attribute the failure to lack of logic and reason.

The psychobiological unity of human personality makes it very improbable that there is such a thing as reason totally uninfluenced by emotion. When the rationalistic view of man leads to undue suppression of the emotions or inadequate utilization of their inherently adaptive functions, they tend to become mysterious and adventitious forces that misguide our thoughts and overdetermine our actions.

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Crude Altimeter

While flying at altitude in an unpressurized airplane a few years ago, I was surprised to discover that by using my mouth I could improvise a crude altimeter. Because I have yet to run across anyone who has noticed this, it is perhaps worth describing.

I first became aware of this phenomenon while flying at 7.5 km waiting to make measurements above a growing cumulus cloud. As we flew back and forth, for something to do I idly produced a suction in my mouth by retracting my tongue with my lips closed. At lower altitudes, it is impossible to pull the tongue back very far because of the strong force exerted by the atmosphere. At altitude, to my surprise, I found that I could pull it back rather easily, thus creating a cavity filled with airless vacuum, or, more accurately, with water vapor, which at body temperature has a partial pressure of 47 torr. On subsequent flights I could begin to observe this effect at altitudes of 6 km or even a little lower.

In laboratory experiments it is possible to reduce pressure in one's mouth by about 400 torr. This indicates that at altitudes above 5.4 km, where the total pressure is this value or less, it is possible to overcome the force of the atmosphere and produce a vacuum, thus forming a rudimentary aneroid barometer. It would be interesting to know if some organisms, for example, leeches, may be capable of producing similar vacuums against even higher pressures, perhaps utilizing this phenomenon to some advantage.

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