Harold Fromm

Air and Being:

The Psychedelics of Pollution

> Surely, nothing is more reproachful to a being endowed with reason, than to resign its powers to the influence of the air, and live in dependence on the weather and the wind for the only blessings which nature has put into our power, tranquility and benevolence. This distinction of seasons is produced only by imagination operating on luxury. To temperance, every day is bright; and every hour is propitious to diligence. He that shall resolutely excite his faculties, or exert his virtues, will soon make himself superiour to the seasons; and may set at defiance the morning mist and the evening damp, the blasts of the east, and the clouds of the south.
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> *Samuel Johnson*

> He had, till very near his death, a contempt for the notion that the weather affects the human frame. . . . Alas! it is too certain, that where the frame has delicate fibres, and there is a fine sensibility, such influences of the air are irresistible. He might as well have bid defiance to the ague, the palsy, and all other bodily disorders. Such boasting of the mind is false elevation.
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> *James Boswell*

ALAS INDEED! The influences of the air are even more irresistible than Boswell's prescience could have envisioned. After Darwin, Marx, and Freud, the arena of human freedom has come to seem painfully shrunken. And after contemporary environmental studies, even less remains. But recognition of environmental constraints upon our behavior can at least inform our options, as we come to see how many "choices" are actually made for us by the nature of things.

My own knowledge of these matters springs from the personal experience of having lived in the dramatically polluted environment of northwest Indiana, not far from the steel mills and power plants that line the shores of Lake Michigan from Chicago to Michigan City. And since the essence of that knowledge introduces

what might be called an existential environmentalism, its accumulation from first-hand experience lies at the heart of the whole affair. For despite the almost unbelievable development of knowledge about environmental issues during the past two decades, the *personal* realities of the problem of bad air remain almost unexplored. The dependence on technological means of measuring air quality has presented a very skewed picture of what it means—what it feels like—to be a person amidst pollution and this picture continues to leave the erroneous impression that pollution is a somewhat abstract problem that affects other people rather than me myself or that at bottom it is mainly an esthetic nuisance. Considering the limited extent to which most people are aware of the ways in which pollution is concretely affecting them now at this very moment, public support of environmentalism exhibits a not-so-common instance of disinterested human concern. We have repeatedly been told that polluted air is bad—for plants, for animals, and for other people—and we have responded accordingly. But how, we need now to ask, is pollution bad *for me*—as I take this very breath, as I try to go about my daily tasks with the sense, probably illusory, that I am in control; now, as I am reading these words, not merely in some nebulous future when I may learn that I have become a casualty?

The media, spurred on by government agencies, have helped to foster this unbalanced picture of pollution as bad for others. The constant warning is that cardiac and respiratory patients should stay indoors today (in their private air supplies?), or possibly joggers along Lake Michigan should take it easy because of the dangers of Ozone Alley, the lakefront from Waukegan to south Chicago. But presumably, the rest of us are fine. Television weather reports rarely mention pollution, except in places like Los Angeles, even though there is literally no such thing as weather separable from the vast trans-continental air currents that conduct emissions hundreds, even thousands, of miles. And when they do mention it, they mislead us by reporting that air quality in Chicago was fine today, while ignoring the fact that pollutants had blown out into the suburbs or countryside, to whose residents it was far from fine, even though they have been told otherwise. The so-called urban and suburban "haze," which sounds so harmless and romantic, the snow squalls that plague southwestern Michigan and northwestern Indiana even though it is snowing nowhere else, the stench of sulfuric acid emanating from suburban snow-

banks—these are not simply "weather." For Commonwealth Edison and U.S. Steel produce as much of it as God.

To further confuse our understanding, the data upon which reports are made about health problems are gathered mainly from hospital records, that is, from the most extreme and dramatic cases. This helps to explain why there is so much misleading emphasis placed upon cardiac and respiratory patients: these are the cases that end up in hospitals and thus are the most visible. But the effects of air upon the general population are rarely discussed—and rarely will be unless reports are made about people who are not in hospitals. Given the nature of technological society, it is very difficult to obtain information about matters that cannot be easily fed into a computer. But ordinary people show every sign of being affected by pollutants as much as "sick" people, even if they don't end up in a hospital. And these maladies occur not just among dwellers in smoky cities, but among people who live in the suburbs, in the country—in a word: everywhere.

In fact, there are few if any "safe" places that are so far from pollution sources as to be exempt from today's intimations of mortality. When my wife and I moved from our rural farm fifteen miles south of Gary, Indiana, to our present suburban home about sixty miles northwest of Gary, we naively believed we would be far enough from the steel mills to escape the air that was making us ill more than half the days of the year. But Chicago's northwest suburbs, superior as they may be to northwest Indiana, are polluted enough. Southeast winds blow Gary's emissions deep into Wisconsin, while Waukegan's power and steel plants send their devastating pollutants to the already overburdened Illinois atmosphere whenever winds are from the north and east. With Joliet sending its own contributions on southwest winds, very few days of clean air are available in the greater Chicago area. And they may be getting fewer as coal becomes the latest panacea.

Up in Madison, Wisconsin, 160 miles or so north of Indiana, one can still discover the plume of bad air from Gary-Chicago if the winds are right, with Milwaukee sending off its own toxic clouds. And if that seems far, on one of our visits to the English West Country, the Cornwall of legend and song, my wife and I began to experience the familiar physical and mental symptoms of bad air, with much disbelief and despair, only to learn a few days later from the London *Times* that the Ruhr Valley's heavy industry in faraway Germany is a major source of British air pollution.

In the United States, the vines of grape growers in western New York state suffer marked damage because of emissions from Gary; New York City is said to receive much of its bad air from Pittsburgh, Gary, and Birmingham; while New England inherits it all as acid rain. Indeed, the *New York Times* of Feb. 8, 1979 reported: "Smog and dust from industrial Europe and China may account for a mysterious haze that hangs over Alaska, Greenland, and the Arctic Ocean every spring, according to analysis of atmospheric particles that are assumed to cause haze." Whither then escape? Denver has had its day, Los Angeles and Riverside are cesspools of pollution, Ohio a nightmare, Phoenix in decline, and Waukegan bad for your health. The circles increase in contemporary Hell.

There are a number of ways of recognizing air pollution without specialized instruments. Visually, the most dramatic signs are familiar by now to most people in city or country: orange-brown smog that obscures almost everything within range and which, in its lesser presence, is euphemistically referred to as "haze." Apart from the more dramatic cases—inability to see the Hollywood Hills, amorphous quality of skyscrapers just across a New York Street, even in sunlight—smogs and hazes are not so easy to notice unless one lives in the country or atop a highrise. Distance is required to get an accurate picture, since the sky directly overhead almost always seems to be clear, giving the comforting impression that one's self is almost never amidst the pollution. As one drives into the city the nimbus of smog seems far ahead, hovering over tall buildings, appearing to recede on arrival, until—miraculously—the city does not seem polluted when you are in it! But if there is haze on three sides one must obviously be in it, however clear overhead. Furthermore, some of the most intensely polluted days consist of gaseous emissions with little particulate matter, and only a careful scan of the horizons hints at the presence of sulfur dioxide or ozone in what otherwise appears to be a clear and sunny sky.

Smells, another sign of emissions, are harder to detect because one's sense of smell is dulled very quickly. Often, a sudden exit from the house will reveal stronger concentrations of odors that had infiltrated too gradually to be discernible inside. Odors suggestive of asphalt or tar as well as oil and "baked potatoes" are common by-products of steel mills and petroleum plants and the smell of ozone on summer mornings can be detected in and around urban areas with heavy traffic from automobiles.

But it is the physical and psychological signs of air pollution

which are the most important and for which the visual and odorous merely provide confirming evidence of the extent to which one's total being is shaped each day by the particular chemical mix of the air. The range of these symptoms is great and most often they are found in combinations rather than singly. Though many may also be found in connection with maladies unrelated to the air, it is the circumstances of their combination that enable them to be traced to industrial and automobile emissions. When evidence of sight and smell accompanies these experiences, when the wind is blowing from the direction of major pollution sources, when one's self and friends feel these maladies at the same time, and when the symptoms vanish with a shift in the winds, only sheer perversity can fail to take the hints.

Although coughing and burning eyes are most familiar, and although official warnings usually stress respiratory ailments, these discomforts are only the most obvious and operatic of the effects of bad air. More widespread and insidious than these are a broad variety of headaches, often combined with nausea and dizziness, especially on arisal in the morning. One is likely to have slept through the night as if under sedation, awaking dizzy, drugged, and in a stupor. This commonplace "inability to get up in the morning" is not just a donnée of human life, however, but a gift of industrial society. Once up, one may feel unsteady, heavy-headed, with a growling stomach and heartburn, preoccupied during breakfast and inattentive later in the day, unable to focus or maintain a clear train of thought. Nor does it matter if one has had 6 or 16 hours of sleep, since the problem is not lack of sleep. If one is suffering from hunger and heartburn, the hunger does not go away, even after a decent breakfast, but rather insistently gnaws, producing an insatiable craving for high carbohydrate junk foods. On badly polluted days people wonder why they are eating all those potato chips and candy bars when they have had their usual breakfasts, and the junk food machines will be whirring away. Thoughts of dinner start crowding the mind early in the afternoon. In the highest realms of diplomacy, the august diplomats, bowed by the weight of international affairs, can only think of sweet sherry and scones. Reading errors, typing errors, carpentry mismeasurements start to increase, along with an ill-temper that seems to be caused by nothing in particular. The more sedentary the activity, the more one is at the mercy of out-of-focus intellect, though joggers are warned to take it easy.

Like the extreme difficulty getting out of bed in the morning and the curious hunger even after eating, the pseudo-cold is not yet generally associated with badly polluted air, but only a little attention is needed to make the connection: a sore throat suddenly seems to be developing, one's arms and legs, joints and muscles begin to ache and seem sore and fatigued, and one's head feels heavy as in the onset of a cold. One wishes simply to fall into bed and give way to the miseries of a cold. But then next day, magically, all of this disappears. One forgets that a cold was even settling in. The winds have shifted. Where are the colds of yesterday? They have literally blown away. For me the most striking example of this took place a few years ago in London. I had arranged with a friend early in the week to go on a weekend walk in the country, but by midweek I began to feel completely overtaken by cold symptoms and lethargy. When I took to my bed, I phoned to cancel the outing and learned that both my friend and her office co-worker had begun to feel exactly as I did on the same day and felt that way still. During the following week we reported to each other that our "colds" had gone away on the same day, when indeed the persisting winds had shifted direction.

Depending on the industrial mix, one is apt to have nausea and dizziness, pains in the hands and feet, chest pains, heartburn and gas, muscle aches, burning eyes, lethargy and headaches, to mention common signs. But beyond the physical are depression and dispiritedness about nothing in particular, short-temper, irritability, aimlessness, a tendency to quarrel, an inability to read, a general inattentiveness and a despair of the possibility of human happiness. One is conditioned to a frightening degree by the day's particular—and particulate—mix. A midday shift in the wind can change one's philosophy as dramatically as one's cold symptoms.

Reflecting on all of this one is led to ask, Why, after all, should the experience of "just feeling out of sorts today" be exempt from the causality that lies behind all other kinds of phenomena? These experiences must have their causes like any other, however hard to pinpoint. And so, when it finally becomes apparent that transitory mental and physical states are not just causeless random happenings, the discovery of pretty consistent patterns becomes not only practical but inevitable. Because periods of malaise can range from only a few hours to many days in a row, depending on atmospheric conditions, it is rarely possible to have these experiences diagnosed by a physician. The ailment is gone by the time the appointment

day has come around; yet even if it were still present it is highly unlikely that the average M.D. would provide a correct diagnosis. For most medical doctors know little or nothing about the psychological or physiological effects of pollution. To further complicate things, the sudden recoveries from environmentally induced ailments cause the sufferer to forget about them as soon as they have gone away. When they recur, the same kind of cycle is apt to take place. One never gets any closer to the solution of these problems.

So one must try to solve them by oneself. Learning to ascertain the correlation between physical/psychological symptoms and air pollution requires an awareness of the principal sources of pollutants for any given section of the country. A representative picture can be derived from the Chicago area: the entire south end of Lake Michigan produces massive quantities of air pollution, much of which is often strikingly visible and smellable while driving on the Chicago area expressways. With southeast winds, to use one limited illustration, a vast cloud of pollutants starts out from a fairly narrow area south of the city (from a triangle that includes East Chicago, Gary, and Michigan City) and spreads in an ever-widening wedge over Chicago and its northwestern suburbs, a wedge that is easy to see while driving on the tollways that circle the city. If the wedge remains narrow, one can drive in and out of it, sometimes more than once during a trip in and around the city. When it is broad, this wedge spreads out well into Wisconsin. But if you happen to be close to its starting point, where it is very narrow, it is actually possible to miss its effects altogether even though literally millions of people are living in its shadow at that same moment farther away.

A drive around the perimeter of the city on the Tri-State Tollway can be an educating experience, for it is possible to move between sunny, clear, and beautiful skies at one end (i.e. the Indiana or the Wisconsin border) and dark, foul smog, or even a very confined snowstorm at the other, all within an hour and a half. If one is alert, it is possible also to observe the physical and mental transformations that may take place as one enters and leaves the different mixes of air. Headaches and dizziness can appear and disappear as one rounds the large curve from O'Hare airport to Hammond, Indiana, accompanied by the "baked-potato" smell, the Sherwin-Williams smell, the oil refineries smell, and the smell of *real* potatoes from Jay's potato chip factory.

Although the effects of being downwind of a pollution source

can be very pronounced, it is only when people compare notes about how they feel that illuminating causal connections can be made. When out of town friends were visiting me on what seemed to be a beautiful, cool, clear summer's day with light northeasterly winds from Waukegan (a dependably bad source of pollutants), they suddenly announced that they both felt so miserable that they would have to nap for a while. It must be air pollution, they told us, because they had headaches, felt drowsy and lethargic and could hardly keep their eyes open. And to top it off, they were in very low spirits, verging on despondency. We had talked about such things with them before, and now had to agree that the air was pretty bad. My wife and I had struggled out of bed that morning and tried to be lively hosts even though we felt lifeless, dazed, and unfocused all during the day. Misery had the company it so often wants, which helped to cheer us all up.

A new dimension can be added to the old philosophic chestnut about free will: it is not merely one's genes, one's prior psychic history, one's parents, social class, etc., that determine one's accomplishments, moods, and perspectives. It's the chemical mix of the very air one is breathing at any given moment, for breathing such air is a counterpart of eating food contaminated with pesticides or drinking water laced with asbestos fibers or PCB's, except that the effects are often very immediate. How "free" is a creature whose worldview at a given moment has literally been concocted miles away in the vat of a steel mill? If one can be drugged without pills, soused without Scotch, depressed without precipitating psychological events, irritable without irritants, and pessimistic without philosophy; if one can be hungry without fasting, exhausted without having expended any energy, and afflicted with heartburn and indigestion without recent food, then what does it mean to have a mind or a will of one's own?

Seen in this light, various kinds of experience shed their metaphysical mists and encourage a sordid behaviorist perspective. For instance, in the *Chicago Tribune* of Jan. 20, 1980, the food writer Carol Haddix made some routine observations about her uncontrollable hunger:

> The hunger pangs were beginning. It usually happens around 10 a.m. whether breakfast is eaten or not. It becomes difficult to work with that nagging stomach rumbling away. Coffee or a cup of tea works to stop those pangs for a short time, but your body knows

> better. "Where's the food?" it cries.
>
> I usually last until about 10:30 or 11 a.m. before I make a mad dash to the junk-food machine and wolf down a disgusting candy bar or a bag of potato chips. Oh, if my mother only knew.

If only the writer herself had been in a position to know: a polluted morning in Chicago, an insatiable craving for high carbohydrate foods despite breakfast. A check of the day's pollution readings would doubtless reveal more than one's seeming-wise body that supposedly "knows better." Though perhaps it does know better, since air quality is causing it to crave the sort of nutrients that provide quick energy.

When junk food machines are cranking out their chocolates, when professors wonder why their classes are afflicted with lassitude and inattentiveness on Monday, while they are very lively on Tuesday despite less interesting subject matter, when office workers can barely do their typing—when all this is finally observed and tallied up, new knowledge has become possible.

As a coda to these reflections, on its science page of Oct. 6, 1981, the *New York Times* reported some remarkably interesting fruits of research done by Jonathan M. Charry of Rockefeller University and Frank B. W. Hawkinshire 5th of N.Y.U. In an article that appeared in the *Journal of Personality and Social Psychology*, 41, No. 1 (1981), they discuss the harmful effects upon personality and behavior produced by an excess of positive ions in the air. "In environments where the ion balance is constantly shifting because of industrial activity, auto emissions, and high-voltage lines, understanding the basis of susceptibility to adverse effects of ions is likely to have considerable importance." They go on to remark that "atmospheric charge is a fundamental part of the air we breathe. Since altered ion concentrations can result not only from changes in weather conditions but also from the presence of pollutants, high-voltage lines, and radioactivity. . . it is becoming evident that many elements in the physical environment can be highly irritating or stressful, leading to changes in social behavior." The *Times* piece emphasized the effect of these positive ions on "people's mood and health, even precipitating suicides, crimes and accidents," as well as such ordinary reactions as increased tension and irritability.

Boswell's intuitive awareness of more than two hundred years ago may now be ready for general circulation.