Health and Happiness

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Donald Kuspit • Lynn Gamwell

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Happiness, Health, and Related Anomalies of Avant-Garde Art

DONALD KUSPIT

It seems certain that we do not feel comfortable in our present-day civilization, but it is very difficult to form an opinion whether and in what degree men of an earlier age felt happier and what part their cultural conditions played in the matter.

SIGMUND FREUD, CIVILIZATION AND ITS DISCONTENTS, 1929

Soyez amoureuses, vous serez heureuses (Be in love and you will be happy)

TITLE OF A WOODCUT BY PAUL GAUGUIN, 1888-99

José Ortega y Gasset and Hans Sedlmayr, two well-known conservative critics of modern art, agree: modern art, more particularly avant-garde art, involves, in Sedlmayr’s words, a “dehumanizing process”—a phrase that echoes in the title of Ortega’s classic study, The Dehumanization of Art. This process “was directed consciously or unconsciously, not against the humanist ideal of man in the narrower sense of the term, but against man himself.” It involves the “degradation of man,” and with that a turn toward the “nether abyss” of the unconscious. “Modern psychology of the unconscious,” writes Nicholas Berdyaev, quoted with approval by Sedlmayr, “has discovered a dark cellar-hole in man and professes to have laid bare the essentially base character of even the noblest kind of suffering. In doing so, it has debased man and trodden him into the mire.” Thus, writes Sedlmayr, from the point of view of “modern depth psychologies . . . an aberration in upward direction cannot be distinguished from a downward aberration.” The “obliteration” or “abolition” of this “fundamental distinction tends . . . to make for chaos.”
Similarly, Ortega argues that avant-garde art is “inhuman not only because it contains no things human, but also because it is an explicit act of dehumanization.”\(^{17}\) The avant-garde artist “is brazenly set on deforming reality, shattering its human aspect.”\(^{18}\) For both Ortega and Sedlmayr, in dehumanizing man, art dehumanizes itself. It takes as little satisfaction in itself as it takes in “man and measure,” which, according to Sedlmayr, makes it eccentric.\(^{7}\) Just as, for Sedlmayr, avant-garde art “struggles to escape from itself,” so, for Ortega the “new art ridicules itself,” “makes fun of itself,” is essentially a “farce.”\(^{18}\) For Sedlmayr, there is nothing redeeming in art’s self-deprecation and loss of “transcendent importance,” but for Ortega it can be interpreted positively “as an attempt to instill youthfulness into an ancient world.”\(^{19}\) to save man “from the seriousness of life and restore him to an unexpected boyishness.”\(^{10}\) Indeed, Ortega suggests that only the young can be avant-garde;\(^{11}\) as one grows older one becomes as fossilized as the world one initially rebelled against with one’s spontaneity.\(^{12}\)

Renato Poggioli also emphasizes the “avant-garde cult of youth,”\(^{13}\) but for him its spontaneity—if it is that—has a sinister cast. It begins with “provocation and scandal,”\(^{14}\) and ends in a “totally nihilistic attitude”\(^{15}\) and “spiritual defeatism.”\(^{16}\) “The taste for destruction seems innate in the soul of a child”\(^{17}\) and produces a “denigrating image,” one that “has the intent or effect of calumniating the object to which it is applied.”\(^{18}\) For Ortega, Poggioli, and Sedlmayr, avant-garde art makes a new start—“it wants to create from nought,” as Ortega says—on the basis of a destructive contempt for art as well as humanity. Unwilling and unable to address “human pathos,”\(^{19}\) it is “doomed to irony,”\(^{20}\) which makes it a “suicidal gesture.”\(^{21}\) Its “self-negation” may seem “whimsical,”\(^{22}\) but in the end is a “monotony,”\(^{23}\) just as its inhumanity reduces it to a “minor issue.”\(^{24}\) Having little to say to help a troubled humanity, its importance finally seems less pressing than it once did. It reduces to a novelty beside the point of life.

That point seems to be the pursuit of happiness. Avant-garde art seems far from happy, and has even been understood to be unhappiness to the extent of being mad. Freud thought as much,\(^{25}\) and while D.W. Winnicott was able to see the humor in its madness—we are “able, so to speak, to flirt with the psychosis” through it, he wrote, that is, to “experience the undoing of the processes that constitute sanity and psycho-neurotic defence organizations, and the safety-first principle.”\(^{26}\) But Louis Sass finds nothing funny in its “schizophrenia,” which for him suggests a certain loss of appetite for life and hyperconsciousness.\(^{27}\) Moreover, if avant-garde art is an affair of the young, and thus insecure in its identity and socially inexperienced, if aggressively clever and stubbornly self-righteous—all the more so if, as Ortega implies, it is an attempt to prolong youth, and thus expresses a certain reluctance to grow up and become a particular person, as well as to come to terms with human pathos (including the pathos of the artist’s own life)—it can hardly be concerned with happiness. (Nor, for that matter, wisdom.) For, as Winnicott says, happiness is a mature achievement, inseparable from independence and a sense of separate identity, however much “the individual seen as an autonomous unit is in fact never independent of environment.”\(^{28}\)

Is avant-garde self-negation and negation of the human, a pseudo-independence—an autonomy and identity achieved through the backdoor of irony? It does not afford a very stable autonomy and identity, as Poggioli points out, which is why it quickly self-destructs, ostensibly in
2 Albert Reiger-Patzsch, *Foxglove (Fingerhut)*, 1924, gelatin-silver print, $9\frac{1}{2} \times 6\frac{1}{16}$ in. (23 x 17 cm). J. Paul Getty Museum, Malibu, California (81.XM.207.28).
the name of some indeterminate, magical future. It is also why its statement of principle—the manifesto through which it invents its existence—is largely devoted to denying the credibility of all past art, especially the avant-garde art that preceded it. New avant-garde art sustains itself by destroying old avant-garde art, but every avant-garde art eventually self-destructs. Avant-garde art is hard to sustain, which is why many avant-garde artists abandon it or else stereotype—mass reproduce or compulsively repeat—their youthful avant-garde work. Avant-garde art is inherently short-lived by reason of its determination to stay young, that is, its refusal to grow old and mature (not that growing old automatically means maturing). It ultimately lacks conviction in itself, and in art as such. Winnicott has said that emotionally “healthy persons depend for their health and for their personal fulfillment on loyalty to a delimited area of society,” but the avant-garde artist has no sustained loyalty to the delimited area of society called art, which is why he is subtly unhealthy. Thus, the avant-garde artist is not in any position to build up the “richness of happiness,” as Winnicott calls it, for he lacks the emotional health in which happiness can ferment.

But his unhealth is more complicated, if also related to his profession(ization) of youth—his futile wish to remain eternally young, a petrified youth like the portrait of Dorian Gray. Winnicott writes: “At adolescence there is contained murder: . . . In the unconscious fantasy, growing up is inherently an aggressive act. And the child is now no longer child-size.” If avant-garde art represents the “victory of the values of youth over the values of age,” as Ortega argues, and if foremost among the former is the “negative mood of mocking aggressiveness,” as he asserts, then avant-garde art signifies the victory of adolescence over maturity, of the oversized child-artist over the fully grown—truly human and truly creative—man. It is the victory of death and murder over life and love (creative caring for life in general and someone else’s life in particular). This is the reason avant-garde art is dehumanizing and derogatory. Does the avant-garde artist “belittle and disparage . . . reality” because he is afraid to face it? Is avant-garde art incapable of “ennobling and enhancing” man, as traditional art did, because it does not know what it is to be a grown man? Is avant-garde art a “downward aberration,” to recall Sedlmayr’s expression, because it is made by and for the immature and insecure, those who are far from self-identified and autonomous?

This gives avant-garde art a certain freedom—license?—to be innovative, to search out new aesthetic possibilities, but, humanly speaking, it pays a high price for its “experiments,” as they have been called. Indeed, innovation seems to defend against facing and addressing the “profoundest problems of humanity,” the most important of which is happiness, and the health that makes it possible. “Aberration in an upward direction”—the direction of health, happiness, maturity, independence, which look utopian from the perspective of the unconscious, that downward aberration, as well as from the perspective of what Freud called everyday unhappiness, the conventional product of intrapsychic compromise (as well as of the habitual postponement of pleasure)—is rare in avant-garde art because it is made by and for the young in spirit, who are hardly as healthy and happy as they usually appear, physically, to be. Indeed, avant-garde art enacts their unhappiness and unhealthyness—projects their fear of annihilation in the form of a murderous death wish, as Winnicott argues. The disturbance of form—deformation—that results sometimes seems like the sum and substance of avant-garde innovation. Surely, avant-garde art
7 Erich Heckel, Conversation of a Woman, 1912-13, oil on canvas, 32 ⅝ x 28 in. (81.3 x 70.8 cm) each panel. Busch Reisinger Museum, Harvard University Art Museums, Edmée Busch Greenough Fund (BR50.415c).
is less original than it seems. It does not so much originate new forms as destroy old forms, which is an ironical way of achieving originality. As Picasso said, his art was a sum of destructions masquerading as a novel construction: a disruptive, virtual disintegration of hard-won, established, civilizing forms—they had their place within the ongoing process of socialization (sometimes consoling the individual who must undergo it, sometimes catalyzing it)—justifying itself in the name of the so-called autonomy of art, that is, the rationalization that art is mysteriously superior to and separate from life.  

Thus avant-garde creativity is not what it seems to be, because it is not a mature, healthy, loving, wise creativity. In contrast to the positive, civilizing creativity of tradition, it is a split-off, negative, antisocial creativity. It is a "downward aberration," but this does not make it degenerate, as Hitler thought. Aggressively mocking and degrading humanity, it bespeaks the peculiar degradation, humiliation, precariousness, and anxiety of youth. It is unexpectedly humbled by the power and pressure of the death instinct, apocalyptically invisible alongside the instinct of life and growth, and insidiously intertwined with it. To suffer the death instinct in youth is not to literalize it the way the Nazis did. Avant-garde art is profoundly informed by the death instinct, which makes it desperate, but it does not let death loose in the adult world to the same extent and in the same unmodified way the Nazis did. The avant-garde tendency to death remains balanced by a tendency to innovative growth and life-giving form. So long as the latter is married to the former, however tensely, there is something that can be called art, however unstable it may seem. Avant-garde art is ironically self-limiting, and ultimately implodes—becomes unbalanced toward the side of death. But this confirms that it is not the same uninhibited triumph of death and inhumanity that Hitlerism was. Committing suicide, it does not murder the world.

For all this, healthy, mature, and, above all, happy avant-garde art—art that is innovative to the extent of seeming revolutionary but not dehumanizing and death-infected, mocking and gratuitously aggressive, disintegrative and routinely ironical—is rare, but it is not absolutely precluded. It is, if one wishes, a negation of the negation that avant-garde art usually is—a subversive transformation of avant-garde art that forces us to rethink its supposedly subversive character. But this negation of avant-garde negativity—this peculiar self-transcendence of avant-garde art—does not automatically grow out of it. To conceive of healthy and happy avant-garde art as the result of a programmed developmental shift from a paranoid-schizoid to a depressive position—from the destructive to the reparative—is to overlook the fact that the shift is far from universal; maturation is not inevitable. If avant-garde art ends in self-negation, then the avant-garde art that becomes self-affirmative, and thus positioned to radiate health and happiness, is not simply the exception to the rule, but implies some special instinct for survival and some special relationship to reality.

As such, it is an avant-garde paradox, and suggests the remarkable if unexpected and isolated—and sometimes transient—independence and maturity of some avant-garde artists. There are no doubt a variety of personal reasons for their achievement, but socially I think it has to do with their conscious consolidation of their experiments into a tradition. This involves realizing that mature dependence—to use Ronald Fairbairn's term—on tradition is the only way of developing one's youthful avant-garde innovations, which means determining whether
they really are as original, creative, and critical—genuinely radical—as they initially seemed to be. It means becoming conscious of what was largely unconscious in origin, and clarifying, refining, testing, and strengthening avant-garde art's position so that it is able to hold its own in the larger world and history of art. It means making avant-garde art into a facilitating environment, which is to give its innovations positive emotional purpose, use, and value in the lifeworld. It means reversing oneself and asserting loyalty to the limited area of society called art. It means linking up with the tradition one repudiated to become avant-garde. It means being willing to submit one's work for comparison with works that are traditionally regarded as historically significant and masterful. In short, it means taking another kind of risk—a mature rather than youthful risk, and as such a more dangerous risk. It is only when the avant-garde artist is willing to accept the complex terms of this risk that, paradoxically, he can move beyond the simplminded negativity of his initial avant-gardism—for me, Marcel Duchamp's readymades exemplify it (they are pseudoartistic molehills that have been made into intellectual mountains)—to achieve artistic health and independence, and, above all, artistic happiness.

Most crucially, in identifying with tradition, the artist identifies with and joins humanity. He is no longer the mocking, murderous adolescent standing outside it, but wants what it wants: happiness. This humanizes his art: it can embody, in Erich Fromm's words, the "demand for the happiness which all human beings deserve." At its best, art accomplishes this in full awareness of the world's unhappiness, that is, of the fact that, as Max Horkheimer says, "the greater part of humanity...learn(s) to control its demand for happiness, to crush the desire to live just as pleasantly as the minority does." As such, it is a sophisticated act of defiance rather than a utopian fantasy, a reminder that, in Horkheimer's words, "free pleasure, which is non-rationalized, can be aspired to without any need for justification." Thus, his art aberrates in the upward direction, away from the unconscious, which is hardly the space of happiness, and toward the social, which is also not a space of happiness. Both must be reminded, if only by art, of what is innate to humanity, a psychic birthright.
By recognizing the basic, existential right to happiness, and trying to realize it within the concreteness of art, the artist makes it clear that happiness is beside the point of society and civilization. Happiness transcends their dialectic: society's censorship—negation and control—of the self, forcing it into procrustean predictability and place, and the sublimations of civilization that compensate for its submission, reward it for its conformity. After being brought low, the self is allowed the illusion that it can be high. But a happy life is beyond all that, even if it can still be understood, from the outside, as part of it. Part of the radicality of happiness is that it involves the realization that neither society nor civilization can make one happy: one must make oneself happy, whatever society and civilization one lives in—whatever strategies one must use to outwit them. To seriously pursue happiness is a kind of awakening and the ultimate nonconformity—a real nonconformity compared to that of the avant-garde ironist and negator, who secretly yearns for social recognition and acceptance as well as his own version of civilization, which is less contradictory of existing civilization than it seems to be.

Happiness involves the individual's realization that nobody and no ideology or theory can justify his existence, and his subsequent attempt to justify his existence to himself and no one else: his finding, in the revelation that he has the right to pursue happiness, his right to exist, thus overcoming the feeling that his existence is insane or unjustifiable, which derives from his feeling that the world is indifferent to it. Society induces these feelings by subsuming the individual, who may become civilized and sublime—seemingly transcendent—in dialectical response, but this does not eliminate them. Most people learn to live with such feelings, even though they slowly but surely sap the will to live. They remain alive and well, however hidden, in the unconscious, where they do their dirty work of undermining the self. Happiness is the only thing that can kill them off—even their ghosts—once and for all. Happiness may be a narcissistic issue, but it is not naïvely narcissistic.

Happiness has usually been located at the end, in the happy ending. It does not exist—it is presumably inconceivable—at the beginning and middle of life, which suggests just how utopian and unrealistic a fantasy it is. When it is recognized as occurring in the course of life rather than at its conclusion—after it is spent, as it were (the form of its exhaustion?)—the lucky possessor of happiness is said to be happy-go-lucky. Either happiness is an entropic innocence—the last joke life plays on one—or a socially irresponsible attitude of "Eat, drink and be merry, for tomorrow [before] we die." Either it is the dumb, hollow reward for a life of deprivation, or it follows from the lifting of self- and social censorship, the casting of all caution to the winds in recognition of the inevitability of death. The intermediate position seems to be the happiness that love brings, which Freud describes as "the primal condition in which object-libido and ego-libido cannot be distinguished," an equally ironical—because regressive—and absurd—because shortlived—and thus equally dubious kind of happiness. All three kinds of happiness—that which is supposed to come at the end of life, as though a noblesse oblige gift of death; that which defies death, while one still has the vigor and libido to do so; and that which is an ironical capitulation to death, a kind of death of the self in the name of the other, however much, initially, it seems to ennoble and enhance the self—seem to be ways of blindsiding the realities of life.
Emil Nolde, *Kerzenträgerinnen (Candle Dancers)*, 1912, oil on canvas, 39 ⅜ x 33 ⅛ in. (100.5 x 86.5 cm). Nolde-Stiftung Seebüll, Germany (Urban 512).
13 Francesco Clemente, Night Rags, 1992, watercolor, 11 7/8 x 13 7/8 in. (29.8 x 33.9 cm). Peter M. Brant, Greenwich, Connecticut.
Happiness also has been understood as a special, uniquely integrated, jubilant, emancipated state of being, conceived of as "flow" by Mihaly Csikszentmihalyi, and, with quite different connotations, as "buoyancy" by Jean-Michel Quinodoz. It is a peculiarly dynamic kind of equilibrium, with a strong sense of purpose and identity, autonomy and energy. Above all, in my opinion, it is self-analytic, and as such a form of self-regulation—a resolution of conflict without the resulting stasis and dead end associated with the usual concepts of happiness (mentioned above). In other words, happiness involves resolving the tension between the death and life instincts, their mutual acknowledgment and acceptance. It means integrating the values of youth and of age—striking a balance between the pleasure and the reality principles. Indeed, whenever we successfully regulate ourselves—fine-tune the tensions in us, striking a balance between contrary internal and, for that matter, external claims—we feel happy.

Thus we can feel happy at any stage and time in life, but it is hardest to feel happy—actually experience happiness—when we are adults. For as adults we have more rather than fewer conflicts, tensions, contradictions than we had as infants and children, or at least we are likely to be more aware of those we have. Above all, we are aware of our conflict with society and civilization—with what is given by tradition, and thus seems unquestionably real and inevitable: invincible and indestructible. We think society exists to censor and inhibit our difference, deny our creativity, undermine any sense of the rightness of our existence we might experience, and that the rewards of civilization are hardly worth the emotional sacrifice. In other words, we experience society as the punitive, all-powerful superego, and civilization as the weakly supportive superego.

Such conflict is inseparable from the avant-gardism of youth, which glories in it, and is finally destroyed by it. Avant-garde youth suicidally capitulates to society and civilized tradition when it realizes that it will lose the battle with them—that they will never give way. Indeed, society and tradition will use every strategy to defeat it, especially the cunning one of assimilating—and thus insidiously trivializing—avant-garde youthfulness by giving it a place of honor—even idolizing it (temporarily) in the establishment, which thus preserves the establishment. Ironically institutionalized by being included in the pantheon of the past, avant-garde youthfulness preserves history and civilization by seeming to maintain continuity with them. Above all, the avant-gardism of youth capitulates when it realizes that its conflict with the world cannot be resolved, that its adolescent rebellion does not and, by its nature, cannot change the world substantially, that it is a pseudo-revolution for it is motivated by an unconscious feeling and fear of death rather than a realistic appraisal of the world—in short, that the tension between the self and society and civilization always remains, at least as long as the self is trying to separate from them. The more rare avant-gardism of maturity struggles to regulate the tension—to strike a balance between the self and society and civilization, however inconclusively. It is more sophisticated, for it accepts reality—the inevitability of the conflict. It is able to tolerate and regulate the tension, and articulate it in art, which others can then use to regulate their own tense psyches. It does not try to avoid the conflict by suicide—the self-defeat of the avant-garde that ironically results from trying to maintain a state of youthfulness and a stance of revolt—but endures, in or out of the establishment.
The most unequivocally happy artist of the twentieth-century avant-garde was Matisse. Health was a lifelong concern for Matisse, and his art represented it, and the happiness that it made possible.\textsuperscript{30} Far from being doomed to irony, like the art of Picasso and Duchamp, his art rises above it. If irony is a way of dealing with disturbance, and is a sign of disturbance, his art is undisturbed, or absorbs and dissolves disturbance in its happiness. Moreover, for him health and happiness were not, as they were for the philosophers, simply a matter of freedom from disturbance and suffering—what the Skeptics called \textit{ataraxia}—issuing in a “state of calm and repose,”\textsuperscript{31} but an expression of \textit{joie de vivre}, an overflowing of positive feeling for life, which acknowledged suffering but transcended it, and was thus not always defending against it, as the philosophers were. It is the difference between an Apollonian and Dionysian idea of happiness: between a happiness which ultimately depends on denying the reality of suffering—the assertion that it is a kind of illusion that correct-thinking (“philosophical”) people can see through—and a happiness that includes but transmutes suffering, indeed, is a kind of \textit{Aufhebung} of the suffering inseparable from life. In declaring suffering unreal the philosophers in effect declare life not worth living, since it is full of suffering, bodily and emotional. Or, if that is too extreme a formulation, in seeking to achieve a state of passive, detached poise within life, they in effect argue that it is possible to become superior to it. Their “therapeutic argument” is an argument against living to the fullest and, indeed, a warning not to do so, since it will inevitably increase suffering—hasten the deterioration of the body by pushing it to its limits, make the guilt that inevitably follows upon pleasure (by a kind of psychosocial necessity) more intense than usual. But Matisse’s art is about living life and loving to the fullest and guiltlessly, in full awareness of the suffering involved in both. Rather than being the waste product of life, suffering—a sign of impending destruction, the angel announcing the invisible presence of the death instinct—fuels happiness for Matisse, making it all the more poignant, intense, and desirable.\textsuperscript{32}

Again and again one sees signs of life in Matisse, above all, a bowl full of the fruits of life. This symbol of abundance—the unconditional triumph of life over death—is the emotional center of numerous pictures. In the famous \textit{Harmony in Red}, 1908-9 (fig. 19), it is reiterated, as though to create an atmosphere conducive to emotional growth and health and happiness. In \textit{Interior with a Young Girl}, 1905-6 (fig. 18), it sits opposite her, within easy reach, ready to refresh and nourish her; not only with its taste and substance but its Joseph’s coat of colors: appearances, too, natural and artistic, can be a rich, happy, health-giving substance, that is, a truly facilitating environment. After her mental effort, she will need the \textit{joie de vivre}—the saturation in life—which it represents.

Indeed, virtually all of Matisse’s pictures, even his most melancholy—death-infected—ones, those in \textit{Jazz}, 1947, are saturated in color, no doubt to the point of satiation for many people (although I think he creates a hunger for color rather than an engulfing surfeit of it). Again and again Matisse represents and creates, as though in deliberate defiance of the world outside the picture, a happy, colorful, facilitating environment, emotionally and physically gratifying—an environment which seems about to overflow but is subtly self-contained and self-regulating, that is, dynamically balanced, and as such healthy. Indeed, I know of no avant-garde artist who paints gratification with such self-assurance and consistency—who makes it a point to
22 Anni Albers, Pastel, 1958, cotton, 14 x 15 ½ in. (35.89 x 39.74 cm). The Metropolitan Museum of Art, New York (69.135).
28 Martin Puryear, Untitled, 1982, bent maple sapling, pearwood, and yellow cedar; 59 x 63 x 4 in. (147.5 x 157.5 x 10 cm). Collection of Judith and Edward Neisser, Chicago. Photograph courtesy Donald Young Gallery, Seattle.
paint orgasmic gratification, and is able to do so in a way that makes the discharge seem delicate as well as forceful, modulated as well as explosive. Indeed, color is the emblem and instrument of discharge for Matisse, and the discharge—burst—of color is the ultimate fruit of life for him. Spots and streaks of color surround the young girl in her interior, suggesting her sexual future as well as her latent eroticism, and red sweeps the harmony of the dining room, a place of community and, however obliquely, communion with nature (so many of Matisse's pictures are set in this intimate space). This triumph of color is not only a triumph of life but of art, for it makes what is already evident in nature self-evident. It is a kind of perceptual epiphany which preserves the fruit of nature so that it will never perish. It is, if one wishes, a utopian flight into art from the tragedy of realistic decay.

The contrast between Interior with a Young Girl and Harmony in Red is instructive in another way. The former work belongs to Matisse's period of avant-garde innovation, the time when he made his mark and breakthrough as a fauve. The latter work shows him moving beyond the wildness—deregulation, disinhibition—he achieved toward a consolidation of his coloristic gains. Instead of the dispersal, even diffusion, of color over the field of the painting, the field itself becomes a single sheet of color on which other colors are overlaid, plane upon plane of abbreviated local color supported by a universal, infinitely expansive plane of primary color. Instead of being a pyrotechnical display of color incidents, appropriate to the values of youth (of which instant gratification is the major one) and above all of youthful revolt (for they signal the disintegration of the peaceful scene, or at least disturb it), the picture stabilizes—matures—into a cosmos of clear and distinct, uniform colors, each carefully fixed in place and formed, like so many discreet galaxies in the perfect firmament of red.

Such consolidation does not simply confirm the breakthrough into excited color that made Matisse avant-garde, but also makes it a foundation for future development. No longer a heroic act of innovative revolt, it becomes the basis for new aesthetic possibilities. One might say that Matisse's consolidation of color corrects his fauvist use of it to deform and disrupt—violate—the domestic environment with its explosive excess, without losing that excess, if making it more exuberant—buoyant—than explosive. Matisse, unlike Derain and Vlaminck, his fellow fauves, neither abandoned his avant-garde revolution nor tried to repeat it, as though to prove his originality by beating it into the ground. Realizing it was one-of-a-kind and that its moment had passed—that its violence had lost necessity—he decided to build on it. Indeed, rather than conceive of color as a kind of throwaway excitement, he used it as a building block—a kind of object, in a way that recalls Winnicott's idea that the ability to use the object is an important indication of maturity. What was once a formless flow became a buoyant form, losing none of its energy and primordiality in the process. Indeed, the more concentrated and decisive it became, the more fundamental and powerful it seemed. Matisse made color into a tradition, and in doing so made it into an absolute, refining it in a kind of ultimate material of art, rather than, as it was in his fauve period, a kind of flighty, in-your-face, primitive, coarse material. Matisse's color gained in authority as his art matured—transcended its avant-garde origins in youthful revolt. Also, the life principle—his joie de vivre, his sense of art as the realization of happiness and health not simply as their promise—strengthened. The later works are less disintegrated
than the fauve works, even as they tackle themes of death and disintegration—which the fauve works never directly did, however much they are informed by fear of death and disintegration.

To call Matisse a bourgeois artist—to say that he believes in private happiness whatever the unhappy state of the world, that he creates a fantasy of individual happiness in defiance of social unhappiness, that his pictures depict a kind of *hortus conclusus* in which one is free to love life and be happy, undisturbed by the real world—is to miss the point of his art, however true it is to say that the domestic environment he depicts has a certain bourgeois luxury to it. But the luxury of his interiors is not merely material, but emotional. If Matisse were seriously bourgeois, he would be puritanical not hedonistic, self-righteous rather than relaxed, pompous rather than impish, formal rather than informal, pretentiously rational rather than casually sensuous. He offers us, after all, not simply luxury and calm, to refer to the title of one of his paintings, but also voluptuousness, and voluptuousness as a general spirit of things rather than a pornographic display, is far from bourgeois. There is nothing petrified—reified—in Matisse: all is color, light, flexibility, intimacy, whatever its form.

Bonnard’s *Dining Room in the Country*, 1913 (fig. 23), exemplifies the same values, shows the same glad calm—this at a time when disturbance was the rule, whether in the form of cubist, futurist, expressionist, or abstract geometrical style. Like Matisse’s *Harmony in Red*, it is a surprisingly happy, emotionally mature painting for its time. For both Matisse and Bonnard, the issue is not simply rehumanization but, more fundamentally, revitalization. It is the most pressing modern concern. Thus their values are neither those of the ordinary urban bourgeois nor transgressive avant-garde youth. Bonnard’s picture is transgressive in its insistence on the right to happiness, and hardly urbane in its belief in the protected privacy of a country sanctuary. But the important point is that it depicts a sun-filled environment in which health and happiness can flourish—where they are more than empty ideals. In its own way, Miro’s *Carnival of Harlequin*, 1924-25 (fig. 24), offers such a healing environment, if more wittily conceived. The boundary between—or is it the uncanny integration of?—interior, private space and exterior nature is also its setting and theme, although nature, in the form of ironical creatures, has invaded the interior. Miro is not exactly doomed to irony, for the Dionysian excess of his cornucopia-like scene—an exuberant flourishing of nature, however bizarre—trumps and balances it. Irony becomes a devilish joke rather than a malevolent intention, as it is in Duchamp and many surrealists, not to speak of most conceptual and some pop art. Perhaps above all, Bonnard and Miro, like many other artists in this publication—Klee, Mondrian, Georgia O’Keeffe, and Rothko among them—are innovative in their rendering of light, without which no happiness seems possible. It becomes a radical, life-sustaining subliminally autonomous ground, tangibly felt and intimate. Wolfgang Laib’s pollen and honey—a proverbial healing substance—seem to distill and embody it in all its purity, as though to dispense it like manna (fig. 44).

Conventional wisdom has it that love makes for boundless happiness, and there are many images of love—not always mutual and caring, as Picasso’s *Satyr and Sleeping Woman*, 1936 (Solomon R. Guggenheim Museum, New York), an idealized, that is, classically rationalized rapist and his victim, suggests—in avant-garde art. (Picasso’s rather labored, sterile, stiff *Joie de Vivre*, 1946 [Musée Picasso, Antibes]—certainly in comparison to Matisse’s 1905-6 treatment of the
theme [fig.1]—also uses ancient myth to justify a rather uncertain, primitive—emotionally immature—relationship to woman as well as life, just as, I think, Max Klinger's not exactly healthy and happy depiction of the relationship between Eros and Psyche does [fig.74]. The buoyancy and fluidity of feeling associated with love at its most perfect are transparent in the levitating, flexible couple in Chagall's Birthday, 1915 (fig. 25). Their inseparability and intimacy represent the victory of the life instinct over the death instinct—of maturity over adolescence. But they are not the only important thing in the picture: it depicts not only a somewhat idealized love between a man and a woman but an equally deep love of nature, which is also idealized. The couple is not trapped in their urban apartment: from the bouquet the woman holds to the lush floral designs on the wall hangings, nature is celebrated as worth loving for itself, as well as for the role it plays in human love. It surrounds and facilitates their love, and is lovable in itself.

So many artists are more in love with nature than other human beings, as though such a love is safer—nature cannot reject one as another human being can. One can fall deeply in love with it, knowing it can never turn away from one. Monet and Redon face and embrace nature fearlessly, the former in his Water Lilies, 1906 (fig. 37); the latter in his Vase of Flowers, 1914 (fig. 3). It is radiantly luminous, like the sunflower in Heckel's Convelescence of a Woman, 1912-13 (fig. 7), which makes unequivocally clear its healing power. Kandinsky's Spring, 1914 (fig. 63)—it is astonishing how many lively artistic alternatives there are to the deadly war that began that year—and Dove's Nature Symbolized No. 2, c. 1911 (fig. 4), are abstract renderings of nature, but they make the same point: nature has the power to renew life, and to make it seem worth living. The artist's devotion to and essentialization of the image of nature is a commitment to life at its most elementary.

I submit that Imogen Cunningham, in her 1915 The Bather (fig. 34), a photograph of her naked young husband, and Rainer Fetting, in his 1984 Reclining Nude (fig. 27), a portrait of his male lover, are as much in love with the nature in the body of their lovers as with their humanity and personality. The water in which Cunningham's lover is narcissistically reflected, as well as the nature that surrounds him, and the painterly "naturalness" and aggressive fluidity of Fetting's figure, suggest as much. Indeed, both figures suggest the artists' own narcissistic need for love: the object exists only insofar as it can express and satisfy their intense drives, which is why, in both cases, it is precariously balanced and uncertainly rendered.

Perhaps Mondrian's 1929 Composition (fig. 31), O'Keeffe's Abstraction Blue, 1927 (Museum of Modern Art, New York), and the Kandinsky most succinctly articulate the inner dynamic of happiness, while Klee's Above the Mountain Peaks, 1917 (fig. 64), Ernst Barlach's Singing Man, 1928 (fig. 5), and Ben Shahn's Liberation, 1945 (Museum of Modern Art, New York) show its outer form. The core of happiness is a balance of incommensurate opposites, the life and death instincts—irreconcilable, but the healthy psyche is able to weigh their differences, and play one against the other. This play is reflected in the appearance of happiness—in the sense of flow and buoyancy that accompanies it. They are in fact signs of the hard emotional work the play of life against death—the effort to strike a balance between them—represents. In his diaries Klee once wrote: "A good moment in Oberhofen. No intellect, no ethics. An observer above the world or a child in the world's totality. The first unsplitted instant in my life."53 It is toward that transcendental

instant that we see Mondrian, Kandinsky, and O'Keeffe evolving, like the figure in Mondrian's *Evolution*, 1910-11 (fig. 30). Of course, the split developed again—it never really disappeared—in Klee's psyche and art, and it is in fact quite apparent in the Kandinsky, O'Keeffe, and Mondrian's *Composition*, and in the structure of his *Evolution*. But their pictures are mature in their recognition of it, and thus still happy if not exactly happy endings or for that matter happy-go-lucky. Thus they show avant-garde art at its most mature and self-regulating, when neither the censure of society nor the blessing of civilization can have any effect on it. Art has fulfilled its destiny: to model the sublime contradiction of individual happiness, whether as an Apollonian illusion or a Dionysian joy, both seemingly natural and concordant if intermittent.

NOTES


3. Ibid., p. 131.

4. Ibid., p. 152.


6. Ibid., p. 20.


8. Ortega, “Dehumanization of Art,” p. 44.

9. Ibid.

10. Ibid., p. 47.

11. Ibid., p. 21.

12. Ibid., p. 23.


14. Ibid., p. 32.

15. Ibid., p. 63.

16. Ibid., p. 66.

17. Ibid., p. 62.

18. Ibid., p. 183. The concept is derived from Ortega, as Poggioli acknowledges.


20. Ibid., p. 48.

21. Ibid., p. 43.

22. Ibid., p. 44.

23. Ibid., p. 46.

24. Ibid., p. 45.

25. Ibid., p. 48.

26. Freud, as Donald M. Kaplan writes in “Surrealism and Psychoanalysis,” *Clinical and Social Realities* (Northvale, N.J. and London: Jason Aronson, 1995), p. 268, was “intolerant” of modern art, more particularly, avant-garde or experimental art. Thus he chided Karl Abraham for his “tolerance or sympathy for ‘modern’ art” in a playful letter dismissing an expressionist portrait Abraham had commissioned as illustrating “Adler’s theory that it is just individuals with severe innate defects of vision who become artists and draughtsmen” (quoted p. 269). He also thought that “the ways in which Surrealism tries the limits of art” imply “serious psychological problems” (quoted p. 269).


30. Ibid., p. 141.

31. Ibid., p. 142.

32. Ibid., p. 144.


34. Ibid., p. 40.

35. Ibid., p. 32.

36. Ibid., p. 46.


38. See my article "Diagnostic Malpractice: The Nazis on Modern Art," The New Subjectivism: Art in the 1980s (New York: Da Capo, 1988), pp. 93-106, for the argument that "the Nazis' treatment of Modern art as a pathological symptom" was an acknowledgment of the "traumatic" character of modern society (p. 95).

39. W. Ronald D. Fairbairn, "Object Relationships and Dynamic Structure," Psychoanalytic Studies of the Personality (London: Routledge & Kegan Paul, 1952), p. 145, distinguishes between "Infantile Dependence..." chiefly manifested in an attitude of oral incorporation towards, and an attitude of primary emotional identification with the object," and "Mature Dependence..." which is characterized by a capacity on the part of the differentiated individual for co-operative relationships with different objects.

40. Duchamp modeled himself on Picabia, who, as Duchamp said, was "a negator...Whatever you said, he contradicted" (Pierre Cabanne, Dialogue with Marcel Duchamp [New York: Viking, 1977], p. 44). In general, he wanted to make works that would be like "fireworks, jokes, lies" (p. 24)—presumably as shortlived as fireworks, one-liners like most jokes, and transparent lies. Each would be a "provocation" (p. 47), "irony" (p. 39), and "sarcasm" (p. 89). The decadence—rather than boyishness or youthfulness, as Ortega thought—of this seems self-evident. Duchamp's ready-made is his most provocative, ironical, sarcastic art—firework, art-joke, and art-lie. Duchamp was a farceur, and the philosophical interest, verging on obsession, with Duchamp, and magnification of his oeuvre, suggests how much of a desperate farce philosophy has become. Indeed, he deliberately mocks it, as his ambition to sardonically "attenuate" every "position"—science included (p. 39)—suggests.


42. Quoted in ibid., p. 181.

43. Ibid.

44. Joyce McDougall, Thieves of the Mind (New York: Brunner/Mazel, 1991), p. 9, argues that psychosis involves "the unceasing struggle for the right to exist, against the subject's deep conviction...that the right to an independent life, or even to existence itself, was not desired." McDougall thinks this is "installed through childhood interpretations" of the individual, but I think it is sustained by the modern collective's massive indifference to individual existence, while yea-saying it.


46. Mihaly Csikszentmihalyi, The Evolving Self: A Psychology for the Third Millennium (New York: Harper Collins, 1993), p. xiii, compares the happiness of flow to the feeling of "being carried away by a current, everything moving smoothly without effort. Contrary to expectation, 'flow' usually happens not during relaxing moments of leisure and entertainment, but rather when we are actively involved in a difficult enterprise, a task that stretches our physical and mental abilities. Any activity can do it...that focuses our whole being in a harmonious rush of energy and lift[s] us out of the anxieties and boredom that characterize so much of everyday life. It turns out that when challenges are high and personal skills are used to the utmost, we experience this rare state of consciousness"—and happiness. Csikszentmihalyi's Flow: The Psychology of Optimal Experience (New York: Harper & Row, 1990) is a full-fledged study of the phenomenon.

47. Jean-Michel Quinodoz, The Taming of Solitude: Separation Anxiety in Psychoanalysis (London and New York: Routledge, 1993), p. 173, connects the feeling of buoyancy with the pleasurable, indeed, jubilant sensation of "flying with one's own wings. There is, as he says, "nothing manic or omnipotent about it," for "it implies an awareness that our life and that of the object have a beginning and an end." It is, as Quinodoz says, "the result of a dynamic equilibrium which is constantly being re-established and never acquired once and for all" (pp. 175-176). It is not a "static equilibrium, like the support of a foundation."

48. Sigmund Freud, "Formulations on the Two Principles of Mental Functioning" (1911), Standard Edition, vol. 12, p. 223, points out that "the substitution of the reality principle for the pleasure principle implies no deposing of the pleasure principle, but only a safeguarding of it." Nonetheless, reality-testing and pleasure-testing, as it might be called, remain subtly—and not so subtly—at odds, if it only because for all the effort to gain "along [a] new path an assured pleasure at a later time" there is no guarantee that one will succeed in doing so.

49. What Clement Greenberg, Art and Culture (Boston: Beacon Press, 1965), p. 144, calls the "attempt to overcome distinctions" in avant-garde art—"between foreground and background; between occupied space and space at large; between inside and outside; between up and down"—amounts to an effort to aesthetically tolerate, regulate, and integrate opposites, without blunting the tension between them.
50. For an account of Matisse's preoccupation with health, and the importance of his conception of art as convalescence from ill health, see my "The Process of Idealization of Woman in Matisse's Art," Signs of Psyche in Modern and Post-Modern Art (New York: Cambridge University Press, 1993), pp. 18-41.

51. Quoted in Martha Nussbaum, The Therapy of Desire: Theory and Practice in Hellenistic Ethics (Princeton: Princeton University Press, 1994), p. 302. As Nussbaum (p. 41) writes, the therapeutic "philosophers do not simply analyze the emotions, they also urge, for the most part, their removal from human life. They depict the flourishing human life as one that has achieved freedom from disturbance and upheaval, above all by reducing the agent's commitments to unstable items in the world." Love is, no doubt, one of these items.

52. This view is related to Hanna Segal's assertion in Dream, Phantasy and Art (London and New York: Routledge, 1991), p. 90, that "the aesthetic experience is...a particular combination of what has been called 'ugly' and what could be called 'beautiful.'...The ugly is largely in the content...including the emotionally ugly—hubris, treachery, parricide, matricide—and the inevitable destruction and death....There is an unflinching facing of the forces of destruction; and there is beauty in the feeling of inner consistency and psychological truth in the depiction of those destructive forces of conflict and their inevitable outcome. There is also a counterbalancing of the violence by its opposite in the form...[which] contains feelings which otherwise might be uncontainable."

33 Kenneth Noland, *Unitled*, 1959, magna on canvas, 60 x 59 ¼ in. (150 x 148.7 cm). Courtesy of the artist.
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Arcadian Impulses in Avant-Garde Art

LYNN GAMWELL

Man seeks to form, in whatever manner is suitable, a simplified and lucid image of the world, a world picture, and so to overcome the world of experience, by striving to replace it to some extent by that image. That is what painters do and poets and philosophers and natural scientists, all in their own way. And into this image and its information each individual places his or her center of gravity of the emotional life, in order to attain the peace and serenity which cannot be found within the confines of swirling personal experience.

ALBERT EINSTEIN, PRINCIPLES OF RESEARCH, 1918

Painting is like a thundering collision of different worlds that is destined in and through conflict to create that new world.

VASILY KANDINSKY, REMINISCENCES, 1913

The natural world has been the arena of the greatest intellectual revolution of the modern era. The deans of science and secularism—Darwin, Einstein, and Freud—have reshaped our understanding of reality. With the gradual dismantling of traditional religious hierarchies and the loss of imposed human values, nature has come to play a central role in the cultural myths that have developed to fill the spiritual void in modern society. As authoritarian, organized religion declined in the late nineteenth century, kindly Mother Nature emerged as a nondogmatic, nurturing muse. Nature also has replaced supernatural healers, becoming a silent therapist who receives our projections onto her rivers, forests, mountains, and skies.
Certain avant-garde artists, whose outlook is positive and life-affirming, have attempted to promote a sense of well-being and stability in the new universe by creating relevant mythologies and world pictures. Although the language of modern science makes much technical material inaccessible to the layman, the general features of the new understanding of nature are comprehensible, at least metaphorically, and have been widely popularized. Rather than positioning themselves negatively in artistic opposition to—and proud ignorance of—the age of science and secularism, these rare avant-garde artists have maintained an open-mindedness and curiosity—a mature, self-reflective quest for knowledge—which is an intellectual counterpart to emotional mental health. Their attitude toward the modern era, be it curiosity or caution, is based in knowledge, not naive enthusiasm or ignorant cynicism. Receptive to the broad intellectual currents of modernism, they seek to be happy and healthy in—to live intelligently in—an expanding universe.

The view of nature as a secular, therapeutic agent is reflected throughout modern landscape art and architecture. Nineteenth-century physicians came to view nature as a source of health and to blame excessive urbanization for illness, especially psychological derangement. Fresh air treatments and visits to gardens aimed to restore an individual's broken bonds with nature. Early- and mid-nineteenth-century hospitals in the Western world, especially mental asylums, were designed with extensive gardens whose therapeutic effects were described in medical literature. Similar attitudes toward the positive effect of nature on the civilized mind motivated the construction of urban gardens, such as Central Park in New York, in the later nineteenth century and inspired the idyllic landscapes of French impressionism.

Claude Monet's extensive gardens at Giverny, where the artist lived and painted its wisteria and water lilies from 1883 until his death in 1926, epitomize the impressionist's connection to nature. "I have no other wish than to mingle more closely with nature, and I aspire to no other destiny than to work and live in harmony with her laws, as Goethe prescribed. Nature is greatness, power, and immortality; compared with her, a creature is nothing but a miserable atom." Monet's desire to live in harmony with nature reflects nineteenth-century medical prescriptions, as well as Goethe's, and the artist's reverential tone recalls the first garden as described in Genesis (figs. 35-37).

Toward the end of his life, Monet painted a series of water lilies with the intention of creating a panoramic, painted garden for the urban-weary Parisian, very much in the spirit of designers of urban parks: "Here nerves taut from overwork could relax, lulled by the restful sight of those still waters...a refuge for peaceful meditation at the center of a flowering aquarium." Monet's paintings were installed the year after his death in the Musée de l'Orangerie, where they remain today.

The garden as a therapeutic metaphor is commonly linked with the healing power of love. In images of idyllic gardens of love, the beloved is typically idealized, or in Freud's term, overevaluated, as a splendid hero or heroine. The reclining nudes of Matisse (fig. 17), Picasso (fig. 38), Rainer Fetting (fig. 27), and Robert Kushner (fig. 26), continue a long tradition of

37. Claude Monet, *Water Lilies*, 1906, oil on canvas, 34 ¾ x 36 ¼ in. (87.6 x 92.7 cm). The Art Institute of Chicago, Mr. and Mrs. Martin A. Ryerson Collection (1933-1157).
idealized lovers in art, including Titian's *Venus of Urbino* and *Danaë* (1554, Prado, Madrid, and 1538, Uffizi Gallery, Florence). In *Le Bonheur de Vivre (Joy of Life)*, 1905-6 (fig. 1), Matisse placed nude figures in a woodland, serenaded by flute players suggesting Pan in a classical paradise. Soon after completing this painting, the artist extolled the psychological comfort afforded by art: "What I dream of is an art of balance, of purity and serenity, devoid of troubling or depressing subject matter; an art which could be for every mental worker, for the business man as well as the man of letters, for example, a soothing, calming influence on the mind, something like a good armchair which provides relaxation from physical fatigue." Even George Grosz, known for his morbid images of World War I, could create gardens of love in his later years: "I am not only and forever a specialist in horror and death....Here and there I have within me regions without fear, death, and war. Here and there are sensuous landscapes, where nymphs live."
Artists associated with Der Blaue Reiter shared a healing mission for their publications and art, as Franz Marc wrote to Auguste Macke in 1911: “We have hopes for so much [that is] healing and inspirational from it.” In 1910-14, Kandinsky, who likewise wanted his art to have a “full healthy life,” did several paintings on the theme of the garden of love, stressing the transformative power of sexuality, symbolized by a reclining couple. In Garden of Love, 1912 (fig. 41), two couples lie entwined amid a riverbank landscape of hovering trees, all energized by bright colors. Idyllic lovers in natural settings, such as Imogen Cunningham’s The Bather, 1915 (fig. 34), Morris Hirshfield’s Nude with Flowers, 1945 (fig. 39), and Jack Beal’s Danae I, 1965 (fig. 40), illustrate a key tenet of the modern mythology of nature, drawn from nineteenth-century Romanticism: humans are most passionate in their most uncivilized, Dionysian state—naked in the wilderness. In Freud’s view, adults yearn to merge their mature passions with the recaptured affections of childhood—“all finding of a love object is a finding”—and the garden of love, with its parental overtones of Mother Earth, provides an uninhibiting setting for this merger.
In some therapeutic uses of flowers and plants, the link between healing and nature is overt, as in Erich Heckel’s *Convalescence of a Woman*, 1912-13 (fig. 7). Comfort comes directly from large sunflowers, animated with healing power; they seem to move toward the wan patient like the sun itself, their petals/rays fixed on her frail form. Other artworks are informed by the doctrine of submission to nature, strong in Eastern traditions such as Buddhism. Sculptor Isamu Noguchi wrote: “It is my desire to view nature through nature’s eyes, and to ignore man as an object for special veneration”¹³ (fig. 48). Combining Japanese, European, and American sources, Noguchi designed a Japanese garden for the UNESCO headquarters in Paris in 1956-58, and has since done many garden refuges for urban settings, such as the IBM corporate headquarters in Armonk, New York (1964). Zen Buddhist gardens for meditation, traditionally associated with the healing arts, survive in modern Japan in sites such as Kyoto. During the 1950s, European determinism was being undermined in biology and physics, and many Western artists, such as Mark Tobey and John Cage, were drawn to Buddhist outlooks on nature as well as nondeterministic currents in Asian thought. In work such as *Above the Earth*, 1953 (fig. 45), with its uniform density and overall composition, Tobey merges a Western view of nature as a dense continuum of life and energy with Eastern spiritual submission to nature and the Buddhist goal of oneness with nature.¹⁴

By the early twentieth century, the acceptance of the germ theory of disease had transformed hospitals in the West into antiseptic environments, and gardens ceased to be built in medical settings. During World War II, however, volunteers reintroduced therapeutic gardens in veterans’ hospitals to aid severely wounded and disturbed soldiers who otherwise did not respond to medical treatment. Gardens were adopted by medical personnel during the 1940s in psychiatric hospitals such as the Menninger Clinic in Topeka, Kansas.¹⁵ In 1958 the Rusk Institute for Rehabilitation Therapy at New York University Medical Center in Manhattan established a greenhouse and garden for patient therapy (fig. 47), and by the mid-1960s gardens on the Rusk model and programs in horticultural therapy had become common in hospitals.¹⁶ Today clinical evidence continues to confirm that a natural landscape environment promotes healing.¹⁷

Joseph Beuys, who viewed art as therapeutic, was himself badly wounded as a German soldier whose plane was shot down in 1943. Before the war, Beuys had strong scientific interests and intended to study medicine.¹⁸ After his slow recovery from his war wounds, he had a different mission: to heal postwar German society through his art.¹⁹ The subject of his first work, in the late 1940s, was nature. This artist/healer executed small, delicate landscapes—studies of leaves and flowers—with a botanical precision reminiscent of his early interests (fig. 32). His mature work would evolve into grittier evocations of reparation and survival.

The recent sculpture of Wolfgang Laib, who completed medical school before becoming a practicing artist, communicates a rare sense of the sacredness of life. In *Milkstone*, 1987-89 (installation 1992-93, Kunstmuseum, Bern), Laib has invigorated the inert minimalist square by pouring nourishing milk over a slab of white marble, a gesture that recalls Moses striking the rock in the wilderness to bring forth water. In *Pollent from Pine*, 1993-94 (fig. 44), the artist formed another square from a glowing layer of pollen, collected with great care from the flowers of pine.
trees. After this floor sculpture has been exhibited, Laib ritualistically gathers up and safeguards the precious, life-giving pollen. In *Rice Meals for the Nine Planets*, 1993-94 (fig. 43), the artist/caretaker provides the solar system, represented by brass cones, with a staple food, rice—like cosmic manna. The silence of nature establishes the contemplative setting required by Laib’s work but without the dogmatic overtones of a religious atmosphere.

This dedication to a spiritual dimension recalls the nineteenth-century landscapists’ deification of nature, which still lingers in Monet but is rare in other art of this secular era. The absence of spiritual content is mourned by David Bierk in his homage to the Hudson River School in a series entitled *A Eulogy to Earth*, 1995, in which the words “Faith,” “Beauty,” and “Memory” emerge from cloudy heavens (fig. 49). Unlike most appropriation art, Bierk’s paintings capture the sublime beauty of their source as the artist seemingly longs for the qualities valued in art of the earlier epoch.
De Pont Stichting, Tilburg, Netherlands. Photograph © Janes Linders.
Avant-garde artists throughout the century have used nature as a vehicle for intense emotions, such as German expressionist Schmidt-Rottluff’s use of brilliant colors and nervous brushstrokes to create the brooding mountains and blood-red river of *Deichdurchbruch*, 1910 (fig. 6). This same dark mood reverberates in the recent landscapes of neoexpressionist Bernd Zimmer (fig. 51). One also senses the driving force and brilliant illumination of psychological revelation in the cascading water in Pat Steir’s *Inner Sanctum Waterfall*, 1992 (fig. 52).
In using nature to reflect emotion, modern artists follow in the long tradition of landscape painters from Jacob van Ruisdael to J. M.W. Turner. But twentieth-century landscapists face an inherent conflict between their usual, affective experience of nature—a walk in the park—with their intellectual understanding of the universe. Whereas in previous eras the emotions and intellect responded to roughly the same rivers, mountains, and forests, in this century the intellect is presented with a natural world that differs vastly from everyday experience. In the
47 Enid A. Haupt Glass Garden, Howard A. Rusk Institute of Rehabilitation Medicine, New York University Medical Center.

48 Isamu Noguchi, *Dance* (left), 1982, manazawa stone, 82 ½ x 21 x 19 in. (211.5 x 53.8 x 48.7 cm); *Squares*, (right), 1969, granite, 57 x 52 x 8 in. (144.8 x 133.3 x 20.5 cm). Courtesy Isamu Noguchi Foundation. Photograph Michio Noguchi.
David Bierk, Eulogy to Earth, Summer Rain (Beauty), 1995, oil on steel, 40 1/2 x 44 1/8 in. (101.25 x 111.25 cm). Courtesy Associated American Artists, New York.
nineteenth and twentieth centuries, traditional religious hierarchies and their related cosmologies, in which humans held a privileged position, were repeatedly undermined by the scientific discoveries of Darwin, Einstein, Freud, and others which suggested a radically different paradigm of a universe with vast, previously unexplored microscopic, celestial, and psychological realms, in which human scale and conscious experience are insignificant. Throughout this century, as the new biology, physics, and psychology were popularized, certain features of the new universe gradually entered the educated imagination, beginning in the first decades of the century with psychoanalysis and related psychologies, whose texts were widely available, and after World War II, with the slower but pervasive assimilation of evolutionary biology and the new physics. These constructs include nature’s lack of a fixed spatial/temporal framework; that the boundless universe and the mind are composed of basic entities, such as quanta of energy and unconscious processes, that exist beyond the borders of our experience; that light has a dual identity as matter and energy, and travels at a constant speed throughout the universe; that chance and indeterminacy are fundamental characteristics of nature, as is the knowledge that the observer of the natural world cannot be separated from the observed. Certain avant-garde artists have responded to these widening horizons with the curiosity that, according to Einstein, defines intellectual life: “The most beautiful experience we can have is the mysterious. It is the fundamental emotion which stands at the cradle of true art and science. Whoever does not know it and can no longer wonder, no longer marvel, is as good as dead.”

Cross-field responses to this modern scientific paradigm shift, as Thomas Kuhn has called it, from the Enlightenment view of nature as a precision clockwork to the twentieth-century relativist model of the universe, are not always obvious. When and to what degree of comprehension artists became aware of scientific developments, as well as the indirect, unconscious influence of popularized scientific images and concepts, are difficult to gauge. Society’s shifting attitudes toward the value of science also plays a part, as do theoretical issues, such as the influence of a culture’s cosmology on spatial representation in its visual arts.

This vast topic is beyond the scope of this essay, but I will offer a few observations. Avant-garde landscape paintings, such as those by Schmidt-Rottluff, Zimmer, and Steir, provide a bridge between modern emotional and intellectual relations to nature. These paintings depict emotionally charged, mythic mountains, rivers, and waterfalls in abstract formats that are informed by the new intellectual understanding of nature—the energy in matter (Schmidt-Rottluff’s mountains and river infused with light and color), chance generation (Zimmer’s drips), boundlessness, without a center (Steir’s waterfall composition). Such avant-garde landscapes provide a place where our disparate emotional and intellectual experiences of nature can merge, providing the viewer a comfortable sense of being oriented in the world.

Like landscape artists, some of the most successful designers of objects for the home have succeeded in merging the emotional attachment to nature—to flowers and natural materials—with patterns and materials from science and related industrial technologies. On the emotional level, objects for the home reflect the desire to return to a natural paradise which is ultimately a return, in Freud’s words, to the “mother’s womb, the first lodging, for which in all likelihood man still longs, and in which he was safe and felt at ease.” At home, in this most intimate of
environments—especially the bedroom, to which one withdraws from the world each night to assume the fetal position in sleep—one finds comfort in functional objects that reflect nature: the wood of beds, natural fabrics on chairs, designs inspired by floral and plant forms, such as Anni Albers’s weaving (fig. 22), as well as stone and clay vessels, such as the tea bowl in the Japanese tradition, hand-made from earthen clay by Warren MacKenzie (fig. 56). Some of the most successful designers associated with the German Bauhaus (Marianne Brandt, Teapot, 1924, fig. 53), their Scandinavian contemporaries (Eero Saarinen, Womb Chair, 1948, fig. 57), and, more recently, the postmodern Italian studio of Memphis (Ettore Sottsass, Euphrates, 1983, and Casablanca, 1981, figs. 54 and 59), have accommodated deeply rooted yearnings for natural forms while incorporating intellectual concepts of nature and new technology. (Italian designer Alessandro Mendini has even refit a classic industrial chair with cumulus clouds [fig. 58].) The users of these works feel both comfortable and comforted at a profound psychological level, as well as a subtle harmony with science and industrial society.


38 Alessandro Mendini's 1978 redesign of Marcel Breuer's \textit{Vasary Chair} of 1925. Photograph courtesy Atelier Mendini, Milan.
Despite the powerful symbolic role of landscape art and interior design in the mythologies of modern culture, the most direct opportunity to relate to the new universe is provided by abstract art. In his 1937 essay “The Nature of Abstract Art,” Meyer Shapiro observed an analogy between mathematics, the language of modern science, and abstract painting, in that both are independent of everyday experience, abstract art being “cut at the roots of the classic ideas of artistic imitation.” Indeed, most modern mathematics and abstract art symbolize realms beyond the limits of everyday experience. Kandinsky was well attuned to the scientific revolution that occurred in tandem with the emergence of abstract art, despite his mystical inclinations and his reservations about scientists who were “positivists, recognizing only what can be weighed and measured.” Kandinsky cited a development in physics which encouraged him to step away from artistic imitation and boldly create his own world picture: “A scientific event removed one of the most important obstacles from my path…. The collapse of the atom equated in my soul the collapse of the whole world.” He refers to the theory, which won British physicist Ernest Rutherford the 1908 Nobel Prize, that the atom, which since ancient Greek times had been defined as the indivisible unit of matter, was actually composed of charged particles held together by electrical forces. In On the Spiritual in Art (1912), Kandinsky expressed his feeling of comraderie with a scientist like Rutherford, whose work “boldly shakes the pinnacles that men have set up” as he undermines the “whole universe,” including traditional science and religion: “The electron theory—i.e., the theory of moving electricity, which is supposed completely to replace matter, has found lately some keen proponents, who from time to time overreach the limits of caution and thus perish in the conquest of this new stronghold of science, like heedless soldiers.”

When Kandinsky removed the last vestige of natural imagery in paintings such as Spring, 1914 (fig 63), he radically altered the viewer’s experience of visual art by removing any indication of relative scale, thus giving its early-twentieth-century audience one of the first symbolic presentations of the modern cosmos, as the surrealists would soon do for the modern psyche. Standing before Kandinsky’s “new world” the viewer looks into a realm without a fixed spatial framework—as if looking through a telescope, down a microscope, into a dream world, or, in Kandinsky’s words, away from the everyday material world into a “new spiritual realm.” Kandinsky described his creation of this realm in terms that echo, metaphorically, the concurrent scientific revolution: “Every work of art comes into being in the same way as the cosmos—by means of catastrophes, which ultimately create out of the cacophony of the various instruments that symphony we call the music of the spheres. The creation of the work of art is the creation of the world.”

The desire to paint a new world picture similarly motivated another pioneer of abstract art, Piet Mondrian, to move from depicting the everyday natural world, as in his flower studies (fig. 10), to symbolizing an abstract universe: “To create pure reality plastically, it is necessary to reduce natural forms to the constant elements of form.” Although, like Kandinsky’s spiritualism, Mondrian’s neoplatonism led him to esoteric religions and occult philosophies such as theosophy, Mondrian nevertheless understood his goal to be in keeping with the new science: “Plastic art discloses what science has discovered: that time and subjective vision veil the true reality.” Despite his enthusiasm about the rise of science and related technologies,

Robert Delaunay. *Circular Forms, Sun, Moon*, 1912-13, oil on canvas, 26⅓ x 39⅞ in. (66.3 x 98.8 cm). Stedelijk Museum, Amsterdam.
many early-twentieth-century abstract painters, Mondrian's new world picture retains much that is premodern. His selection of horizontals and verticals as the basic orientation of paintings such as Composition, 1929 (fig. 31), assumes the primacy of the earth's gravity, and his goal of total objectivity is also premodern, not shared by scientists after the publication in 1905 of Einstein's theory of relativity. Mondrian's banishment of "subjective states of feeling, which obscure pure reality," is manifest in his precise style, but had been overridden by the publication of Freud's theory of the unconscious, beginning in 1900, which became so central to Mondrian's surrealist contemporaries. So while many of Mondrian's paintings once stood at the avant-garde, their rigid geometry has acquired a dated appearance, whereas Kandinsky's Spring, informed by concepts of the quantum universe and psychoanalysis, has retained its energetic, subjective appeal.

In the post-World War II era, society questioned the social consequences of the nuclear age, and scientists became linked in the public's mind with the government and military. Many artists developed a deep skepticism toward their former colleagues in radical thought, and one rarely encounters among artists the enthusiasm for science and technology once expressed by Kandinsky and Mondrian. Certain artists throughout the century, but especially during this era, alarmed by the social consequences of the rise of science, chose to withdraw from the realm of shared symbols, away from the new scientific paradigm and its standards of clarity and verifiability. Far from pursuing a dehumanizing path, these avant-garde artists have sought to protect the self by assuming a noncommunicative state. Images by these artists such as Sam Francis's Big Red, 1953 (fig. 65) are typically undecipherable expressions of the artist's psyche. But in their extreme abstraction and silence, such images recall the language and systems of the scientific paradigm of nature—the region their makers have fled. These obscure echoes of nature speak to audiences who share the artist's profound ambivalence toward the new age of science and secularism.

Although the influence of scientific images and information on artists during the 1950s and 1960s was largely indirect, it was nevertheless integral, like the influences of urbanism or the media. For example, during and after the 1950s, there was a distinctive change in the space and scale of abstract art, whose formal, psychological, and political implications have been widely discussed. But the concurrence of these changes with public assimilation of the new physics and evolutionary biology has received little attention. At the core of the new cosmology is the enormous energy contained in matter—the importance of which Kandinsky intuited—and the fundamental role of light, giving matter and light special psychological dimensions. George Steiner has noted: "The dynamic fields and 'flow-charts' of Pollock, Rothko's pulsing light, are not only metaphors for what is happening in the logic of the sciences. They, too, draw the observer inward, into the active unstable locus of energy." Artists began to paint in overall compositions, suggesting limitless extension beyond the frame, often at a scale that dwarfs the viewer, and lacking an up-down (gravitational) orientation. Leaving behind the cynicism toward rational thought that accompanied the use of chance methods by dadaists and surrealists, in the post-World War II era, chance and indeterminacy became widely accepted as fundamental features of the theory of evolution as well as subatomic processes. One sees overall compositions incorporating chance methods, for example, in the hovering, fluctuating planes of color of Mark Rothko's Homage to Matisse, 1954 (p.2), and the stains of Morris Louis's Beth, 1960 (fig. 68).

Janet Fish, *Apostle*, 1990, oil on canvas, 80 x 50 in. (203.2 x 127 cm). Collection of Steve Hyde and Loren George, Colorado Springs.
Rainer Fetting. *Man with Candle*, 1984, oil and wood on canvas, 89 x 72 in. (223 x 179 cm). Courtesy of the artist.
In recent decades, for reasons which are difficult to determine, artists are once again making more explicit and conscious cross-field references to the new paradigm of nature in their work. An overall composition is formed by the repeated patterns in Terry Winters’s *Double Gravity*, 1984 (fig. 73) and Ross Bleckner’s *Architecture of the Sky III*, 1988 (fig. 69), both of which have biological and medical sources that have been abstracted and generalized in resonance with new concepts of nature. In contrast to Noguchi’s subtle nod to Darwin in the 1960s (fig. 29), Winters specifically depicted cells in the 1980s as units of evolution and transformation. Bleckner took inspiration for the dots/stars in his painting from the pattern of Kaposi sarcoma lesions on AIDS patients. Countless other artworks created during the last fifty years have overall, boundless compositions, lack references to orientation and relative size, and incorporate elements of chance, while breaking down the distinction between audience and art by their engulfing scale. These works allow viewers to connect intuitively with the universe on micro and macro levels—to feel at home in the natural world— accounting, in part, for the continued viability of abstract art in the second half of the twentieth century. The feeling of obscurity that viewers commonly feel in the presence of abstract art—its intriguing unintelligibility—parallels what laymen feel when faced with images of the cosmos—inherent in the sense of the “mysterious” referred to by Einstein—and no doubt fosters the symbolic union of these artistic and scientific realms in the minds of avant-garde artists and audiences who are receptive to them.

Studies of art about nature of premodern eras, such as Simon Schama’s recent *Landscape and Memory* (1995), generally focus on myths related to rivers, mountains, and forests. In the late twentieth century, however, it is nature’s skies that have most captivated the avant-garde imagination, especially after the Hubble telescope revealed in 1929 that the Milky Way does not comprise the entire, stationary universe, but is only one among millions of galaxies in an expanding universe. Aided by improvements in the technology of magnification, space travel, and computers, knowledge of outer space, as well as the inner spaces of biology and subatomic structures, has increased dramatically during the half-century since Hubble’s revelation. In 1996, for example, astronomers increased their estimate of the number of galaxies in the universe to some fifty billion on evidence from photographs of the heavens taken outside the Earth’s atmosphere by the new Hubble space telescope.

Artists have known enhanced images of the heavens since Galileo invented the telescope in the seventeenth century, and the nineteenth-century microscope gave them images of the minute realms of nature. But only in this century have these images been given expanded readings as the link between indirect detections of imperceivable realms and a new conception of the universe. Joseph Cornell began including sky maps in his surrealist box constructions in the 1930s and used them increasingly from the 1950s, expanding his dreamlike assemblages into a cosmic space (fig. 60). Reflecting the inherent abstraction of nonterrestrial images, Mark Tobey gave certain of his compositions a celestial association, such as *Above the Earth*, 1953 (fig. 45), and Hans Hofmann transformed one of his splashed images with the title *Astral Nebula*, 1961 (fig. 46). Like many abstract expressionists, Richard Pousette-Dart brought meditative and mystical as well as celestial overtones to his dripped canvases (*Sky Presence*, 1962-63, fig. 66).
The night sky has inspired a series of drawings by Vija Celmins, including *Galaxy*, 1973 (fig. 50), and in the 1990s, out of a personal love of astronomy, Thomas Ruff made large-scale photographs in the Alps of the moonless night sky. In *Architecture of the Sky III*, Ross Bleckner lifts the pattern of morbid signs from an AIDS patient into a timeless realm, suggesting both constellations in an ancient, domelike sky and the curved, calibrated spaces of a contemporary universe. To a painting in his target format (fig. 33), Kenneth Noland added radiating brushstrokes suggesting sunbeams, making the concentric circles—from the mysterious black core to the yellow corona—shine like a star.

On the eve of the twentieth century, Max Klinger etched a prescient suite on the myth of Eros, who was the lover of Psyche, the ethereal, winged embodiment of the Greek word *psyche*,...
meaning "breath," "spirit," and "animating principle." In *Psyche with the Lamp*, 1880 (fig. 74), the goddess disobeys a command never to look into her lover's face by lighting a candle to discover his identity. Klinger emphasizes the association of light with knowledge and growth by including an open-eyed, illuminated face, flanked by hands holding flowering vines, in the lower margin. After being seen, Psyche's lover disappears, and, in punishment for her enlightenment, Psyche is banished from her palace of erotic pleasure. This episode traditionally has been interpreted as a warning against rationally analyzing love, but after a century of intellectual revolutions, the fin-de-siècle psyche tends to stoically pursue knowledge as an essential component of health and happiness, searching for Einstein's "lucid image of the world" and identifying with Fetting's *Man With Candle*, 1984 (fig. 72). In the remaining prints in the suite, Klinger depicts Psyche's long and arduous journey to her joyful reunion with Eros, illustrating the thesis that the psyche achieves health and happiness through a knowledge of, and union with, the forces of life.
NOTES
In addition to discussions with my collaborator, Donald Kuspit, I benefited from comments on a draft of this essay given by Kenneth C. Lindsay, eminent Kandinsky scholar, and Elizabeth Merz, art director of The Sciences magazine, a publication of the New York Academy of Sciences.

5. Ibid. Monet’s goal is in line with those of landscape architect Frederick Law Olmstead, who, together with Calvert Vaux, designed Central Park in the 1850s: “The enjoyment of scenery employs the mind without fatigue and yet exercises it, tranquilizes it yet enlivens it and thus, through the influence of the mind over the body, gives the effect of refreshing rest and reinvigoration to the whole system” (The Papers of Frederick Law Olmstead, ed. Victoria Post Ramney, Baltimore, 1990, vol. 5, p. 504).
6. Martin S. Bergmann has suggested that, in addition to Freud’s view of love as backward-looking, refinding of the affections of infancy, love also has a forward-looking, healing force, relevant to art’s therapeutic role: “It consists in a hope that the lover will heal the wound inflicted by the less than good enough early [love] objects;” see his “Freud’s Three Theories of Love in the Light of Later Developments,” Journal of the American Psychoanalytic Association 36 (1988), p. 670.
8. George Grosz, Preface to Vadeis (Northport, N.Y.: Vera Lazuk, 1956), p. 3; see, for example, Grosz’s One Summer (c. 1940, collection George M. Gross, Sands Point, New York).
14. In the exhibition catalogue to Tobey’s retrospective at the Museum of Modern Art, William Seitz discussed Tobey’s interest in the concept of “oneness” in Buddhism, and quoted the artist’s own views on nature: “Scientists say that... there is no such thing as empty space. Its all loaded with life” (Mark Tobey, New York: Museum of Modern Art, 1962, pp. 10 and 23). Tobey sought to merge his international sources “Man today is challenged to extend his mental and spiritual horizons. Geographical barriers have given way before the light of science, invention and psychology;” quoted in Theodore F. Wolff, Morris Graves: Mark Tobey (New York: Schmidt Bingham Gallery, 1994), n.p.
17. Roger S. Ulrich, “View Through a Window May Influence Recovery from Surgery,” Science 224 (1984), pp. 420-21. In recent years, there has been a movement among landscape architects and medical therapists to plant gardens in hospitals where physicians have little medical treatment to offer, such as centers for persons in advanced stages of AIDS. An example is the Joel Schnaper Memorial Garden, which serves the AIDS Care Wing of the Terence Cardinal Cooke Health Care Center in New York City. Opened in 1994, the garden was designed by Dirtworks Inc. of New York, a firm specializing in the design of therapeutic gardens for healthcare facilities. I thank the director of Dirtworks, David Kamp, for providing me information on this and other therapeutic gardens.
20. Ross Bleckner has also acknowledged the loss of religious overtones in modern landscape painting, albeit more flippantly, by titling one of his Turneresque abstractions God Won’t Come (1993, Speigel Family Foundation Collection).
21. A good example of emerging cultural awareness of images from biology and physics is a 1956 project of Gyorgy Kepes, who was associated with the New Bauhaus in Chicago. The New Landscape in Art and Science (Chicago: Paul Theobald, 1956) is a book which Kepes edited containing essays and photographs (a telescopic view of the moon's surface, a microscopic view of a cell, etc.) by artists (such as Naum Gabo) and scientists "arranged to bring attention to a newly emerged aspect of nature, hitherto invisible but now revealed by science and technology" (p. 17). On the other hand, the curator of the Whitney Museum's 1958 exhibition Nature in Abstraction: The Relation of Abstract Painting and Sculpture to Nature in Twentieth-Century American Art was skeptical that abstract art related to "the radically different concept of nature created by modern science," feeling that only a very few artists "have been demonstrably stirred by the revolutionary concepts of science" and that any influence is "hard to gauge because it is largely unconscious" (New York: Macmillan, p. 7).


A lack of consideration of cross-field influence has led some art critics to maintain that twentieth-century avant-garde art has turned away from nature, some even claiming that it has altogether ceased depicting the natural world. Writing in 1925, Ortega y Gasset used the analogy of an observer who must choose to look either at a garden outside a window, or focus on the glass of the window pane because "to see the garden and to see the glass are two incompatible operations which exclude each other." Although, according to Ortega, past realist art depicts the garden, avant-garde art attempts a "purification of art" by focusing on artistic processes—"the glass"—at the expense of human and natural elements; see José Ortega y Gasset, The Dehumanization of Art, trans. Helene Weyl (Princeton, N.J.: Princeton University Press, 1948), pp. 10-12. Assuming that the art of a culture reflects its cosmology perhaps we are looking at images of a new garden, as Susan Strehle has pointed out in Fiction in the Quantum Universe, pp. 1-7. Two years after Ortega published his analogy, Heisenberg established the uncertainty principle (1927), which calls into question the framework of the analogy: "When we speak of the picture of nature in the exact sciences of our age, we do not mean a picture of nature so much as a picture of our relationships with nature" (Werner Heisenberg, The Physicals Concept of Nature, trans Arnold J. Pomerans [New York: Harcourt, Brace, and World, 1958], pp. 28-29).


28. The full quote reads: "Just as the discovery of non-Euclidean geometry gave a powerful impetus to the view that mathematics was independent of experience, so abstract painting cut at the roots of the classic ideas of artistic imitation," in Meyer Shapiro, Modern Art: 19th and 20th Centuries (New York: George Braziller, 1978), p. 186.

29. Kandinsky, "On the Spiritual in Art" (1912), Kandinsky: Complete Writings on Art, p. 140.

30. Kandinsky, "Reminiscences" (1913), Kandinsky: Complete Writings on Art, p. 364. After the discovery of the first subatomic particle (the electron) in 1897, several atomic models were proposed during the first decade of this century. Then in 1911, Rutherford put forth his nuclear model, on the analogy of a tiny solar system with rotating electrons, and, after he confirmed it with a series of experiments between 1911-13, it supplanted other models.

31. Kandinsky, On the Spiritual in Art (1912), in Kandinsky: Complete Writings on Art, p. 142. Kandinsky credited his broad education with helping him "acquire the capacity for abstract thought. I loved all these sciences, and today still think with gratitude of the enthusiasm and perhaps inspiration they gave me. Only these hours paled into insignificance at my first contact with art, which alone had the power of transporting me beyond time and place." See "Reminiscences" in Kandinsky: Complete Writings on Art, p. 363.

32. Ibid., p. 219.
33. Kandinsky, "Reminiscences" (1913), in Kandinsky: Complete Writings on Art, p. 373.


36. "The past has a tyrannic influence which is difficult to escape. . . . Fortunately, we can also enjoy modern construction, marvels of science, techniques of all kinds, as well as modern art. . . . Even the thought of all this is gratifying." in Mondrian, "Liberation and Oppression in Art," in Plastic Art and Pure Plastic Art, p. 41.

37. Ibid.

38. "Although many chemists had engaged in government-sponsored team research during World War I (some of them in [American] uniform), the Manhattan Project was different—by several orders of magnitude—from how most other sciences had ever conducted their research. The invention of an atomic bomb changed world politics" [LaFollette, Making Science Our Own, p. 12].

39. As Ortega y Gasset has claimed; see note 24.


41. An exception is perhaps provided by Robert Rauschenberg’s Experiments in Art and Technology (E.A.T.) organization, founded in 1966 with Johann Wilhelm (Billy) Klüver, an electrical engineer from Bell Laboratories in New Jersey, which promoted collaborations between artists and engineers from corporations with sophisticated technical capabilities, such as AT&T and IBM. The resulting artworks were generally neither true collaborations, nor were they profoundly influenced by scientific ideas, but rather were artists’ concepts packaged in high technology by engineers, as seen in the exhibitions The Machine (1968, Museum of Modern Art, New York) and Art and Technology (1970, Los Angeles County Museum of Art).


45. As described by Kuspit in "The Will to Unintelligibility," note 40.

46. An early work in Cornell’s Soap Bubble Set series, which included a lunar map, was shown in the major surrealist exhibition Fantastic Art, Dada, Surrealism, at the Museum of Modern Art, New York, in 1936.

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