit. Beauty in the natural world is generally recognized, but wildness is feared with a willingness to degrade beauty for more substantial and extractable properties. Perhaps this is the result of the suburbanization of society.

Another controversy between photographers developed with invention Many of the ~~advant~~ of color film. /The leaders in the school of straight photography rejected color film for being too literal, too limiting, permitting little freedom <sup>for</sup> of interpretation, and consequently was a less creative process than black and white. Not being one of the original f/64 group, less bound by its premises, and because I adopted color film as the only means by which to accomplish my purpose in nature photography, I strongly disagree

with this criticism. The critics failed to apply to color the principles they had so successfully promoted for black and white photography. They did not appreciate the added dimension color gives to certain subjects; that its use does not simply amount to copying nature; that interpretation is possible through selective emphasis just as with shades of gray. They did not make prints so they never understood that more controls in the printing process were available than in black and white for obtaining ~~the~~ a desired result. In spite of this disparagement by those whose work I admired and had profoundly influenced me, I persisted with color photography but never gave up black and white entirely. They are distinct media; each has its particular area for creative expression which cannot be successfully invaded by the other. This distinction is ~~becoming~~ fortunately becoming increasingly recognized so that finally color photography ~~is~~ has acquired an established place in photographic art.

Just as one's beliefs in the social, economic and political fields develop, and ~~with good influence~~ mature, during the course of a long life, so too for those whose lives have been devoted to pursuits in the arts and sciences a reevaluation, rejection of old and adoption of new ideas, is inevitable. For me these changes have lead to a somewhat different point of view on the aesthetic acceptability of various styles of photography; some that I once felt critical of I now feel more tolerant towards and other that had positively influenced my photographic style, I now find ~~uninspiring~~. Uninspiring.