

LETTERS AND COMMENT

ON BEING POLLUTED

DESPITE almost daily articles about pollution in the newspapers, the nature of life in a polluted environment remains for most people rather vague. *The New York Times*, for example, has had a series of startling articles about air pollution in Japan, in Riverside, California, and Los Angeles, but my impression is that people, even those living in polluted areas, are not quite sure what the effects of it all are supposed to be. It is true that in Los Angeles people complain about their burning eyes and in New York and London some people complain about the stench of automobile exhaust, but that is about the extent of it. One hears on television about distant unfortunates in obscure places like South Holland, Illinois, where diseases of the lungs are much more numerous than in the rest of the country, but that is explained as the result of South Holland's dreadful location in the midst of oil refineries and steel mills south of Chicago, and what is understood is that such a situation is relatively rare and special.

What I would like to convey, solely as a layman, without official data, figures, or tables, is the actual experience of daily life in a very polluted area, an area which has many of the characteristics of urban and suburban areas all over the United States and which, far from being small and local, spreads over hundreds of miles. The extent to which pollution affects one's life style and one's health can be startlingly great and I think that most people are unaware of the effects which air pollution may be having upon them.

In the spring of 1970, my wife and I spent a week or so looking for a small farm within commuting distance of Chicago and Gary but one which would be beyond suburbia and far from the madding crowd. After considerable search, we found almost exactly what we wanted: four and a half acres with a large and authentic farmhouse, ravishingly beautiful grounds, and lots of trees and outbuildings. The whole little farm is surrounded on all four sides by fields of corn and soybeans. About five miles southwest lies the charming city of Crown Point, the county seat of Lake County, Indiana; and about fifteen miles to the north is the city of Gary, seemingly far enough in the distance not to bother us. In one year we had almost

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completely renovated the farmhouse, inside and out, and during the second we tackled the outbuildings, the driveway, and began to work on the landscape. During the first year we were always very busy, putting in fourteen-hour days quite regularly, painting, carpentering, and so forth. The weather was mostly good, although several months of extreme wind during the early stages made us feel that perhaps we had settled in an uncongenial climate, for the first fall and winter were plagued by fierce winds from the west. Eventually, however, the winds became less regular and, as a result, less vexing. Except for an early morning smell of "tar," which I at first attributed to road repairs, we had few signs of anything that might be considered pollution, except for the characteristic red and smoky skies over Gary, fifteen miles to the north. But after many mornings of "tar," it began to hit me that the smell, which usually dissipated around noon on warm days, was probably wafting in from the industrial areas around Lake Michigan, and I eventually learned that the odor which I referred to as "tar" was from oil refineries near Gary.

The pollution in Gary itself was always too obvious to be missed, even from a distance. The first time I ever caught sight of it was years ago when I was a graduate student at the University of Wisconsin. The trip between Madison and the East involved passing right by the steel mills on the Indiana Toll Road, which struck me then and strikes me now, no matter how often I go through it, as a nightmare out of Dante. What I was not prepared for two years ago, when I first explored the Chicago area before moving here, was the dense, smoky pollution south of the city, of which a vivid view and smell are available to the driver on I-94, the Dan Ryan Expressway. Once we settled on our farm in Indiana, the drive to and from Chicago became quite an experience, one which I came to term, after the title of an obscure Renaissance poem, a "banquet of sense." Every few miles has its own distinctive smell, its own ambience: one moves along from the "baked potato" smell to the "chives" smell to the smell of burning garbage from the city dumps south of Chicago, to the Sherwin-Williams orgy of sights and smells, a paint factory that looks as though it came from, and should return to, outer space. After a trip home from Chicago, one emerges from the car a bit woozy, one's senses raped. But it is necessary to concede that the trips to and from Chicago, although one may weave a bit while driving, are made bearable by excellent roads, at least in contrast with the traffic horrors of New York, and also by the fact that

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Chicago is worth getting to, since Lake Shore Drive and the Chicago Symphony are two of the world's great pleasures.

During the winter of our first year on the farm (where we are still "living and partly living"), the pollution began to be more in evidence, not only south of Chicago and throughout the Gary area, but also, to our nervous dismay, quite pronounced and smoky around our house. But since we could close the door and cuddle up in our comfortable living room, perhaps in front of the fire, and since most of the days were reasonably decent, we reluctantly accepted the smoky nights as the price we had to pay. And the spring, summer, and fall of 1971 were absolutely splendid, except for a few shocking days in late spring. On one of these, which I remember as May 8, we decided to sit outdoors with friends of ours who had come from Detroit to stay with us for the weekend in order to hear Solti conduct Mahler's Eighth. We emerged from the house into an atmosphere of warm, murky sunlight, obscured by thick brown fogs that were blowing in from the north and sidling around and between us as if we were flying at 10,000 feet through the clouds. It was a full-scale pollution attack from Gary and the horrible north and it was poisonous—our eyes began to burn, our noses rebelled at the stench; one had a sense of being cheated: a beautiful day had been stolen by others and they were pouring their garbage into it and into us. And only a few miles away, someone else *was* having a beautiful day—until the winds might shift and *he* became the victim. It was a terrible shock.

But a beautiful summer ensued, and a marvelous fall, made possible to a large extent by a partial closing down of the steel mills because of an earlier overproduction (happily during months when the south wind blows the pollution over Lake Michigan) in anticipation of a strike that never took place. The skies over Gary, which we can always see quite clearly, were unusually clear. *The New York Times* even ran a story on the oddity of clear skies over Gary. Indeed, the familiar red haze was gone and the whole atmosphere, as far as we could see on all sides, was bright and crisp. It was a novelty to be able to look northward and see a sky as clear and free from red smoke as the sky in the south. This interest in the weather had been with us from the first day we had moved here because our location provides a view in all directions that is unimpeded by anything much taller than a row of trees on a little hill. We can see far into

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the distance and have a good idea of what the weather will be like later in the day, because we can see it for miles and miles.

By the beginning of 1972, the situation changed dramatically. The intermittent pollution, which had been bearable though very unpleasant, was suddenly transformed into daily or almost daily full-scale invasions from the north and west. Almost every day in January we awoke to find ourselves out of sorts, with severe burning eyes, curious oppressive headaches, and a general strangeness. This took place four or five days a week for perhaps two months. And on each of these days on arising we could look out of our bedroom window to the north to see the grey, murky sky spilling over upon us from Gary and East Chicago and floating onto miles and miles of land to the south of us. Although all of this was bad enough, by late February things changed for the worse. The burning eyes gradually diminished but in its stead we would arise in the morning to experience a congeries of other, more distressing ailments: dizziness, nausea, tingling pains in the extremities, and a dazed, lethargic aimlessness. I would sit at breakfast, hovering and swaying over my coffee, with a sour and rumbling stomach and a desire to throw up. Sometimes this would last for most of the day, day after day for weeks, with only a few intermissions. It was usually worse if we went outdoors. And on very severe days, when the fog of pollution was so strong that we could barely make out the house and grounds of our neighbors about a sixteenth of a mile down the road, we would begin to fall into a depression at having to go through another day of it. Once or twice, on horribly polluted days, we went for a drive, hoping to find the outer reaches of the pollution, to find a few breaths of pure air, and (though we hated to admit it to ourselves after over a year of strenuous work on our house) perhaps a safe place to move to that would still be within commuting distance of Chicago. But even though we would drive another twenty miles to the south and east, further and further from Gary and Hammond and East Chicago, we remained in a fog of stench just as bad as it was around our own place. And the physical symptoms persisted.

Since our ability to read, to concentrate, and to get things done was often impaired, while we stared bovinely at the walls, I decided to visit our doctor for general examinations. These indicated that I was in perfect health, but when the symptoms persisted, I then went back to the doctor for blood tests and an electrocardiogram,

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for eventually chest pains began to enter the picture. Once again I was found to be fine, except for the symptoms, which the doctor agreed were most likely the result of pollution. He gave me some pills to take for burning eyes and related phenomena, but, like most antihistamines, they produced their own unpleasant symptoms. My wife's principal complaints were headaches and burning eyes, but she too was found to be in satisfactory shape by the eye doctor she went to see. The only thing that remained certain—and still remains certain—is that the symptoms appear only when the air is polluted.

The effects of all this on our daily lives became greater all the time. The correlation between north and northwest winds and our maladies was perfectly dependable and as a result the first thing we would do on arising and feeling wretched was to look out of our bedroom window to the north. At such times, there was invariably pollution pouring upon us from the north, and if we arose feeling well, there was equally invariably an east, west, or south wind. As the northerly component of a west wind increased, so did the pollution and our sense of feeling ill. Another daily ritual had become the checking of the local newspaper every afternoon to see what the prevailing wind was expected to be and to see what the pollution readings were for the previous day. Our lives had become geared to the winds—and with good reason. Sometimes a beautiful day would suddenly change into something out of a bad dream because of a shift in the wind. Sudden temperature inversions are a frequent phenomenon in northwest Indiana and, when they occur, a clear day with temperatures in the upper seventies can change into a thick and almost opaque fog with temperatures in the forties, all in the space of half an hour. Opening and closing windows, even on more sedate days, is a futile and dangerous activity which we eventually learned to avoid. I recall one shockingly polluted day when I was working out in the garden, dizzy and depressed, waiting for my wife to return from Chicago. Suddenly, around five in the afternoon, the wind shifted and within twenty minutes the sky became clear and the fog and smells completely dispersed. I raced into the house to find that it reeked like the Toll Road in Gary, for when the weather clears after several hours of pollution, the house has already filled up with the smelly, smoky air and retains it dramatically for several more hours. I threw open all the windows to air out the house with the newly arrived fresh air, just in time for my wife to return from a harrowing ride through the baked-potato smell, the chives smell,

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the dump smell, the Sherwin-Williams smell, and the Gary stink to our now sweet-smelling house. And just as she entered, the winds shifted again and within a moment, pressing in from the north was the whole sea of garbage about to engulf us for another round. I quickly closed all of the windows to preserve a few extra hours of grace and within half an hour we were once again in the heart of the heart of pollution.

After several months of this kind of life, feeling rotten four or five days a week and depressed and anxious on the other two or three, we decided that we couldn't go on in this fashion for much longer, that as much as we were attached to our farm, an island of beauty in a floating sea of garbage, we would have to do something or move. We both agreed that it would be worth almost any price to try to keep the farm and make it livable and so we began to investigate the potentials of adding electronic air-cleaning to our heating system.

With a view toward obtaining information, we spoke with our heating man and were told that electronic filters were able to remove sulfur dioxide from the air as well as all airborne particulates, including dust and pollen, and the literature I read on the subject (admittedly produced by manufacturers) claimed a 90 to 99 percent removal of these pollutants. To confirm this, I spoke to my doctor, who agreed that such a filter might help the situation, although he did not think we should by any means expect a miraculous elimination of the total problem. In an attempt to obtain further and more precise information, I phoned the Lake County Health Department in Crown Point to see if they had done any testing of electronic air filters or had any government reports on their efficiency. I was put in touch with the man regarded as the pollution specialist of the department and I asked him what he knew about the effectiveness of these filters on local air pollution. His reply is inscribed in my memory cells: "What pollution? There is no pollution in the southern parts of Lake County." There was a very long pause, while I felt both panic and blankness of the mind. When I was able to speak, I began to tell him the whole story of our problems while he became more and more belligerent. He informed me that the department had done a pollution test and published a report showing that the pollution outside of Gary and the other industrial cities on Lake Michigan was nil, that pollution in Crown Point was almost out of the question. To my incredulous question, "Then what is all the black garbage that floats and stinks over this whole area?" his

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only reply was, "Have your doctor get in touch with us if you are being treated. So far, we have never had a single complaint about air pollution and, as for your symptoms, I never heard of such symptoms from air pollution."

It was about a month before I could get up enough steam to make an actual visit to the Lake County Health Department to confront this man in person, but during the interim I spoke to many people about air pollution, not, admittedly, for the first time, but now as an obsessive subject. And the result was quite shocking, for I discovered that most people, for one reason or another, were unaware most of the time of any actual pollution, even though they were quite aware intellectually of the existence of a problem. This apparent insensitivity to a stimulus that was ruining our lives seemed to be traceable to three main causes. The first of these was simply the fact of a person's being a native (or a long-term resident) of the Chicago-Calumet area. Most of my students at Indiana University Northwest (located in a suburb of Gary) fell into this category. The IUN campus is located about three miles south of the steel mills and other industries on Lake Michigan in a pleasant residential area which often is clear on badly polluted days. But when the wind is right, on a considerable number of days of the year the classrooms are permeated with a stench from pollution that is unbelievable. I have actually driven to class on polluted days to arrive in a daze, on the verge of throwing up from nausea, have walked into class where the smoke was almost palpably visible, to say in amazement, "The pollution is incredible today," only to have a student reply, "What pollution?" (whereas visiting friends of mine from other parts of the country have expressed astonishment at pollution half as bad). This repeated experience gradually made it clear, although it was hard to fully believe it, that living in these smokes and smells for all of one's life tends to make them part of the normal, unnoticed environment.

A second cause of the obliviousness of pollution I found to be the fact that most of my friends and my wife's friends are academics from the Chicago-Gary area who live in the northern suburbs of Chicago where there is often little pollution. Even in Chicago itself, from the Loop northward, the pollution is mostly from automobiles and only on certain days do the winds carry really bad pollutants into the city. This phenomenon is the result of the prevailing winds in the region of southern Lake Michigan. Most of the year, especially winter and spring, the winds are west or north and once in a while east. During these periods the northern suburbs and the north

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side of Chicago escape the pollution, while the entire region south of Chicago, from Joliet to Valparaiso, is steeped in pollution of the worst sort. But during the summer, when the winds are usually southern, residents of northwest Indiana experience a good many beautiful days, even in Gary itself, while the pollution is blown over the lake or, if the wind is southeasterly, over Chicago and its more northern areas and suburbs. But most of the time, if you live in Evanston or Skokie, you are in a situation not at all comparable to that south of Chicago. My academic friends, then, are not much acquainted with pollution, unless they happen to live in Hammond or other cities in northern Indiana. And in those few cases, they have usually lived there a long time and do not particularly notice the pollution.

The third cause of unawareness that I have observed is the smoking of cigarettes and other tobacco. I do not think I have come across a smoker yet who is affected by air pollution, that is, consciously affected. Smokers live in an ambience of smoke and smells through which not very much can penetrate from the outside world. One is almost tempted to conclude that smokers are in the advantageous position, vis-à-vis pollution, of doing themselves in pleasantly, instead of being done in involuntarily by industrial smoke and gases. Of course, one has read in the papers that smokers may be doing *other* people in by polluting the air indoors for non-smokers. Is smoking a ruggedly individual way of telling United States Steel, "You'll never catch me alive"?

These experiences with so many people unaware of air pollution do not increase one's sense of being in touch with reality. And so, a bit desperately, although we never for a moment felt any correlation, we decided to follow the Lake County Health Department's recommendation that we have our well water and our furnace tested as possible sources of our ailments. As it turned out, there was nothing wrong with either of them and, in any case, our symptoms appear only on polluted days, whether we have had water to drink or not or have been in our house with the heat on or not. Indeed, some of the worst attacks have been on mild spring days when we were away from the house. Needing further assurance, however, I finally wrote two long letters to William Ruckelshaus of the Environmental Protection Agency (EPA), the second of which was written after I had got up the nerve to visit the Lake County Health Department for an encounter with the "What pollution?" man.

As things turned out, the day I went to see him was badly pol-

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luted and I drove into Crown Point under dark and gaseous skies. My conversation with this employee provided a coda of Kafka-esque unreality, for as he reported on the data which the department had put together in a booklet, I sat glassy-eyed and dazed in a chair opposite him, a bit sick to my stomach, while he told me once again that there was no significant pollution in the southern portions of Lake County. For me, the high point in our conversation was reached when he reiterated his unawareness of symptoms caused by air pollution when, only three minutes before, while waiting to see him, I had observed on the wall of the office a large poster from the EPA dealing with the effects of air pollution on plants and people. Weaving and a bit dull, I had just read, with a mixture of relief and fright, that standard effects of air pollution were dizziness, nausea, pains in the extremities, headaches, burning eyes, lethargy, etc., etc.

Before leaving, I requested a copy of the Lake County Health Department's Report on Pollution, which I eagerly read as soon as I reached home. The health agent's description of the report was more or less accurate (although there was more pollution indicated than he was willing to concede) but the report itself could hardly have been more misleading. On the basis of tests performed on random days during a nine-month period of one year, the department had come to the conclusion that air pollution in Lake County was not a serious problem outside of the immediate industrial areas. What was so amazing about this report is that its random data were collected during the portion of the year when air pollution is at its minimum in Lake County and that it was based on one year only. Even worse, it went against obvious daily experience of the senses. As for the span of the test, I myself had seen from just two years of living in Lake County that the summer and fall can be very fine if south winds prevail and I have also seen in that same short period that one year can be entirely different from another, with respect to winds, temperature, rainfall, and, most important, pollution. And so, on the basis of this nonsensically flimsy test, done up in "scientific" regalia, the health department has taken its fantastic and dangerous position that air pollution is not a serious problem here, while thick clouds of every pollutant under the sun are passing through their very noses.

In response to my letters to the EPA, I received a very detailed and sympathetic reply from Ruckelshaus, treating the pollution here as an obvious fact of life and outlining measures that are now being

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taken to remedy it. Bizarre as daily life can be in "Chicagoland," it seems to be the case that action is beginning to be taken, although remedies are a long-term affair. The city of Gary, as well as the EPA, have finally succeeded in convincing United States Steel of the urgency of the problem and a five-year plan for rebuilding coke ovens, a principal source of sulfur dioxide, is claimed to be underway. And the Gary newspaper, the *Post-Tribune*, despite its delicate position in relation to the steel mills and the workers, has consistently taken a firm stand for reform, at least during the year or so I have been a reader. These things are encouraging, although I doubt whether my wife and I can contrive to hold our breath for five years. For the moment, we have spent about \$600 to install electronic air cleaning equipment in our forced-air heating system.

I would now like to do what may cause many people to look askance, namely, to draw some conclusions entirely on the basis of my own personal experience and the testimony of my senses. This is probably an unscientific thing to do but, on the other hand, it would be hypocritical of me to pretend that I do not regard the reports of my senses as reliable descriptions of reality, at least of reality as lived by people rather than machines or testing instruments. As one instance among many of the reports of my senses, I must recall the morning on which I awakened to feel all of the familiar symptoms of pollution only to find, upon looking out of the north-facing bedroom window, a beautifully clear sky as far to the north as I could see, which means to Gary and Lake Michigan more than fifteen miles away. I was baffled. Could it be the case after all that I am simply a psychosomatic nut? Happily, or unhappily, depending on one's point of view, it turned out that I went to get the mail from our roadside mailbox only to discover that a northeast wind was blowing everything to the west. As a result, the sky immediately to the west of our house (and beyond the range of the bedroom window) was heavy with thick, smoky pollution, leaving the north, which was the source of it all, crystal clear to the east. Later that day, my wife and I went shopping in nearby Merrillville (a bedroom community that fancies it has "escaped" from Gary) northwest of our farm, right into the pollution's heart, and we both experienced one of the worst attacks we had ever had, so bad that my wife, who gets only some of the symptoms that I do, this time had them all. My driving was so impaired that I could gauge only with difficulty the requirements of the road, the movements of other cars, and

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found it hard to react quickly with necessary maneuvers. Both of us were utterly dizzy, nauseated, and rapidly developing tingling pains in our arms and legs. We got home as fast as we could and literally sank onto the sofa, where we sat for an hour staring stupidly at the walls. The next day, we took a preliminary reconnoiter to Kankakee, Illinois, to get the lay of the land as a possible future home after a thorough pollution check (although we do not expect to write a letter of inquiry to the Kankakee Department of Health).

The first and major conclusion I would like to draw is that the lives of millions of people, whether they are aware of it or not, are deeply affected, physically and psychologically, by air pollution. Their daily moods, their sense of the way they feel each day, even the events of their lives, are greatly determined by the nature of the air. Let me provide an illustration.

It is generally well known in these parts that auto accidents on the Indiana Toll Road increase on heavily polluted days. There is a considerable stretch of this road that runs right by the steel mills and other sources of pollution and on certain days the visibility is close to zero. Not only is this the case on humid, foggy days, when the smoke pours out of the chimneys of countless factories right down onto the road, but even on days that are clear elsewhere in the area the road can be obscured by smoke if conditions are right. It is common to find newspaper reports of accidents and deaths on the Toll Road alluding to the role of smog from industry as a causative factor. But I would like to carry this much further by submitting that pollution of the sort that is floating around big cities, suburbs, and rural areas nearby, and which is present many or most of the days of the year, causes lethargy, vacancy, wandering of attention, lassitude, faulty focus—in a word, it causes something very akin to drunkenness. The pollutants enter the bloodstream and perform like alcohol and drugs, causing (among other things) all sorts of accidents. But this effect differs from the effects of alcohol or fog in that people are not aware of its connection with a given cause and as a result are not vigilant about it. One knows to exert extra care if one is a bit high or if one cannot see clearly, but if one is falling into a subtle (or not so subtle) torpor and the environment is fading from view, very undramatically and seemingly uncaused, one is simply unaware of what is happening to oneself. One can report to the police that fog on the Toll Road has caused one to crash into the
another car, but how many people are likely even to think of

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thinking that the polluted air has impaired their senses and their consciousness in some other way?

There is a good reason for this unawareness. Most people live in cities or towns which make it impossible for them to see the weather. If one is traveling into New York City or Chicago or Los Angeles from the suburbs, one does indeed see that one is entering a haze. But if one lives in the haze or spends most of the day there and there is no point of reference because no other place is visible except where one is, where is a person to obtain a basis for awareness? To connect the quality of the air with the quality of one's day-to-day feelings, one must be able to perceive the air. This has been shown to me very forcibly by my own life on a farm, with unobstructed views of all four directions. One emerges from the house to a more or less clear day. One looks to the north and sees a polluted sky. A wind starts. And what was a clear sky nearby begins to be overtaken by the red and grey sky in the distance. As it gets closer and closer there comes a moment when a smell suddenly starts. I have stood in the fields and said to myself, "It will smell in thirty seconds," and it *did* smell in about thirty seconds. Or take another day, like the one we had recently, which seemed to be perfectly clear but on which I nevertheless felt absolutely rotten. I looked to the north and saw the familiar red sky of Gary. I looked above our house to see a beautiful, clear blue sky. There was very little wind (but it was northerly) and it looked like a totally gorgeous day. But then I looked to the west, to the east, and to the south, and what did I see? A red haze on all sides, a halo of red, very deep in the north, gradually becoming pink as it ringed the east and west, and lightest pink of all in the south. And I ask myself a simple question: how can it be a beautiful, clear, unpolluted day above my farm if there is pollution visible on all four sides around me? Answer: it is not a beautiful, clear day. I am in the midst of a sky that is polluted for at least fifty miles. And that is why I feel miserable, why my stomach is sour and rumbling, and why I am compulsively eating sweets all day long. It is a horribly polluted day and I am suffering from symptom X: "pollution stomach." (The next day, the Gary newspaper gave high sulfur dioxide readings for the previous day.)

To make connections between weather and one's physical state one needs to live outside of the city, where the visibility is excellent. How much more difficult it must be to be able to connect one's mental state with the effect of the weather on one's body hardly needs

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to be pressed. But if one is feeling physically out of sorts, if one is unable to focus, feels lazy and vaguely wrong, one's frame of mind is altered, one's interest in things is not what it would otherwise be. It is a cliché nowadays that the current crop of young people are aimless, passive, inattentive, and much of it is attributed to the mushy-mindedness of television. But is it inconceivable that a whole generation of urban and suburban youth might be, if I may use an extravagant expression, permanently stoned?

I taste a liquor never brewed,
From tankards scooped in pearl;
Not all the vats upon the Rhine
Yield such an alcohol.

Inebriate of air am I,
And debauchee of dew,
Reeling, through endless summer days,
From inns of molten blue.

I won't press it—but *The New York Times* article on air pollution in Japan pointed out that schoolchildren in different sections of a very polluted industrial city had different personalities, depending on which pollutant prevailed on their side of town. Why not here too? Why not a sulfur-dioxide personality? The problem may really be that "I *don't* taste a liquor never brewed."

If my suggestion regarding ignorance of causes has any validity at all, would this not make the problem of air pollution an even greater one, beyond reckoning, than it is even now considered to be? Automobile accidents and deaths, vague illnesses and pains, trips to physicians and eye doctors, perhaps even family squabbles and difficult children—is it beyond all reasonable seriousness to suppose that millions of people's lives are influenced at every turn by a "drug" whose very existence they are scarcely even aware of, despite all the hullabaloo in the newspapers and on television? Is it just those "cardiac and respiratory patients" whom we always hear about who are in peril?

For the whole business of pollution watches and warnings is very misleading, with the implication that people who are in precarious health are the only ones in danger. Why is it not actually the case that everyone is in danger, not only at these dramatic moments, but most of the time? When one considers the weird solicitude about

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people being damaged by a few marijuana joints, while the major part of the population is being force-fed "smoke" like geese in a goose-liver-paste factory, one no longer knows what it means to make sane judgments. And the pollution readings carried by daily newspapers can also be misleading, despite their good intentions. The Gary newspaper carries a pollution report for downtown Gary on the front page almost every day and, in general, I find that the readings tend to correspond with what I see and feel, although it is often the case that areas at considerable distance from Gary have severe pollution when the Gary readings are low, because certain weather and wind conditions seem to carry and then dump the pollutants in faraway places. But to many people these daily reports must be confusing. According to the *Gary Post-Tribune*, a sulfur dioxide reading of .11 is to be regarded as the "danger level." So far, however, the highest reading I can recall was roughly .055, considerably less than the danger level. Yet those debilitating days when we have felt extremely ill, when driving and concentrating were difficult, received readings of perhaps .033. A sulfur dioxide reading of .11 strikes me as all but inconceivable. That is, there might be a few hardy people left around the next day to collect bodies, but it is hard to believe that .11 is merely "dangerous." As for pollution warnings, they would appear to be a kind of bread and circuses that encourages quietism and obliviousness.

This quietism is reinforced by two folk myths that are to be heard everywhere about remedies for pollution: air-conditioning and staying indoors. Certainly these two devices are not entirely useless, for when the air is thick with pollutants it is better to be indoors instead of having it all blown in your face, but the benefits are much exaggerated. For what never seems to occur to most people is that there is only one source of air: the outside air. The air in their houses is outside air that has come inside. No matter how tight the construction of the house may be, or how excellent the storm windows, it is not possible to prevent outside air from entering. *The inside air is outside air that has entered.* If no air were to enter, one could not survive. All that can be altered is the rate of entry. Exhaust fans, furnaces, fireplaces, gas cooking and water heating, and ordinary breathing, all of these use up oxygen, which is replaced by new air entering the house. The new air enters partly because of the moving air outdoors and partly because it is sucked into the house as the internal air is used up. Thus, no amount of staying indoors can do

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more than slightly reduce the effects of pollution. Finally, after one hour or four hours or however many hours, depending on the construction of the house and what is going on inside and out, all of the air inside has been completely changed. It may take longer for polluted air to enter a tightly constructed house, but it also takes longer for it to leave when the outside air has improved. And, of course, air-conditioning merely cools and dehumidifies the air that is available. It does nothing else. The filter on the average air-conditioner can barely remove large dust particles. It certainly is incapable of removing anything as small as pollen or air pollutants. Again, it is true that cooler, drier air is easier to breathe and one feels better, even with hay fever, breathing such air, but since nothing much besides water has been taken out, air-conditioning provides minimal evasion of the bad composition of outside air.

Electronic air cleaners are said to be capable of taking most dust and pollen and pollutants from the air. In our own limited experience we have found no relief whatever from hay fever since the installation of air cleaning, although we have found that our symptoms from industrial air pollution have been substantially reduced during pollution attacks. Our house has a modern addition which has its own heating system, independent of the main house and thus without the benefits of the air cleaner that is in the main heating system. The differences in our condition are easily observable in relation to which part of the house we are in during bad pollution spells. We recently bought a floor-model air cleaner for the modern wing, though I might point out that the smell of ozone (which these air cleaners produce) is quite strong with a floor-model unit, whereas the smell is so evenly dispersed throughout the main house by the central air-cleaner that it is barely detectable there. In any case, our electric bill has risen dramatically, the main air cleaner adding somewhere between ten and fifteen dollars a month to the bill, since the furnace blower and air cleaner run twenty-four hours a day. All of this, of course, adds to the pollution problem by consuming more electricity. In our region, Nipsco, the power company, is one of the chief polluters!

Finally, one is left with the problem that as things stand there is little one can do to avoid pollution except to live in a place where the air is still pure (wherever that may be). It is sadly true that living in the country, even on a farm, is not necessarily a solution, since

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the travel of pollutants is very far indeed. The recent environmental conferences in Sweden yielded a report that sulfur dioxide can be carried five hundred miles with ease.

I think, however, that a major turning point would be achieved, beyond what is now being done, if the average person were to realize the extent to which his health, moods, even his life itself, may be influenced by air pollution. What is urgently needed is a large-scale survey to be administered by the government (or a private agency) to urban and suburban populations to determine what in fact is the relation between people's day-to-day physical and mental states and the quality of the available air. My own feelings are that the information obtained through such a study would be devastating.

HAROLD FROMM