

THE B.A.S.

The Boston Audio Society
P.O. Box 7
Boston, Mass. 02215

SPEAKER

March
1973

The B.A.S. does not endorse or criticize products, dealers, or services. Opinions expressed herein reflect the views of their authors and are for the information of members.

March Meeting

The next meeting of the B.A.S. will be on Sunday, March 18 at 5:30 p.m. The featured attraction will be a live concert by Laurie Coté and friends. Two great compositions will be played: Dvorak's Quintet in A major for piano and strings (with Laurie at the nine-foot Steinway Concert Grand), and Brahms's Trio in A minor for clarinet, cello, and piano. The Dvorak Piano Quintet, written a few years before the "New World" symphony, is one of Dvorak's best works, with cheerful melodies and vigorous toe-tapping rhythms. The Clarinet Trio, one of Brahms's last major compositions, is warmly introspective music.

The meeting will be held in the Assembly Hall on the fourth floor of the BOSTON CONSERVATORY OF MUSIC (not to be confused with the New England Conservatory!). The address is # 8 The Fenway; see map. On the MBTA take the trolley to "Auditorium," or the Harvard-Dudley bus to Boylston Street; walk up Boylston and left on the Fenway. Entering through the front door, go straight ahead to the elevator, up to the fourth floor, and turn right into the Hall.

Feel free to bring your tape deck and record the concert. If you don't have good mikes, we will have a pair of mikes set up, feeding through a preamp to a DBX 117 set to 1.2 compression. Several people can record in parallel off the DBX if you bring pairs of Y-connectors, patch cords, cube taps and extension cords.

Feel free also to bring friends, since the hall seats about 200 people.

The Sheffield records have arrived. Al Foster will distribute them at the meeting.

Warning: The building is normally closed on Sunday evenings, so if you arrive late there may not be anyone downstairs to let you in.

B.A.S. Publication: Friend, do you find yourself listening to the equipment rather than to the music? Was it a downer for you when your best friend got his new zigawatt power amplifier? Do you resent it: when your neighbors ask you to stop testing your tweeters at 2 a.m.? You may have audiophilia, a contagious affliction. Dr. Goldwater will help you diagnose and understand your condition, in this month's featured B.A.S. Publication.

REPORTS AND REVIEWS

February meeting. The B.A.S. met on February 18th with about 80 attending, the largest crowd to date. Several members reported on their initial experiences with the Audio-Technica AT-11 cartridge (the \$15 conical-tip cartridge recommended by Victor Campos). In comparisons against the Stanton 681A and 681EE, B&O SP-14, ADC 26, and new Shure M91-ED's, the AT-11 was heard to have as good or better tracking ability, lower distortion (even in the inner grooves where ellipticals are theoretically superior), stronger deep bass output, and good ambience recovery, as well as smooth overall sound. Its response slopes slightly downward at high frequencies, which is good with bright speakers; with un-bright speakers a slight increase in tweeter level or amplifier treble may be desired. Dennis Boyer found that it performed best with rather low cable capacitance. The audiophile community owes a debt both to Roy Allison for bringing from England the initial discovery of the A-T, and to Victor Campos for tracking down the confused import situation and undertaking an investigation to identify the AT-11.

The subject of group purchases at quantity discount was discussed. In general not enough members would be likely to want any one item to enable a quantity discount. However, two members are investigating different ways of getting Revox tape decks for a couple hundred less than usual retail. Joel Sandberg suggested group purchase of magnetic tape, a service that the BAS can readily provide by buying tape cheap in multiple-case lots and reselling it to members who wish to buy only a few reels or cassettes at a time. The only difficulty will be arriving at a consensus of most-wanted brands, types, and formats.

Dave Letterman revealed that you can get an excellent tape of any New England Conservatory concert just by requesting it and paying the cost of the tape!

Roy Allison gave an in-depth discussion (replete with equations and graphs) of the most-ignored component in everybody's stereo system, the component that interposes itself between your speakers and your ears: the listening room. The analysis of room acoustics involves three topics: resonances, absorption, and the reverberant field.

Resonances are a problem because any chamber with parallel surfaces behaves like an organ pipe: pressure waves ("sound") will bounce back-and-forth, and at certain frequencies each reflected wave will be in phase with the next cycle of sound being produced by the speaker and so will be reinforced. Consequently those frequencies will tend to build up to excessive strength in certain areas of the room. The corresponding irregularity in heard low-frequency response is a significant deficiency in all home music systems. A clear discussion of how the room resonances are related to room dimensions and shape, and notes on ways of minimizing the effect of the resonances on the sound, are contained in the attached article by Mr. Allison. (Copies of the article were obtained from A.R. for the BAS by Al Southwick.)

Absorption is important for two reasons. (1) Low-frequency absorption tends to "damp out" and broaden the resonances, thus smoothing the low-end response of the room. Wood paneling with an air space behind it (typical in residential construction) is one of the few materials with a relatively high and controllable absorption coefficient in the bass range. However, the

desirable smoothing of the low-frequency resonances is obtained at the price of subtracting bass energy from the room and either absorbing it or transmitting it to adjacent rooms. So rooms not built of brick or concrete may, if the paneling is too light or the studs too far apart, tend to have a low-frequency roll-off. Indeed, measurements have shown that in typical rooms, excessive flexing of floors and walls removes considerable bass energy. A graph of the measured response of 8 home listening rooms in the Boston area exhibited a bass roll-off -- whereas comparable measurements of concert halls show a low-end rise. So you needn't feel embarrassed by the felt need to use amplifier or equalizer bass boost in your system.

(2) The absorptive characteristics of the room have a major effect on the tonal balance of the reproduced sound. What is desired is that the room have an overall average absorption coefficient of about 0.15 or 0.20 - in other words that sound striking the average area of floor, ceiling, wall, or object in the room will be 20% absorbed (give or take a few percent), with the other 80% reflected. A room with entirely low-absorption surfaces such as tile, glass, porcelain (e.g. a tiled bathroom) will make the music blare, bright and hard. Conversely a room filled with thick rugs, upholstery, people, and acoustical tile (which provides no useful damping of bass resonances but has very high absorption at middle and high frequencies) will make the music sound confined. Note that human bodies are efficient absorbers; if your system is adjusted to sound great when only you are listening, it will sound dull when you demonstrate it to la friends. The same problem afflicts most showrooms.

So an acoustically varied mixture of room boundaries and contents is desirable in order to approach the preferred average absorption value and an absorption curve that is smooth over the audio range. Incidentally, even the air can affect the sound: the higher the relative humidity, the better the high-frequency propagation. The air rolls off the highs and dry air does it drastically -- an effect more important in the concert hall than at home since the loss increases with air-path distance. (So for the most natural orchestral sound the acoustic power output of your speakers should slope gradually downward in the treble to simulate the average propagation loss in the concert hall.)

The frequency response of the reverberant field of a listening room depends on how the reverberation time varies with frequency. The reverberation time at any frequency (how long it takes sound reflecting around the room to die down by 60 dB -- typically a tenth of a second at home and one or two seconds in Symphony Hall) obviously depends on the room's average absorption coefficient: if the room's surfaces and contents absorb efficiently the sound dies down very quickly. So the variation of the room's absorption with frequency determines the variation of reverberation time with frequency, which in turn affects the tonal balance of the reverberant field. This is important because, hopefully, you do most of your listening in the dominantly reverberant field of your speakers, and so the tonal balance of the music reaching your ears will depend on the reverberant-field response.

It is desirable to do your listening in the dominantly reverberant field because there both the sound-pressure level (i. e., loudness) and the spectral balance (subjective frequency response) of the music will remain approximately constant as you move about. By contrast, in the dominantly direct field of a speaker, the sound becomes weaker as you move away and -- more important -- diffraction and interference effects in all practical speakers

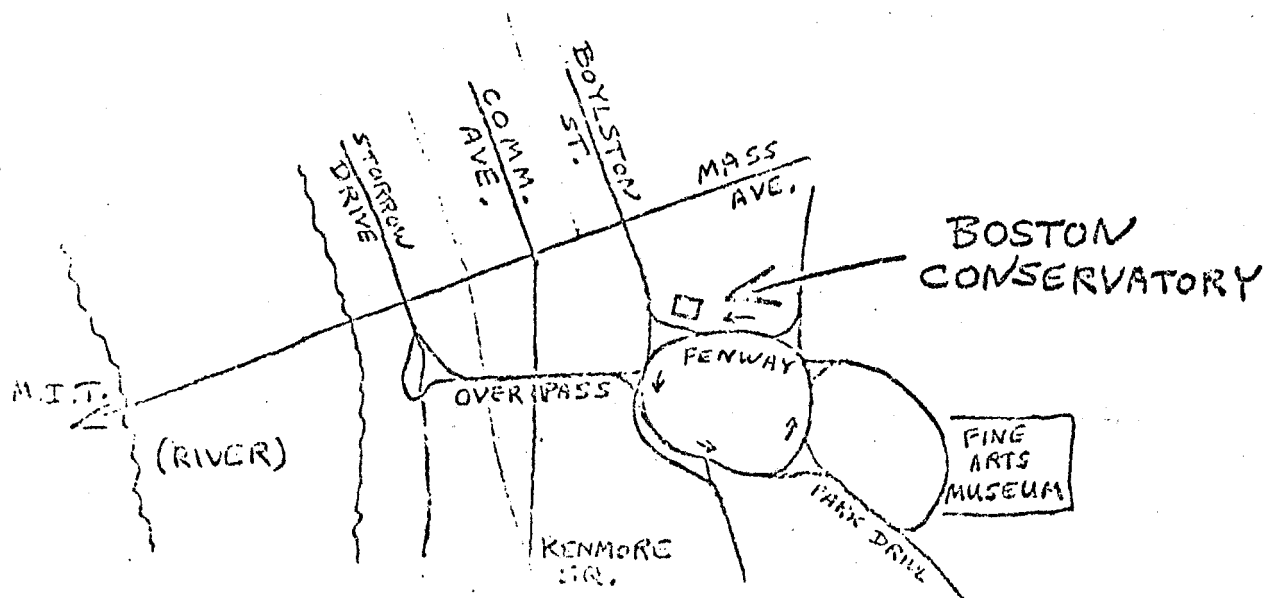
will cause peaks and valleys in the frequency response which will vary with the listener's position. The total power response (integrated over all directions from any speaker) is much smoother than the direct-field frequency response at any one location with respect to the speaker. This difference is audible, and it can affect listener fatigue. How can you be sure that you are in the reverberant field? There are three factors: distance, dispersion, and absorption.

Don't sit too close to the speakers, or you will surely be in the dominantly direct field. As you move away from the speakers you will pass from the direct to the reverberant field.

The distance of the transition point depends on the room's reverberation time, so establish moderately live room acoustics. The more "live" and reverberant the room, the closer to the speaker the transition occurs. In a "dead" room, you may still be in the dominantly direct field at the opposite end of the room.

Use wide-dispersion speakers. The wider the dispersion, the closer to the speaker the direct/reverberant transition occurs. So one reason why wide dispersion speakers sound better is that it's easier to get into the reverberant field. Mr. Allison indicated that with good modern speakers in rooms of average liveness, the dominantly reverberant field begins 4 to 8 feet from the speaker at most frequencies. The more directive the speaker, the farther back you have to go to get out of the dominantly direct field.

It may be worth noting that listening in the dominantly reverberant field need not mean the loss of a clear and specific stereo image and its replacement by a vague sense of "bigness" to the sound. In the reverberant field there is still some sound arriving at your ears direct from the speaker; it gets to you first, and the reverberant-field sound arrives milliseconds later. It is the first-arrival sound which primarily determines your sense of stereo imagery, while the reverberant sound primarily determines your sense of the tonal balance in the music.



A Publication of the B.A.S.

Diagnosis and Treatment of Audiophilia,
a Syndromic Affliction of the Modern Day

By Richard P. Goldwater

A psychiatrist in private practice
in Cambridge, Mass., and an
Associate Director of The School
We Have in Concord, Mass.
Disguised as Lord Eccles, he is
co-host of WBUR's very charming,
very lovely, and very talented
"Shop Talk."

I. Symptoms and Incidence; Etiology

The audiophilic syndrome is characterized by preoccupation with the reproduction of recorded music and other sounds in the home. The afflicted spends a high percentage of his/her income on electronic and mechanical equipment as well as recordings of the sounds themselves. He/she may enjoy building or taking apart the equipment, but this activity is only an expression of a larger concern with the inner workings ("performance") of the music-reproducing equipment. The audiophile deals with high levels of anxiety about the state of his/her equipment's performance by seeking to learn in various ways what the hell is going on inside various kinds of boxes connected by wires to other boxes. The syndrome seems to be an intensification of a common human activity rather than indicative of illness, and only comes to clinical attention when the amount of pleasure anticipated from the activity becomes particularly or unrealistically high, and disappointment and anxiety associated with its failure to afford such pleasure become proportionately great.

The syndrome becomes full blown (when the audiophile becomes an audiophiliac) as the anticipated pleasure-pleasure/disappointment sequence causes the individual to seek to spend more of his/her time and money in a pursuit of sound. He/She finds that his/her interest in the workings of the equipment ceases to be pleasurable and becomes impediment to the enjoyment of music. (It is remarkable, by the way, how few musicians suffer from audiophilia.) It further becomes a source of difficulty in his/her relationships with non-audiophiles.

The incidence of audiophilia in males far exceeds that in females, but women seem to be becoming increasingly susceptible. The audiophile often can place the onset of symptoms in early adolescence, although their intensity likely has varied through a broad range since then. At the time the symptoms become clinically identifiable, he/she may be almost any age from 16 to 70 although he/she tends to be found between 25 and 30 (as long as possible).

He/She may complain of globus hystericus (a feeling of a lump in the throat) upon viewing displays of audio components he/she cannot afford, and a rushing sadness in the chest when a friend/competitor purchases an important new component. He/She may long for the good old

days of the table radio. He/She may compulsively cite or seek technically sophisticated-sounding explanations to support his/her prejudices, relieve anxiety, or engage in social intercourse. When given the chance, an audiophile seeks the company of audiophiles in order to share with others the intensely felt internal state he/she has learned to associate with listening to music. It has required years of work and sacrifice and internal attention to develop his/her present state of consciousness; and it seems as though only a fellow-traveler could "understand" the journey and his/her need for it. The assumption is that since all derive their experience from similar external sources, their internal experience is similar and therefore easily and even non-verbally shareable.

The audiophile finds his/her experience of music to be as difficult to put into words as whatever the creative spirit was which needed to be expressed in music in the first place -- the spirit which the hearer's soul responds to with its own friendly welcoming resonances.

Once the audiophile has diagnosed him-/herself and sought the comradeship of fellow sufferers, this comradeship may either magnify or lessen his/her symptoms, or both. But once the phenomenon has (by dint of such groups and the size of the industry supporting their habit) been identified as a specific human experience, one may begin to speculate on its origins and meanings.

I will discard theories of vitamin deficiency, biochemical imbalance, air pollution, or Ptolemaic astronomy as being relevant to the problem. I will not discard theories of Freud and his heirs, however, and will commence to deal with audiophilia as a mild mania of psychological or spiritual origin.

It should not surprise you that this may be so. After all, there are supposed to be psychological forces at work in almost everything we do or buy. Ask anyone on Madison Avenue where psychologists help businesses sell us things by finding out what a product "really means" to the consumer. In the opening scene of the movie Putney Swope, for example, a specially imported expert on psychological selling told a group of directors of an advertising agency that their campaign to sell a brand of beer was sluggish because they were making the mistake of portraying the beer as simply a cold, refreshing beverage. What a silly idea. Beer is in reality, he said, a device used by men who doubt their masculinity to reassure themselves. That is why beer is so abundant at sporting events and stag parties. With this new information, the ad men then planned a campaign to promote the beer as having "a firm head which stands up longer, and last the whole drink through."

I will list some handy-dandy psychoanalytic formulas possibly relevant to audiophilia:

1) "If I am going to lower by defenses to let something into me, let something enter me to my soul, it had goddam well better be good, loving, and free of evil" (distortion equals aggression).

2) (perhaps especially for men) "I have a need to have a powerful tool which will bring me pleasure and do what I want it to."

3) (especially relevant to the lust for four-channel): "I long for an experience in which I am comfortably lulled by soul-stirring sounds which move my whole body. The sounds must surround me; it is good not to need my eyes for this pleasure." (a model of intra-uterine experience?)

II. So What????

Phooey on psychological theories which make anyone feel guilty! There are too few pleasures in this world these days that we can afford to feel guilty about any of them. That your stereo system may have some "deep meaning" or other indicates that you are human, and that you may care enough about music and the way it sounds to work at making it your thing.

In fact, for the past twenty years enough people have worked so seriously at making it their thing that one can now argue that audiophiles have created a new art form, comparable to the art forms which have grown out of deliberate attempts to cultivate the other senses, such as wine tasting, concert listening, art viewing, photography, and psychedelic experience. Technology has made the art of music-listening portable.

III. A Little Psychology

In order to develop the argument that listening to music or home music systems is among the human activities which may be raised to an art form, I am going to present a little basic psychology. (Dogmatic behaviorists may prefer to skip ahead.)

Among the tasks which a person must perform successfully during his/her earliest years in order to grow up to be a healthy adult, which I will define as one who can love, work, play, and enjoy autonomy to his/her own satisfaction, is that of learning to be comfortable within the world of his/her own body as well as the world outside it. "Comfortable" means that he/she does not fear living in either world; in order to become comfortable, each person as he/she grows strives for understanding and some mastery over both. The questions children ask, sometimes with anxiety, express this striving. For example: Why is the sky blue? Why is my sister different? How do eyes work, and how come we can see? Why do we eat food? What will happen if I can't learn to read?

As a child finds answers to his/her questions about his/her body and the outside world, he/she becomes able (among other things) to enjoy bodily feelings and listen to what they mean. The peculiar grumbling in his/her stomach means he/she is hungry. His/Her father's voice sounds different from his/her mother's. Medicine tastes bad, chocolate tastes good. That urgent feeling deep in the tummy has to be controlled until in the bathroom, and he/she has to keep his/her hands away from private places when anybody is looking.

If a person grows with a sufficient number or percentage of experiences which tell him/her that life is good within his/her comprehensible and manageable body and that he/she is sure of the love of his/her family, then he/she is likely to be able to take on new challenges in work, play, love, and autonomy. He/She is also likely to want to develop one of the things he/she likes to do or feel into a special personal skill which will earn him/her self-esteem and approval from important people. For example: He/She may learn to use his/her body to master a sport or a musical instrument. He/She may also want to work at developing intellectual skills and ability to make and keep friends.

Every person selects from among the human activities open those which will bring some happiness. From the techniques of almost any activity using the body, the mind, or the senses, an art form may result.

IV. The Artists among Us, the Arts within Us.

I would like to carry further the idea that from the techniques of almost any activity of the body, mind, or senses an art form may develop. First, I would like to assign a vector to art forms. (If you are a psychoanalyst of the object-relations school, you may find this particularly interesting.) I am defining art as an experience between a person and his/her environment, "environment" including other people. Art is not just "an experience," but also an expression of a relationship between a person and his/her environment. The vector describes whether in a particular art form the expression goes from within the person out, or from outside the person in. We shall call the first type an active art form, and the second passive, recognizing that all art forms shall in the end be found to contain both vectors to some degree.

Easily understood examples of active art forms include painting, music-making, dance. A great singer learns to allow his/her sound to flow out to other's ears; a painter learns to put outside of him-/herself what he/she can see within.

Everyone learns to use the strength and coordination of his/her musculature to some degree, but great athletes can command their bodies in such controlled and subtle ways that their performance is an art. Everyone uses his/her mind to reason and conceive, but the greatest thinkers are artists of the intellectual process.

For each perceiving sense (except perhaps for touch) there is an art form which owes its existence to the ability to recognize all the varieties of the perception. For each sense there is a schtick, so to speak, and a cult as well; all are passive art forms, depending on a taking in of sensory data.

Taste and smell, which are hard to consider separately, are associated with several art forms which are sometimes important in commerce but which are relegated to minor positions in our culture. (It is interesting to note that the more essential a developed skill is to earning a living, the more likely it is to be called a "craft.")

"Art" has leisure-class implications about it.) For instance gourmet cooking and dining have to do with flavors, textures, temperatures, and spices which create and blend separate sensory awarenesses. Tobacco smoking requires the learned ability to enjoy the different attributes of burley, Virginia, or latakia tobacco as they burn within a briar or meerschaum pipe. Augmenting bodily odors with perfumes is an ancient art. The fussy art of wine tasting is the basis of an industry, and it surely is a subtle business to tell a great wine from a good one -- which of course makes it just that much more of a social and sensory delectation for an educated palate.

There are so many kinds of arts directly dependent on visual perceptions. One may describe a painting as a specific group of visual stimuli whose colors, shapes, textures, shades, interrelationships offer themselves to the viewer for his perception. Of course, this kind of a description ignores the creation of the picture, but that is a different subject, I think.

If you have accepted the idea that there are active and passive art forms, perhaps you can think of other ways to describe the difference. How about creative and consuming? Not that there isn't creativity in artistic consumption and something consuming about creativity. (Yin and Yang fans out there take note.) (Which is not related to Cheech and Chong.) How about creative versus apprehensive (but that sounds too much like "anxious")? After all, one apprehends the world through one's senses. Oh, well. I think active and passive are best so far.

A critic of a creative-active art form is just a master of perception (the passive art form), who is able to connect his/her verbal facility facility to where the passive creation is going on. If he is a fine writer, like Bernard Shaw or even Burnett James, he/she may have created the active art form of criticism. (Perhaps psychiatrists can be thought of this way as "critics" of the emotional experience.) Active artists may make lousy critics because their active-creative facility demands that they channel into their active-creative process their perceptions of what they have taken in at a level below awareness. Also immaturity or vanity about their own creativity may color their perceptions of other art. I do not believe that a passive artist is necessarily just a castrated or aborted active artist, one who takes in without having a outward channel, since developing perceptions for their own sakes is an art form itself. Active and passive artists both add something of themselves to what they take in: creativity. This is the difference between perception and sensation, and between a person and a computer (I hope!). The active artist mingles what has come in with what comes from within and sends it out in a new mixture for us all to enjoy. (If an amplifier worked that way we would call it distortion!)

So, creativity is that which occurs where the vector changes direction, where what comes in through sense organs turns around either to come out again or to be stored somewhere inside. (That leads us to another subject..., a psychological discussion of the relationship of aggression to creativity. But I will not deal with that here.)

Well. If you are still there, perhaps we can agree that painting is one art, viewing painting another, likewise cooking and dining. Technology has altered the relationships of the active and passive forms, however, and new hybrids have arisen.

It seems to me that still photography may be an art combining active and passive forms. For what is photography but a way in which a person with the eye of an artist and the fingers of an ape can capture, recreate, and communicate what he/she sees? What a boon to such a person is the technology which he/she can use to extend his/her senses and turn his/her eyes into a painter's brush. Thanks to technology, everyone can now pick his/her favorite sense and sharpen it to his/her own purpose, like a safecracker who sandpapers the tips of the fingers. Come to think of it, there seems to be no art form in our culture based mainly on touch, although a friend of mine who knows about such things tells me that in parts of the Orient it is a custom to carry bits of material of varying textures in one's pocket to finger in idle moments.

V. Audiophilia Again

By now you may have guessed that listening to music on a home music system qualifies as a passive art form. Not only must one be an expert music listener; but it is now just as significant to be acutely aware of the sounds of various brands of audio components and the varying ways they can be used to affect sound. It is as much a part of the audiophile's art to experiment with deploying his/her speakers and comparing the sounds of various cartridges or record labels as it is for the wine fancier to know the tastes of wines from various vineyards in different years or the painting collector's to know how the painter's medium and materials affect his product.

I have found that an important use of home equipment is learning the sounds of a piece of music before hearing it live; it is a shame to waste the sound of a live performance by having it be a first hearing of something difficult to follow, and some advance homework may make a concert much more fun. Often, though, home listening is its own reward. A record no longer must mimic the sound of "concert hall realism," but may occasionally make a piece of music more coherent and clear than it ever was in concert (where you can't wave your arms and hum unless you really are Lenny Bernstein). The home listener can have more music at his/her command than any three Austrian archdukes, and know his/her music more thoroughly than any concert season ticket holder. He/She can pick his/her own programs, and if he/she has contracted tape recordosis will probably discover how his/her music listening can be expanded in undreamed of and perhaps even active-creative ways.

VI. Conclusions and Implications

Maybe, after all, in this age of plastic and TV dinners where image has replaced substance there is still room for something beautiful, something drawn from technology and human experience. Perhaps the search for a perfect sounding home music reproduction system is as important an endeavor as any human quest for beauty and enrichment of life.

But it is quite an ego trip for audiophiles to call themselves connoisseurs. That word "connoisseur" evokes social overtones. After all, the most subtle distinction the average American consumer has to make is between brands of cigarettes -- which has more to do with advertising image than the reality of cigarette "taste." And it takes money, leisure, and a special kind of childhood to be able to be in the lucky elite who can take such pleasure from the world.

There is another area of implications. Perhaps it is a logical next step for humankind to seek new sensory experiences or perhaps even new internal senses. Leaving the medical-legal controversy aside for a moment, it may be that the psychedelic experience, of which there are many connoisseurs among us, is the new and youngest passive art form.

That, too, is a subject for another article. Meanwhile I hope that the foregoing thoughts will help you to understand your symptoms and to embrace your pleasures with increased insight and satisfaction.