

INSTITUTE OF CURRENT WORLD AFFAIRS

ATW-2
Throwing Up In Mexico

Tepoztlan, Morelos
Mexico

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Dear Mr. Nolte:

Vomiting is not a subject for polite discussion in the United States, at least not around the dinner table. Perhaps it is also not a usual kind of subject for an Institute newsletter. Nevertheless, as a physician interested in alternatives to orthodox medical techniques, I consider it an extremely important subject for discussion because it has much to teach us about the workings of the body and the natural mechanisms available to us for altering internal processes.

A good place to begin is with the very emotional attitudes that stand in the way of our talking about vomiting in polite company. Vomiting is an ultimately anti-social act, at least in societies desirous of relegating natural functions to the obscurity of the lavatory, away from public view. Moreover, these attitudes seem to be justified by experience; most of us have vomited only in association with illness and do not think of it as something we could feel good about, let alone practice openly.

That such feelings are not universal may come as a surprise to many persons. But, for example, instructional materials on yoga urge students to learn to vomit voluntarily, to practice it regularly, and, ultimately, to perform it as a morning ritual (called jala dhauti), much as many people gargle. In this newsletter I would like to outline a theory of vomiting as a key to the operation of the autonomic nervous system, to report some of what I have learned about it from other people, and to describe briefly a few of my own experiences at learning to change it from an involuntary, unpleasant process to a voluntary, welcome method of extending awareness of internal functions.

In my medical training I was taught nothing about vomiting except as a symptom of medical illness, but I do not regret having learned that information. For, in fact, it is my understanding of the nervous mechanisms underlying the process that makes me so willing to pay attention to what yogis and

others say are the right uses of that mechanism. Vomiting is a reflex action. That is, it is initiated by nervous impulses from the periphery of the body (usually the stomach), which, traveling to a center in the brain, produce an outgoing nervous impulse that causes the actual regurgitation of stomach contents. Now, the vomiting center happens to be in an anatomically discrete part of the brain called the medulla oblongata, the connecting link between the lowest portion of the brain stem and the uppermost portion of the spinal cord. Because it also contains centers regulating heartbeat and respiration, the medulla is properly considered the vital center of the entire nervous system whose disruption means cessation of the life of the body. Occasionally, vomiting arises directly from irritation of the medulla itself in the absence of anything wrong in the stomach (so-called "central vomiting," which may be a symptom of serious trouble in the brain). Because the medulla is that part of the brain farthest from the cortex (and closest to the spinal cord) and because its centers control such basic rhythms of life as heartbeat and breathing (which will continue even in deep coma), neurologists think of it as a keystone of the involuntary nervous system.

The nerve fibers that issue from the vomiting center in the medulla to the alimentary tract form part of the vagus nerve — a huge conduit that leaves the cranium to innervate many structures in the throat, chest, and abdomen. The vagus is a principal component of the parasympathetic nervous system -- that portion of the autonomic system whose influence is to slow down certain internal functions and conserve energy. For example, when vagal fibers to the heart are stimulated, heartbeat slows down. During the act of vomiting massive vagal discharges occur producing a number of physiological changes in addition to emptying of the stomach. Is it possible that learning to vomit willfully opens this important channel of unconscious activity to conscious influence? And might it not also extend cortical influence in the very center of the unconscious part of the brain, the medulla?

I think the answer to both questions is yes. And these neurological considerations make me inclined to listen carefully to Easterners who say that learning to vomit at will is a beneficial exercise. Eastern systems of mind development like yoga are based in subjective experience of internal states, not in neurology, and often yogic conceptions of the nervous system are fanciful. By contrast, we in the West know much about neurological mechanisms but often very little about their correlations with experience. What is the significance of the experience of the vomiting reflex and what is its purpose?

I have seen vomiting function to change conscious experience dramatically in three ways:

1. As a means of ridding the body of unwanted materials: Vomiting often brings instant relief and a sense of well being to someone who has ingested substances that the body does not want to accept, such as toxins. It is worth recalling that the in-

side of the stomach is actually outside of the body because it is continuous with the exterior, and that substances have not entered the body until at some point they cross the walls of the stomach or the intestines and pass into the bloodstream. Vomiting merely shunts things that are already outside of the body back to a point where absorption into the body cannot occur. Anyone who has experienced this knows how rapid can be the transition from sickness to health.

2. As a means of ridding the body of unwanted sensations: Occasionally, in the absence of ingestion of toxins, vomiting can serve as a powerful cure of such conditions as motion sickness and headache, particularly if undigested food remains in the stomach. Many persons experience relief of seasickness as soon as they can throw up. Probably, fewer have learned how to get rid of headache by the same means. A young Indian man I met in Tepoztlan described this method to me: If a headache is so severe as to be incapacitating, it can be eliminated in three steps. First, while lying down with eyes closed, create in the mind's eye a visual image of the pain, preferably with discrete form, color, and location. Second, again using the visual imagination, transfer the image to the stomach. Third, expel the pain by vomiting. Of course, this technique assumes that one has some mastery of the art of vomiting.

3. As a means of ridding the mind of unwanted emotions: That vomiting may have mental or spiritual applications may seem strange. Quite commonly, however, persons who take psychedelic intoxicants experience nausea and anxiety at the onset of drug effects, and the sooner they can vomit, the sooner they can get into a high state of consciousness. Many natural hallucinogens -- peyote is a good example -- are supposed to trigger nausea by their direct pharmacological actions. Yet Indians who eat peyote regularly do not become nauseated. Other drugs are not known to be nauseating by virtue of their pharmacology, yet some persons who try them experience severe nausea that is relieved by vomiting. Having watched many persons take many drugs, I am convinced that nausea at the onset of a hallucinogenic drug is a physical analog of mental resistance to "letting go" -- of extreme anxiety about detaching oneself from the ordinary consciousness of the ego in order to experience reality in another way. By concentrating this resistance and anxiety in the form of physical sensations in the stomach and then expelling them by vomiting, a person can cure himself of these unwanted emotions.

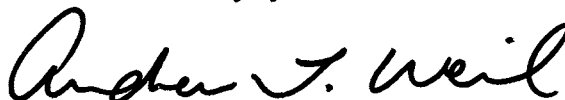
How difficult is it to learn to use this natural mechanism and what are the obstacles to mastering it? Much of the difficulty is mental rather than physical. Until one gets over the idea that vomiting is unnatural, unpleasant, and wrong, one cannot begin to work the autonomic controls that nature has given us. People I have met who have mastered the technique say that when isolated from these negative interpretations, the physical act of vomiting becomes a pleasant, natural sensation

that promotes a feeling of well-being and health. Many methods are available for learning the process, from drinking quantities of salt water and pressing on the stomach to inducing retching with a finger in the throat, but the goal is to be able to vomit quietly, smoothly, and with as few external aids as possible. Interestingly enough, women seem to have less difficulty than men, possibly because they are more willing to abandon themselves to internal sensations.

Over the past year in the course of my own work at yoga, I have practiced vomiting with sporadic success and intend to keep going. So far it has been difficult, more difficult, say, than mastery of the yogic postures (asanas) or breathing techniques. When attempting to vomit I have found it useful to remind myself that I am not trying to remove things from inside my body, merely to move things already outside. I have also found proper mental imagery to be essential. Part of the secret of getting hold of the medullary vomiting center seems to be imagining that mechanism at work -- that is, holding in mind an image of a focus at the base of the brain that is connected in just the right way to the stomach to make vomiting possible. From the successes I have had (usually on occasions when I have genuinely wanted to get something out of my stomach), I can testify that the result is indeed a feeling of well-being; one side-effect, for example, is a profound stimulation of respiration, possibly a consequence of exercising the medulla. Again, vomiting is usually accompanied by lacrimation (a further spillover of autonomic activity), and the sensation of tears freely pouring from the eyes is one I associate with invigoration and cleansing.

Here in Mexico I have met a number of persons interested in the subject, including some who have had very positive experiences of throwing up. Indians and persons who live close to Indians tend to be more accepting of bodily processes than most Americans. At the same time, Indians, though they may be perfectly happy to vomit whenever they feel like it, may not have the knowledge of the nervous system to motivate them to acquire mastery of the process in a disciplined way. If we are to achieve harmony of mind and body we must try to synthesize intellectual and experiential knowledge in a common framework. Like most physicians trained in the United States my knowledge of the autonomic nervous system is mainly intellectual; while I am in Mexico I shall continue to practice vomiting as one means of complementing this knowledge with the wisdom of direct experience.*

Sincerely yours,



Andrew T. Weil

*I am grateful to Dr. Frieda Morris for inspiring me to inquire in this direction.