

## CHAPTER THREE

### BRAINWORK

The human skull is an impressive work of natural architecture, especially when bald. It seem to be an apt crown for a creature of will and decision. But look inside this formidable bone casing and see what a disappointing glob of ooze is the master of thought. Undifferentiated, it has a pasty white stuff over a grey matter, spangled with fibrils and fibers, the whole suffused with pink from countless blood vessels, and, if it could be dug into, it would reveal firmer membranes, and a chunky stem that connects to the long spinal chord.

The differentiation of large areas is so vague that some surgical operations are couched in how many grams (of the 2000 or so) are removed or how many millimeters of depth one may safely penetrate.

Unlike other organs in the body, the brain does not usually reject tissue transplants. This feature not only suggests that the chemistry of the brain is generalized but also why specific functions can locate here and there and relocate, too.

Brain operations are delicate partly because we do not know what to be delicate about. Still, successful brain operations must be as old as the oldest settlements of mankind, because a number of ancient skulls exhibit trephinations, penetrations by bores and saws, and a subsequent healing and continued life. What came out is unknown or perhaps the aim was to relieve pressure; there is, after all, little reason to believe that the atmospheric pressure on earth, or the electrical pressure for that matter, have remained conveniently the same.

Anyone who has confused brains with "sweetbreads" at a butcher shop will agree that "the brain has many characteristics of a gland." And R. Bergland and R. Page go on to say: "it contains hormones, it is bathed in hormones, it has hormone receptors, hormones may serve as its synaptic neurotransmitters, and hormones modify the brain's main function, behavior. .. Endorphin and other hormones may be produced in small quantities locally within the brain but transported in larger quantities from the pituitary to the brain on demand." [1] We see one reason for the brain's innocuous appearance now: its innumerable cells are like a massive inelegant hotel, in and out of which hordes of tourists flit. It houses a great many transactions.

This grand hotel is well lit. It is completely electrified. Every neuron is an electrical capacitor. The hormones could not move so readily otherwise. For the brain lacks muscle to lever the hormones about, and it is insulting slang to call a man a "musclebrain." The blood capillaries of the brain are very numerous and carry around the food of the cells and remove their excrement. They also transport hormones to their work sites. If the mechanical pumping system is out of order, even for a few minutes, and the hormones do not get to work, many brain cells asphyxiate and the lights go out forever. The capillaries may burst, too, from time to time; the larger the rupture, the greater the damage, but the location of the stroke is more important; vital faculties may be impaired. Although the brain can switch many functions around its inchoate mass, there is a limit to its versatility.

Its liability to asphyxiations and strokes does not mean that the brain is overworked. A persuasive case can be made for the belief that humans have far more brain matter, especially of the highly touted "grey matter," than is needed for normal functions. J. Lorber found a "socially completely normal" young man with a large cranium, a 126 I. Q., and a first class honors degree in mathematics, but with cerebrospinal fluid

taking the place of at least nine-tenths of the normal complement of cerebral tissue.

Highly excited and continually enraged characters are sometimes subjected to leucotomies in which, perhaps emulating unknowingly the ancestral practice, some material of the frontal lobe is cut or burned away like a malignant tumor, leaving the patient afterwards somewhat dulled but relaxed. One wonders whether there is a disproportion between the storage capacity and the practical facilities, among other problems, so that the active behavioral outlets are technologically backward. Perhaps this might account for the displeasurable unsatisfied agitation of people, who sense too much, undergo spasmodic muscular urges, and want to express an impossible number and variety of thoughts.

Suppose infants were to be typically relieved of some of their cerebral matter, in a practice like circumcision. (Frantically crying small children have been experimentally leucotomized, in fact.) How would they develop? Would they be nicer to their parents? Then Bleuler would not have to laugh at those who, he said, attributed insanity to the lack of family discipline.

They might even be relieved of one of the two hemispheres of the brain, preferably not the left hemisphere, which seems to have some rational qualities. One would hardly know the difference — after all, who knows that a person is going about with a kidney removed? — and, as we shall see, some difficult human problems might be solved. For one thing, everyone, without exception, would be right-handed; this would represent a considerable social gain and relieve many people's anxieties. But it might handicap the ten per cent or so of genetic left-handers whose left brain is on the right, and they would lose some of their more "rational" faculties! This could be prevented by waiting until the handedness of the infant is proven, but would leave society with its left-handers.

Still, the government might wish to allow another ten per cent or some percentage to lose their left hemisphere as a low-budget method of supporting arts and culture, we would have an anatomically generated group inclined to be musicians, poets, and artists who will be right-handed, but in other major respects distinct from the rest of the population; they would probably not understand fully the joys of mathematics, logic and spelling; the caste system, sought for thousands of years in India and elsewhere, would become a fact.

### *THE ANIMAL BASEMENT*

Little is known of brainwork, but what is known can carry us surprisingly far in our conception of human nature. It is well, first, to remind ourselves of how the human brain and central nervous system relate to their lower class relatives of the animal kingdom, and how much of human activity begins, and ends, in the basement. Then we can suggest where to look in the central nervous system, especially in the brain, for the source of those operations that are peculiarly human: the activations and transmission system, the electric and chemical processes, and the proneness to specialization of functions found in the cerebrum. With this knowledge, we may venture such hypotheses as appear plausible on the dozen or so aspects of human nature that are the hallmarks of this book: the polyselves, control, anxiety, instinct-delay, displacements and projections, memory, obsessions, habits, language and symbols, pragmatism and sublimation.

Animals sense their surroundings — smells, chemicals, sights, temperatures and so on. Their sensitivity can be more varied, greater, subjectively "more ingenious" than the human's, or less. Like man, "an animal does not react to all the changes in the environment which its sense organs can receive, but only to a small part of them." [2] (A carnivorous water beetle does not

attack and devour a tadpole simply if it sees one, but it will attack any solid object, tadpole or not, if a kind of "smell of meat" arouses it.) Internal operations of the nervous system must contribute "motive" in animals.

Thus Tinbergen goes on to say:

There is a mutual relationship between internal and external factors in the sense of an additive influence on the motor response. A high intensity of one factor lowers the threshold for the other factors. A high hormone level increases the responsiveness to external stimulation; if the hormone level is low, very intensive external stimulation is required to bring the total of causal factors above threshold value.

Automatic centers of the Central Nervous System maintain a continuous flow of impulses to central nervous motor mechanisms; but some kind of block prevents an uncontrolled and chaotic discharge of muscles. The discharge requires adequate stimulation by signs typical to the species, whereupon an innate releasing mechanism removes the blockage.

All of this about the CNS and instincts of animals apply to humans. Rigidity of instincts and behaviors, and the restriction of choice and decision, in animals, generally are more than among most humans but are not to be exaggerated. That food cannot divert animals from sex and *vice versa* is of course incorrect, and so on to the confusion of decision-making, that is, the selection of what drive to pursue and how far, which is vulgarly considered to be a human problem alone. Any animal can take a long time to make up its mind — too long, in many cases, and disaster or failure or good fortune may result.

In the thirty years since Tinbergen wrote his book on animal instincts, ethology has run wild and is pressing upon the sacred functions of the human mind. We need to be most cautious in our defense, consequently. The cerebrum of higher animals

directs the hypothalamus to cause the pituitary gland to stimulate by an "adrenocorticotrophic" hormone the adrenal medulla to exude catacholamines and the adrenal cortex to emit corticosteroids that plague the motor and nervous system from the brain to the toes for action. The hypothalamus governs the pituitary gland, controls the clocks of the brain, alerts the body to changes soon to occur, and synchronizes the performance of the endocrines throughout the body.

The hypothalamus, buried deep in the brain, is so widespread among animal species that it is unlikely to be the source of distinctive human behavior or to have changed to become so. The fact that it is responsive to cerebral signals suggests that the "human-disease", when it affects the whole system just described, originates in the cerebrum.

The human anatomy offers essentially three brains, it is true — four, if the cerebral hemispheres are accorded autonomous status. One is reptilian (the archicortex), one from the lower animals (the mesocortex), and one from the higher animals (the neocortex). A. Koestler has argued that grave problems arise for humans because of "insufficient co-ordination between archicortex and neocortex [3]. He ascribes intellectual operations to the new brain, and emotional behavior to the lower, older systems. MacLean refers also the "schizophysiology" of the limbic, as the older is called, and the neocortical system, saying that the old brain provides a crude and confused animalistic and nonsymbolic picture of the outer world [4]. Koestler proceeds to the theory that rational behavior, housed in the neocortex, is interrupted, disorganized and overwhelmed often by the activity and responses of the older systems.

I cannot follow this reasoning. For one thing, it could take no account of the late splurge of research into inter-hemispheric differences and of late electrochemical research. More significantly, the theory seems to be based upon an old theory

of human nature, the mind and body distinction, the reasons-and-emotions duality, the rational-irrational distinction, that has led psychological theory nowhere. The human can be viewed as fully nonrational, or as rational, but so can the earthworm. H.J. Morowitz has gone the limit and asks sympathetically, "Can Bacteria Think?" They are human-like in tissue, functions, and genetic coding. They respond to varied stimuli, exhibiting sensing, big-clocks, memory, and aimed organic mobilization (decision). The human is, of course, very different on traits that humans deem important.

The cerebral cortex or neocortex activates intensely and overall when stimulated by pain or strong anxiety. Blood flow, metabolism, and electrical fields and discharges increase. The person becomes alert to the self and the world around him. There is no question that the pragmatic philosophers were correct in assigning to anxiety, to the sense of problems, the major role in problem solving efforts, hence intelligence. Man would like to solve his problems by automatic reflexes but he must feel pain and anxiety, both specifically and generally before he can perceive the problem, and while he works upon it and resolves it.

The cerebral cortex, for all the noble brow it presents and the most important tasks assigned to it, results from a slap-dash design. Surprisingly, when the subject is at rest and awake, in a comfortable supine position with eyes closed in a silent laboratory and neither spoken to or touched, the pattern of flow throughout the cortex is not uniform. On the contrary, the flow is always substantially higher in the front part of the cortex than in the central or rear parts [5]. The density of blood vessels is the same hence "the remarkable difference in flow rate suggests that the overall activity level of the front part of the resting brain is about 50 percent higher than that of the rear parts." [6]

Apparently, as expected, the aware human is spending his quiet time "getting his head together." The phrases are: "busy

planning and selecting" behaviors; "focused on inner thoughts, particularly on reflections on one's own situation;" "simulation of behavior." Notable is the fact that the perennially excited frontal region of the brain seems to suffer from poor evolutionary logistics, a merely ordinary blood circulatory system. It is as if Washington, D.C., had the same postal system as Detroit, but the employees worked longer hours. The situation suggests that the evolutionary saltation or quantavolution which precipitated mankind, in order to evade helpless confusion, may have selected large frontal brain mass but that this expansion in volume did not result in all-around equalized work assignments in coping with the problems presented.

Widespread among animals and working to all intents and purposes as it does in man, is the neuro-transmission system. In humans, neural impulses are passed from one neuron or nerve cell to another; 10 billion neurons, these with their projecting fibriles—an axon to emit a message, dendrites to receive them — are half in the brain and half elsewhere in the body. No two neurons are chemically the same, because, said Polyak once, "All neurons have different *shapes*." [7] And they carry differently shaped muscles along their dendrites, too, according to Crick. Between any two neurons exists a gap, a synapse, where chemical neurotransmitters wait like boats to ferry messages among the neurons. There may be a dozen types of boats; a few pick up a message merely to dump it, while the others transmit their messages dutifully.

An increased electrical potential of a neuron, relative to an adjacent neuron, makes it emit a charge which rides a chemical molecule, the neurotransmitter, across the synapse gap to hand it over to the adjacent neuron. The neurotransmitter then breaks down like the exhausted messenger in King Lear. It seems a great waste to lose these myriad molecules when they might be left to ferry many another charge between neurons; perhaps it is to keep the hormone factories humming.



This island-hopping path may be considered "slow" or "fast" depending upon what kind of speculation one is indulging in. Speeds of a mile a minute are common. Delays here may be significant in letting messages go elsewhere. Also the messages may not get through because of the insufficiency of neurotransmitters to carry them and because of sabotage by other boatsmen.

The neurons are exercised to do their part. They beat electrically in the nervous system's rhythm of perhaps ten times a second. "Neurons... have electrical beats, and large numbers of them beat in place, as armies marching in step. When impulses come in, from the eyes particularly, the neurons begin to scintillate, to get out of step with each other, and the brain wave rhythm breaks up." So says Ralph Gerard [8]. Too much synchronization gives tubular vision, too strict an attention to one thing. Too weak a synchronization would promote inattention and flightiness. Perhaps, thinks Gerard, the strictness would depress attention and be a cause of mental depression; perhaps slackness would elicit anxiety, mania, even epilepsy.

We say, yes, this is an old and common system, but we can see in it some possibilities of human peculiarities. Gerard gives us more food for thought: the thresholds for messages crossing the gaps fluctuate; electron movement, Brownian movement, and other factors vary at any given synapse. If this were not the case, every input would excite exactly the same output. Innovation would be as minimal as with spinal and emotional reflexes. With threshold fluctuations the same, stimulus may vary the paths of its impulses and thus favor innovation. Of course, he suggests, in this case there would be less coherence and more flights of ideas.

### *THE LOCATION OF INSTINCT DELAY*

We wonder whether the synapse may be the location of the instinct-delay that we regard as the basic glory and problem of humans. Gerard points out that

The synapse can only be present because it is important not to have a message go through on an express track from one receptor to one effector. Otherwise, why break the nerve path and cause slowing, the chance of confusion, and all the rest? The synapse permits changeability, allows the units to connect now this way, now that way... Every synapse is thus, in effect, a decision point. A message comes to it from the pre-synaptic fiber; does it go out over the post-synaptic one or doesn't it go out? That is the decision the nervous system makes — at a near infinity of places and times [9].

Many animals have the same system, indistinguishable in detail from the human. Let us grant that here may be the source of animal decision-making, for instance the determination to hunt rather than rest, or simply to rest rather than move. With this, I see two possibilities for the "Human Difference."

We may have a pollution problem: the human system may be dumping so many neurotransmitters and neuro-inhibitors into the synaptic canals that messages cannot pass or cannot pass clean. This would occur, say, if the human endocrine glands were overbusy at a constant rate, whether from mutation or some physiological constant, environmentally induced. Suppose that dopamines, which are neurotransmitters, generally clutter the passages: the results would be a universal set of schizophrenic behaviors. Remove a large proportion of them and we revert to the hominid.

The present interest in dopamine receptors in the brain and elsewhere highlights the electro-chemical complexity of the human being. Dopamine neuroreceptors are more numerous in the brains of diagnosed schizophrenics, especially in the limbic area and the caudate nucleus. Depressing the receptors suppresses schizophrenic symptoms. The energizers of the dopamine receptors are numerous drugs, some of which exist

naturally in the body. Does a particular diet or food do so? Does an atmospheric gas do so? A particle? An ion as attached, for example, to oxygen? Does ambient stress level? Does climate? (hot, cold, damp. . . ?) Winds? Could a combination of these stress the hominid to the point of humanness? And persist permanently?

The body absorbs a continuous supply of small negative ions, negatively charged molecules. There are some 1000 to 2000 ions per cubic centimeter of air over open land, in a ratio of five positive to four negative, according to Soyka and Edmonds [10]. Many reports declare overdoses of positive ions are unhealthy, inducing overproduction of serotonin and emotional imbalance and listlessness. A.P. Dubrov has assembled a volume of studies, many of them from the Soviet Union, on the effects that the geomagnetic field has upon the biosphere, including humans [11]. The two effects—the ion and geomagnetic— are related, and both are implicated in brain activity. At today's levels, they condition the anxiety level of humans, and the behavior of plants and animals. Whether the present rates were established in the course of human evolution is important for explaining human nature today, but is consigned to the volumes on *Homo Schizo I* and *The Lately Tortured Earth* for discussion. How these phenomena affect the speed of mental operations and memory recall is unknown.

Like people, who pollute their own environments, the brain is frequently its own poisoner. For, in a *coup d'état* which may have occurred at the time of humanization, the "higher center" of the brain seized most of the power to requisition the drug supplies of the body and to order the manufacture of more. Even though a hemo-encephalic barrier exists to protect cerebral tissues from most of the drugs going through the body tissues, the barrier can be breached by concussions, intoxication, and "affective storms" which result from the sudden flushing of the brain with certain hormones. The storm could originate from traumatic fear—accident, rape, battle, etc.

Acute states of anxiety ensue. If "continuous and successive, they might weaken the hemo-encephalic barrier, causing an increase in permeability, and, consequently, the affective ability of the individual." [12]

The instability of the cortex is rendered more possible by its separation by other barriers from the midbrain extra-pyramidal apparatus. Cortical agitation may itself promote increased stress on itself, also, and on the central nervous system if it breaks up, as for example happens temporarily in hypnosis; its transactions with the midbrain and limbic system through the extra-pyramidal apparatus are destabilized.

A baffling problem is presented in that no single substance seems to control any given behavior of the human or his brainwork. The brain has a great many endorphins and peptides, which are identical with hormones found throughout the body. What instructions do they convey? Are they coded or merely combined in their association with other substances and electrical charges? The flow of adrenaline from the adrenal medulla, a neural tissue atop the kidneys, is excited by nerve fibers which can ultimately be excited by the cerebral cortex. Electroconvulsive therapy, for example, applied to the brain, activates the adrenal medulla. Drugs can motivate cerebral activity but also distort it. Since enhanced motivation always presents the problem of its control, the distorted attitude is most likely out of control.

The pituitary gland is associated with the brain, part of it being composed of brain tissues. It emits perhaps a dozen hormones. These affect growth; they stimulate thyroid gland activity, the sexual organs, pigmentation; they influence blood pressure; and so on. These processes and many others in endocrinology are not well understood yet. Substances come from several sources; they may have specific or general inhibitors. They may affect several organs, their quantities do not have well-measured

effects. When later we speak of displacements, the multi-functional overlap in behavior affecting endocrinology becomes a factor of importance; it invites confusion (including perversions) in the absence of intense directiveness toward a goal.

If one also asks only which gland or organ is the most important determinant of human nature, one would have to give the traditional answer: the brain, and particularly the cerebral cortex. All else is almost indistinguishably animal and no peculiar human operations have been noted for any function or secretions. We cannot discount the possibility of a constant change of a quantitative nature in the total endocrinal system or even in the adrenals that would place the human in a distinctive drug environment, compelling him to behave differently—to think, to talk, to make war, to have gods. However, if this has happened, it is because of a "decision," a forced and involuntary command, of the cerebral cortex. It orders its own drugs, its own blood supply, its own electrical currents and charges. It can both reduce and increase its orders: that is the vital point. It may appear, all too early, that I am coming to the idea of the World as Will, to use Hegel's expression, so I must say that I am exceedingly aware of the complex interaction occurring inside the human and between the human and his environment. *Homo sapiens schizotypus* is not at all the traditional idea of cerebral *homo sapiens sapiens*.

The human cerebrum, we hypnotically repeat to ourselves, is much larger than the primates', even if exceeded by the elephants'. If the human central nervous system, including the endocrine glands, is not proportionately increased in size, we have a situation where electrical and chemical supplies have to be generated or, if not generated, then rationed among a vastly greater number of neurons and synapses.

This, although working against the first mechanism of Human Difference— pollution and excess—would yet have the same

effect, of confusion, dispersion and delay by frequent non-achievement of synaptic threshold requirements, overworking feedback signals for more supplies. Far more displacements would occur. The most "ridiculous" and "irrelevant" behaviors and thoughts would be normal. A chronic general anxiety would be present: justified fears of failure coupled with continuous interference in the completion of tasks. This begins to look like the Human Difference.

That the speed of neural activity accounts for differences among species is unquestionable. Alexander von Muralt has called "saltatory conduction" a great advance in evolution [13]. The speed with which nerve impulses are transmitted is lowest in primitive forms and highest in mammals. It is 25 meters per second at 20 deg C in myelinated (sheathed) frog nerves to 100 meters in mammals. The velocity depends upon the conducting mechanism, the diameter of the fibre, the myelinisation of the fibre, and the ambient temperature. The cephalopod nerve must carry a far heavier bulk of fibre and consume much more oxygen to carry the same message as a frog nerve. The frog nerve relies upon tubular sheaths of high-resistant protein, myelin, to concentrate the passing electrical impulse, and upon feeding the impulse at nodal intervals between sheaths with ions and dyes to accelerate it by leaps from one sheathed interval to the next. Mammals have evidently a more efficient system than the amphibious frog.

Experimentation is in too early a stage to distinguish between man and primates with respect to their relative efficiencies in saltatory conduction. That man's conduction velocity may be less, or may put strains on the supply of charges and accelerators is conceivable; humiliating though it might be to possess a "regressive" evolution, this could promote a generally higher level of nervous tension, hence "intelligence."

Holding neural speed constant in all "higher" animals, there would still exist a speed problem with humans. We should

inquire whether the human brain expanded coincidentally with humanization or "long before." If the two happened together, humanization might be the effect of slowed responses owing to greater synaptic distances. In the simplest model, two types of distances are involved in a stimulus response. Thus: the left hand transmits a feeling through the central nervous system to the right brain hemisphere, which feels "hot" but must transmit the information through the intervening fibers of the corpus callosum to the language center of the left brain, which then forms the words "it's hot !" for the voicing apparatus to exclaim. First, does the large size of the right cerebral hemisphere make any difference to the speed of the impulse of the heat signal? Second, does the distance traversed within the brain to inform the left brain mean another delay? Third, does the distance from the language center to the exclamation center and then the voice muscles add more delay? The answer in all three cases is probably "yes."

Unfortunately, we are not in a position today to know these three speeds, nor those of a primate with which we would compare them. The interhemispheric transfer time has been studied and times of from 3 to 28.5 milliseconds have been obtained for fairly comparable tests. R. Puccetti, calculating that a flash of light through the left visual field to the right hemisphere, thence to the left hemisphere for conscious reporting, would take 9.75 msec for a certain subject, reasons that perhaps twice this time, 19.50 msec, would be required for the right hemisphere to 'know' that the signal had been completed; that is, only after 19.5 msec would the transaction be fully perceived. He believes the delay must be unconsciously perceived but suppressed, "fudged over", to use the vernacular [14].

Swanson and Kinsbourne found interhemispheric transfer times of from 2 msec to 21 msec depending upon the degree of uncertainty and displacement of location with which the subjects were presented the stimulus; the findings led them to

doubt that the interhemispheric delay was significant [15]. The difference between 21 and 2 was assigned to the searching process. The authors grant the simplicity of the test. Even a minimal difference would be greatly enlarged if the brainwork had to zig-zag many times across the corpus callosum. (An experiment with a cat showed a first interhemispheric crossing of under 10 msec velocity and a second interhemispheric delayed response to occur 40 to 50 msec after the initial response.)

Swanson, Ledlow and Kinsbourne conclude that "crossing the structural link does take time, but the time is short and is overshadowed by other factors that involve how the subject distributes attention before stimulus presentation and how the stimulus directs attention after presentation." [16] This generalizes from tests so simple that ordinary animal behavior must involve many times the interhemispheric delay. And only in the case of humans is there a significant specialization that would necessitate interhemispheric transfer and coordination in a large proportion of brainwork and behavior. The human exercises many of his important qualities through myriad transfers.

When a hemisphere is performing one of its special functions, high electrical measures register, by contrast with the opposing hemisphere. The activity is evidenced in high average evoked potentials (AEP) and in electroencephalogram beta waves [17]. These results confirm that the experiencing which is taking place in one hemisphere is not occurring strongly in the other [18]. Under such circumstances, there must ensue over time a great many contradictions between the left and right brains, in memory, method, and predispositions of attitudes and behavior. Every new experience therefore requires more preparatory transfers for coordination and planning.

The "ever restless human mind" thus must be more than a metaphor and more than an abnormality of some people. To



behave as a whole unity, decisively, with both hemispheres, requires continuous trade-offs of impressions. If enough cannot be done while awake, dreamwork must go on apace. Here, too, is a source of obsession. Transfer dyssymmetry of several types occurs analogous to coordinating two allied armies on a battle front, one can never be sure that all are agreeable, informed, supplied, and prepared for action, and the action carries its own nasty surprises.

But, before going further with the potentialities of the bicameral brain for producing human nature, a brief statement of the situation may be in order. Many studies have appeared in the past few years [19]. An impetus was provided by the availability of persons who had undergone a commissurectomy in which the cord of fibres constituting that giant commissure, the corpus callosum, was severed. With this, the great part of all direct connections between the two cerebral hemispheres is broken. The left side of the brain is not privy to new information or signals presented to the right brain, and *vice versa*.

The patient is not apparently abnormal; indeed, if the operation were performed to block epileptic seizures, he feels better, because the electric storming of the right hemisphere cannot cross the chasm of severance so as to storm the left hemisphere. Sperry wrote: "Everything we have seen so far indicates that the surgery has left each of these people with two separate minds, that is, with two separate spheres of consciousness,"[20] — together, we would add, with the general consciousness discussed above.

The gist of the studies, whether carried out upon normal brain structures or commissurectomized ones, is that the brainwork of the two hemispheres differs. Although either hemisphere can carry on all known mental operations alone, when the two sides are coordinated in the normal manner, each has its special functions and "superiorities." "Asymmetries are in general

present at birth or in early childhood or even in utero.. very probably genetically determined.. not absolute, but are distributed along the spectrum.."[21]

The left hemisphere, which, contrastingly, connects with the right side of the body, is called dominant (except that in true left-handers the right hemisphere is dominant), not so much because it specializes in the logical and analytic processes, and verbal and mathematical functions, as because it controls the right hand. The right hemisphere specializes in spatial orientation, arts and crafts, recognitions of whole images, and music and acoustics, including vowels but not consonants. Generally the left brain is more localized, the right more diffuse and prehuman [22].

Yet something of all of these occurs in both hemispheres. Some of it is culturally induced; fluent Japanese speakers carry their vowels on the left, westerners on the right [23]. The right hemisphere (until the Japanese case came along) was described by some students as feminine, the seat of intuition and artistic taste, whereas the left was labeled rational and correct.

Memory is notably diffused throughout the brain, although a single hemisphere or less could store more memories than one could ever recall. A hemisphere is insensitive to its sources. It does not footnote a datum as coming from outside or from across the corpus callosum.

In fact the brain receives, recognizes and stores information and sensory bits without discrimination. They all become electrochemical transmissions whether they begin as caviar or cacophony. Once they reach the brain the transmissions generate resonances in a number of cells, sometimes widespread, sometimes localized. If they are intensive experiences, they resonate thousands of times on top of the electrical rhythms already present in the cell. They dig in especially where similar circuits already are patterned, and both

reinforce, refer to, and learn from (are modified by) the preexisting patterns. Discriminations of sight, hearing, touch, smell and taste are created in the brain. A taste of nectar is a gang of electrically resonating cells with experiences of sweet things from the mouth. A mild electrical stimulation of related cells in the brain might provide an even sweeter taste.

The latest model of the brain—and there have been many before—views it as a repository of holograms. A hologram is a global representation of an object produced by two laser beams, one focused on the object prior to interfering with the other beam, and the interference pattern can record itself on a photographic plate with what our brains regard as verisimilitude.

Karl Pribram has illustrated the holographic process by a tennis novice watching an expert play. As he observes, his brain makes transformations of the whole configuration, activating and impressing the appropriate motor patterns. That is, the brain resonates to the watched behavior and is reminiscent of the gestalt theory of learning and problem solution [24].

In his treatise on the brain, Pribram points out that any piece of an artificial hologram film reproduces the whole of the figure, which, if analogous in the brain, means that every cell or a great many clusters of cells might contain total images of much that enters the brain. This may be why, in so many instances, a lesion of the cerebrum is compensated for, the brain being in this regard one of the most dispensable tissues of the body.

In addition, the hologram concept lets one explain better one of the two basic types of logic engaged in by the brain to simulate the recapture of primate instinct, the analogue and the digital logics. Without reliance upon the calculating modes of the left hemisphere or of speech, the right-handed person can employ his left hemisphere on a parity basis with his right in accomplishing instant intuitions of the connections between all

manner of distantly related objects, memories, and ideas by superimposing new holograms upon old and reacting to the new experiences in the light of the old.

The brain is perhaps receiving and storing prior holograms in the millions, and is recognizing its own when its ordinary feat is duplicated outside, as artificial holography. Animal brains must make holograms too. The point is that humans may be making two sets for each hemisphere. Such a situation may have grave consequences, because the two hemispheres are not identical and add different resources to the process.

The division of holograms, together with the specialization found in each hemisphere, and even adding the delays occurring in interhemispheric transmission, cannot overcome the centralization forced by the pragmatic needs of the one body, the shared limbic and midbrain elements, and the central nervous system and musculature otherwise. There exists a sensation of consciousness pervading the whole brain down to the stem.

For example, a concussion will usually act to depress generally all electrical activity; the localized blow is referred generally. Again, in a 15-year-old right-handed boy, callosally sectioned, the right hemisphere could not initiate speech, but could understand nouns and verbs, could carry out oral commands and could write with the left hand [25].

S.J. Diamond describes a circuit that spans the whole brain from the parietal lobe on one side to the opposite parietal lobe, and which encounters the corpus callosum in passing [26]. Giraud describes a global sensory psychic experiencing, common to man and animals, that arises out of the sympathetic nervous system, glandular secretions and muscular tone [27]. Jerison warns against overemphasizing localization and specialization, which may be useful to isolate parts of the system in order to study them more easily: "recent evidence

points to the waking brain as being a complex interactive system in which truly isolated functional systems probably never occur." [28]

Sommerhoff, who ignores the "split brain" entirely in his large treatise on the *Logic of the Mind*, writes "In terms of internal representations the unity of the physical self finds expression in a family of characteristic transformation expectations the brain assimilates during ontogenesis." The unity of the whole self requires the additional inner representations where the object is seen by the observer who knows he is observing. Thus the self comes from experiencing, and is the record of experiences and expectations of further experiencing.

The source of consciousness appears to be still in the brain stem. From there, even in commissurectomized subjects, some alternative— that is both left and right side — operations are controlled. Such operations "are capable of exercising a metacontrol over the higher processes of consciousness." [29] This would be the animal consciousness, not self-awareness.

How vulnerable the unity of the self is, and yet how adamant everyone is, including ourselves, about the self being an absolute unity. The analogy of a social organization comes to mind. It is in a perennial conflict between the division of labor and centralization. As Kinsbourne has pointed out, bilateralism, by which he means a highly coordinated dualism of the hemispheres (for learning, perception, memory, and volition, as his own effective investigations have shown, are independently able in each hemisphere), is not needed for linear information processing, hence specialization [30]. This is a matter of dispute. And a certain amount of information is dualistic.

It must be stressed that specialization in the brain is not complete in any respect, no more than the division of labor in society is ever absolute (there is always a shoemaker or tailor at work despite the great factories). Brain specialization is limited

to a dominant ganging or bunching of cells such that they alone respond (or do not respond) unless they are excised, in which event the minor gangs take over their functions, on a reduced level at first, then increasingly so, and sometimes with full capacitation. The union shop, when on strike, so to speak, finds its work taken on by less skilled scabs.

We can assume that even the very minor specialized bunches here and there are active all the time. It may be these which are responsible for some of the competitive mutual inhibitions, as well as collaboration, between the hemispheres that Kinsbourne has noted [31]. Hoppe speaks of the quantitative and qualitative impoverishment of the dreams, fantasies, and symbols of commissurotomed patients, laying it to an interrupted preconscious interhemispheric stream [32]. He suggested that a "functional commissurotomy" may be present in some severe psychoses. That the hemispheres can pull themselves apart functionally seems no more absurd than the known cases of total hysterical paralysis or catatonism.

J. Levy argues that differentiation of functions which are lateralized is a result of competition whereby speech and language, e. g., develop in the dominant hemisphere and displace less elaborate psychic processes such as patterning images into the opposite sphere [33]. The source of this pushy competitiveness must be humanly genetic. Anatomical and physiological differences between cerebral hemispheres develop in the human foetus [34]. "Non-human animals have not been demonstrated to possess cerebral specialization in any manner similar to humans, that is, no double dissociations have been reported in nonhuman mammals." [35] The genetic impetus may have originated in a mutation to the large cerebrum, with a neural "weakness for data collection and transfer" in one hemisphere, which required continuous orderly attention.

That these minor locales may be disaffected is not an extreme view; the researchers, perhaps in their exuberance, speak of

contradictions. When callosally sectioned, one hemisphere can be led to think and act angrily against the other. Are we to believe that there is no tension between left and right brains in the presence of specialism, when the corpus callosum is exchanging not only sensory information — albeit sometimes traumatic—but novel commands to change itself, give up its habits? Hence sensations of hesitation, doubt, reflection, disobedience may be part of interhemispheric relations since a hemisphere does not know the source of a message, it cannot be declared that doubt and disobedience and fear are "external" sensations, incapable of being incited from a source within, namely the opposing hemisphere.

Nor should we ignore another reciprocating effect of specialization. In society as a whole, a tendency to specialize intensifies efforts at coordination. The same logic may apply to interhemispheric relations. A great many more messages will flow as the brain specializes. This may occur in a given lifetime and be more cultural than genetic. The civilized capabilities are left-brain and may be at the basis of the larger ever-present anxiety of the civilized person.

### *HANDEDNESS*

Handedness, usually to the right, may itself be an important factor in precipitating humanization. It is genetically predisposed. For example, newly born infants turn four times more to the right than to the left. It seems quantitative in its intensity; it can be ranked by how much it dominates a person's relevant activity. It can be altered and reinforced by training. Injury to the dominant hemisphere can of course affect it partly or totally.

Handedness is observable in some mammals, for instance lions [36] and various monkeys. It may have been elicited and stressed because human activity was being stymied by conflict and hesitation in the brain. A hand and the right one was

potentiated, had to be given preference. The novel decisions (calculating, symbolizing) were being made by the left brain; perhaps it could not count upon the right brain passing the commands to the left hand without blocking or censorship. Otherwise why would not the left brain have resigned the extra quantum of dextrousness to the left hand under the control of the right brain? And passed its share of manual tasks to the right brain to execute, as the right brain does now do it?

The latter "choice" makes it appear that either the dominant brain by its peculiar specialization otherwise makes for dexterity, or that dexterity induces specialization in one hemisphere. But what do language, abstraction, logic, and symbolism have to do with dexterity? Is it sheerly genetic coincidence that the two are enclosed in the same hemisphere? The right brain could use dexterity, or bilateralism, as well. Music, sounds, spatialism, images: these need a right hand also. Nonetheless, a right-hander is left-brained altogether. And the brains of mammals, including primates, are only slightly asymmetrical, and behave, with clumsy hands, more like two right-brain human hemispheres.

The apparent solution for the human effect is to introduce a third factor, the fear of loss of control owing to the onset of left-brain specialization. Owing to a pressing need to specialize, whether genetic or electrochemical, a leadership or dominance problem is presented. "Somebody has to be boss" in the face of increased inputs of unresolved differential impulses, attention and decisions between the two hemispheres. "The wheel that squeaks gets the grease." Let the left brain, which is causing the new problems and is even physically enlarged to a degree, take the initiatives and give it the baton, the hand, the already most developed instrument for dealing with the world.

Sperry reported that monkeys with sectioned commissures accept either of two contradictory solutions to a problem, one solution coming from the left, the other from the right. Not so



man. For matters in the right-handed domain, the left brain insists upon its solution even if wrong and forces the left hand to give in, if necessary. In its few manual competences, the right hemisphere does the same. It must be one hand, not two, else the problem will be sent "back to the drawing boards."

Species changes are rarely neat. A solution is piled upon unresolved problems. New tissue is made of old. A new task is given to an old bone. Two holes become a nose, two feet a fishtail. In cats and monkeys, personality, temperament, coordination, internal functions, alertness, activity, achievement of learning, and responses — all remain the same after the corpus callosum is severed [37]. Bilateral symmetry persists, rather uselessly, in the brain. The hominid surrendered bilaterality and gained a human mind. Human nature begins with an unbalanced brain and a determined hand.

Dexterity by its very existence reinforces poly-egoism. Apart from what may be happening in the brain (though never separated from it), the full anatomical laterality, manifest in a thousand ways, makes itself felt as a division between major and minor modes, dominance and subordination, ruler and ruled. The dominant body side is even sensed as heavier, Ornstein has pointed out. When someone slaps his own forehead guiltily (usually with his dominant hand) and says "I could kick myself," it would probably be with his dominant foot.

The brain as such is an insensitive organ, so we feel no contradiction in the left brain dominating the right side of the body. Hence the right (though representing the left brain in action) is obviously authoritative in legend, custom, law, politics, work, and other practice [38]. The right is morally right. Right-sided behavior and authority are connected. Since the right side is authoritative, the opposite of authoritative is antiauthoritarian. Often it is "leftist." We may surmise that also in the individual the left-side is anti-authoritarian. The basic

polyego is of a ruler and ruled, but the ruled is frequently anti-authoritarian, a leftist. In authoritarian cultures the left-handed are said to use the "wrong" hand (e.g. Alsace, France). In administering a pretest of a national survey questionnaire, employing the occasion of an all-female meeting of Planned Parenthood, a birth control group appealing to independent-minded women, I observed that the baker's dozen of members present were all left-handed. I received incredulous and suspicious reactions when I remarked about it afterwards.

An experiment may be presumed that would demonstrate that persons protesting an imagined "capture" by another party (paranoia) will reveal the resentment against the offense by uncoordinated hand behavior when compared with authority-accepting subjects. Perhaps even the enduring conflict between "science" and "humanism", the "Two Worlds" of Professor Snow, can be construed as an interhemispheric conflict situation.

The specialization of the left brain encompasses speech, grammar, figures, signs, abstract solutions, classical logic, and the dominant right hand movements. These are products, not the *Ding in sich*, the underlying drive of the brain. They must refer to a more basic concept, and I find it in the term "order." "Order" contains nuances of "Truth," authority, goal-setting, completion, instrumental and linear progression. This is all that we would expect from human nature (of course, the left brain simultaneously contains its mammalian routines of half the body). We need only turn over the final card: the opposite of order; what prompts order: confusion, delays, fear, disorder. We need not be amazed and then suspicious at the stupendous analogy with society and social thought, where right and order fight together against anti-authoritarianism and disorder.

It may be that the more the asymmetry the greater the disorder of the brain, the greater the perception of fear and of the need to control the self and the world. Sex differences may be salient in

this regard. Lionel Tiger reports: "The single fact, that some part of the brain is characteristically different in males and females, is one of the most significant findings in neuroendocrinology." [39]

Perhaps the hormonal variation is related to brain asymmetry, for we discover in the research of Jerry Levy proof of the greater symmetry (bilaterality, hominidity?) of the female brain. The right hemisphere of a woman has greater verbal capacity than the male's and her left brain can handle perceptual information better than a man's. This confirms older psychological tests comparing boys and girls on spatial and language tasks.

It does not obviate the possibility of total cultural determination of the difference, but this is not likely. The differences collate also with the insistent, though disputed, claim that men are more dominant and power-seeking than women. Again, it would be important to have intensive research done on the correlation between the gamut of asymmetries and the range of control demands with regard to the self and others.

In much mental illness and in personal and collective disaster, as Deikman and Parry have indicated [40], there occurs a takeover of behavior by right hemisphere religious, aesthetic, ecstatic, imagistic thinking and intuitive irrational action. The reader may be reminded of an expression from World War II: "There are no atheists in foxholes." According to A. Shimkunas, in schizophrenia the left hemisphere is overactivated and overloaded, and is accompanied by a highly arousable right hemisphere. Interhemispheric transfers are defective and cannot be processed in the commonly organized manner [41].

### ORDER AND DISUNITY

If there is a fear of oneself, where does the presence and fear of several selves and of ego dissolution originate? The split brain is obvious but whence the multisplit? As ventured above, the minor locales of specialization in both hemispheres may, in handling events, offer different solutions than the dominant solution, no matter in which sphere. I am tempted to suggest that the resisting major hemisphere may enlist minor special spheres as allies. For instance speech can be interrupted by a blockage of imagery from the right hemisphere. The blocked imagery can go to vague speech centers in the right brain or spread to motor centers that refer back to the major speech center as compulsive vocalization. Bleuler (359f) described how patients were observed to operate on as many levels of identities as they had "complexes," whereas normal people inhibited irrelevant material.

Although certain human operations generate from a bicameral brain and the problems of its coordination, we must not regard these two cerebral chambers as the two centers of *homo schizo*. The conditions resulting from the brain discoordination can include not only a sense of several identities and no identity at all, but also an interplay of elements, messages, responses, and directions within a single hemisphere. As a by-product, and ultimately a possibly great achievement (or defect) of the lack of phase coupling between the two hemispheres, elements of a single hemisphere may develop embarrassing or inspiring contradictions.

A one-hemisphere person can maintain as many mind-sets and behaviors, perhaps, as a two-hemisphere person can. These would include neurotic and psychotic and all other types of behavior. This thesis stands yet unproven. Perhaps it cannot be proven, like the feral man, the hypothetical human who from birth has not known humans. Infants are on occasion born without corpus callosa and other commissures, but this condition is accompanied by abnormalities that render general judgements difficult. Persons with extensive one-sided brain

damage are studied under similar limitations. The origins of human behavior *in utero* and its rapid extension outwards from birth, make even the meaning of post-callosotomy behavior in a young child unreliable. His lack of basal anxiety, or excess, or typicality in respect to it, can hardly be laid to the sectioning of his corpus callosum.

The reasons why psychosis and neurosis may be possible in persons with severed callosa are several: observers and experiments practically all agree that such persons are surprisingly "normal," which for us means to possess the nature of "*homo schizo*" and the potential for mental disturbance. Second, the two hemispheres still retain rich connections with the limbic system through the brain stem, and through this indirectly with each other; both the direct and indirect connections can produce typical and atypical behavior. Third, within itself, each hemisphere carries thousands of well-trodden neural pathways, including atypical ones, so that each can maintain its own peculiar behaviors; it does not matter absolutely that these paths drive off the cliff, so to speak, when they arrive at the sectioned callosum.

If a living person is discoverable who by mutation or accident has always subsisted upon one hemisphere, we would have to argue that he or she is not quite human. He should reveal a defect on the basic parameters of *homo schizo* that we have laid down. That he would not be devoid of human qualities and would be generally human might be surmised; the heavy acculturation that would discipline his mind and behavior from birth onwards would earn him membership in the human race.

Pursuing this line of reasoning leads to the possibility that humanization occurred in one place, at one time, to one person and with sufficient systematic force to account for a left-brain/right brain difference plus an endocrinal or electrical potential, say, that conferred what we call "human nature" soon upon a small number of persons and then later upon a larger

number. (Yet once more we reserve the possibility that only a minority of humans have possessed the dominant genetic structure peculiar to the species, which was necessary to establish the constitution and behavior of the species.)

### *MEMORY AND REPETITION*

We have fixed upon hormonal and cerebral imbalances as the probable source of human delayed-instinct behavior. Humans are prone to hormonal and electrical irregularities in the processes of neural transmission. They also convert a phylogenetic bilateralism into a species-specific division of labor and heavy-handedness. There is enough "wobble" and "conflict" in message transmission and brainwork to delay all instinctive behavior requiring cerebral references, to the point of genetically predisposing self-awareness or a poly-self, a general fear or anxiety, and a grasping for control wherever the attention may settle, in order to assuage fear and gain self-control.

The remaining concepts that were introduced in order to explain human nature in the first chapter can be explained readily in terms of the brainwork already described; these would be memory and obsession; habit and compulsiveness, to which I now append psychosomatism; and displacement, utilizing language and symbols. Memory consists of electro-chemical gestalts or holograms diffused around the brain with some asymmetry: so much we have said. A recent theory, not to be dismissed, even argues that every neuron contains all memories. The deeper the imprinting, or the more active the electrochemical gestalt, the more obsessive it becomes, prone to compete with other experiencing for attention and volition; by these last terms — attention and volition — we mean connecting with general consciousness and pushing past or suppressing all other gestalts of the moment with a heavier charge, "beating them to the punch."

Presumably, unlike animals, the human develops his memory by continual brainwork; that is, memorizing is itself an obsession, transferring and reinforcing memories is part of the overtime behavior of the human mind. The desire to forget is in competition with the fear of forgetting. Who is to judge when memorizing has become obsession, and should cease? Decisions of what to forget and what to remember are "policies" of the "highest" importance to the person and to society. I shall have more to say of this in the next chapter.

Enough has been said earlier on habit and compulsion to carry us forward into the subsequent chapters. Memory, obsession, habit, and compulsion all reduce to a single basic operation in the brain: that of repetitiveness. It is for the ameliorators of undesirable symptoms and for ethical philosophers and politicians to make innumerable distinctions of practical conduct. People and cultures can be graded and scored, encouraged and deprecated, in hundreds of ways. Within the brain, sometimes dealing with itself, at other times transacting with the outer world, a constant busyness occurs which a) experiences by internal and external sensing, b) imprints neurons electrochemically, c) distributes and redistributes charges, and d) emits commands, many to be aborted, to change some internal function or external relation.

*Homo schizo's* aim in life is to recover his instincts so as to reduce fear. In a roundabout way, the being seeks to control all the ultimately uncontrollable operations to reestablish the tranquility of conscience-less, instinctive behavior. Even when unsuccessful and painful, he persists. Given the options of a blow from outside or an unending succession of self-blows, what creature would choose the way of man and rest content with it? What blow can equal the premeditation of death—a thousand blows to a coward and who is a hero, except the animal, while man suffers the inevitable consequences of identification with the dead, poignant recall, projections into the future and anticipations thereof?

### *PSYCHOSOMATISM*

All brain operations instigating somatic change are psychosomatic conversions. This is obvious, upon reflection: the sight of food stimulates the appetite, which sets the guts to "growling." Indeed, it is no quibble to say that all brainwork is somatic, hence psychosomatic; every thought leaves its trace. But even psychiatrists say "psychosomatic," meaning some physical abnormality that they will track to its psychic lair and despatch by psychotherapy. At the same time, if possible, they will be applying medicine and surgery to the physical wound. They are materialists, as is this book. In what we are saying, there appears to be no need to introduce a new kind of psychic essence. Going along this route, our ignorance, too, is assumed to be materialistic.

Many observers, even, or should I say, especially, medical men, incompletely realize the full "harmony" (to use a pejorative term paradoxically and with malice aforethought) of psychosomatism and "purely" mental aberration. So we find, for instance, Hoskins accepting the common idea that schizophrenics are frustrated, inadequate, lacking in robustness, and unable to face the stresses of life [42].

The same can be said of infantry soldiers being withdrawn from the front lines. The losing battle of control has been fought in the inner and in the outer systems, in the tissues and in the conventional expressive apparatus of voice and conduct. Not only this—crowds of schizoid "draft-dodgers" have escaped the line of battle and carry on in politics, the stage, in all walks of life—not least at the dinner table.

"If anything can go wrong, it will," is more than a joke in psychosomatism. There seems to be no limit to where the brain can reach in its flights from fear. It is not only a matter of being tired in the morning, but also of paralysis, of being covered



with open sores, of a stomach digesting itself, of fingers like claws, of heart attacks, of impotence, of deathly coma. The brain, and it must be the "higher centers," dealing with the "lower centers" in lieu of dealing with the outside world, exercises its obsessions and compulsions. "The stomach doesn't need more acids? Give it acids anyway." "I've already ejaculated a holy word? I'll repeat it a hundred times."

The brain's decision to do one of these seems to be based upon a victory, a pyrrhic victory, of course, of one lively gestalt over another, both sides unleashed to battle upon the breakdown of the ego order. Both have their "traditions" or habits behind them, their memories and training, their proneness, so that whether a person psychosomatizes or bays at the moon is predictable to a degree, this despite the fact that both tendencies are rooted in the dense thicket of same-seeming cerebral neurons.

If all psychic phenomena are somatic and have somatic effect, is the reverse also true, that all somatic disease is psychic? If a skier breaks her leg in a fall, does she have a psychic wound? Medically, it may be irrelevant to say so: an ambulance, a hospital, a bolt, a cast, and in several months she will be skiing again. Psychologically, her case may have so many aspects as to defy analysis in a few lines; to quote her mother, "She's crazy to take chances like that, just to be with the others."

Perhaps further study might arrive at the conclusion that the only facet of the whole affair that was not psychic was the breaking of the bones. Then it is like a duodenal ulcer; the only facet that is not psychic is the ulcer. Or the heart attack of the manic depressive; only the cardiomuscular erraticism is not psychic. It is probably significant that most people, in explaining a personal accident, find themselves at fault; we suspect that the source of the guilt feelings may be not only their religious training, but a private knowledge that they were psychically not in command of themselves.

"Civil conflict" within the brain, because of specialization and the larger regionalization, must be far more frequent than observed, even continuous. It is the monitor and censor from the dominant section that gives out regular bulletins that "All is quiet on the western front" —until the front collapses.

Migraine (*megrem*, ultimately from the Greek and Latin *hemicrania*, half-skull) may provide significant testimony of inter-hemispheric conflict. Migraine is a common severe headache of one side of the head, occurring more frequently among women. Since no apparent organic cause can be assigned that does not merely reiterate the symptom, and because psychic distress often precedes a migraine, it may be heavily psychosomatic, more specifically an ego conflict engaging the left and right cerebral hemispheres.

The preference of the disease for women may be attributed to their more eccentric endocrinal secretions and indicates that the chosen weapons of battle are hormonal, and the crux of the battle the resistance to an equilibrated flow in the handling of material that requires smooth inter-hemispheric cooperation. That women are less brain-lateralized than men would appear to excite less hemispheric conflict, unless the psychic cause of the conflict was not in a prominent aspect of laterality, that is, not in speech or handedness. I have noted that a mother and daughter suffering migraine were, respectively, rigidly conscientious and slackly rebellious, opposites in temperament. Perhaps the source, then, is in a general neurasthenia, a question-begging word, but at least meaning a genetic lability with respect to brain-transfer under stress and hence a potential responsiveness to fear-reduction therapy. To the genetic lability is added the ambiance, the mother in the case cited, who demonstrated the model and earned emulation by identification [43].

*Homo schizo* does not possess psychic command of himself. It is rare that a person will acquire a strong, united selves-image and be able to play the game of countering one anxiety with another, each in a positively desirable guise, and come to do this so habitually that one's whole character appears to be instinctively balanced. Whereupon, if anything goes wrong, one may correctly say "it's not my fault," and "Bad luck;" or a bacterium, or a structural genetic effect is a sufficient explanation of the evil. As for the brain tissue, it is a "no-fault" system. It moves in remorseless neutrality. Sensory data, whether endocorporeal or exocorporeal, turn on and off the same kinds of gestalts, stimulate the same score of hormones. The body system is more passive, it carries on by means of a skin, the animal distinction between an inner and outer world, but the human has in his nature to evade this skin-deep difference, to shame the snake and shed his skin a thousand times a season.

**Notes (Chapter 3: Brainwork)**

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8. In J. N. Spuhler, *Evolution of Man's Capacity for Culture*, Detroit: Wayne U., 1959, 16.
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11. *The Geomagnetic Field and Life*, N.Y.: Plenum, 1978.
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13. "A Decisive Step in Evolution: Saltatory Conduction."
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15. Swanson and Kinsbourne, in Kinsbourne, ea., *Asymmetrical Function of the Brain*, N.Y. Cambridge U. Press, 1978, 284.
16. Kinsbourne, *ibid.*, 289.
17. Call Marsh, in Kinsbourne, *ibid.*, 308, 295 *et passim*.
18. H.T. Chang, "Cortical Response to Activity of Callosal Neurons," 16 *J. Neurophysio.*, (1953), 117-31.
19. The works cited here can be supplemented by up-to-date references in the *Psychological Index* and a reading of Joseph Boger's "The Other Side of the Brain," in Ornstein, *The Nature of Human Consciousness*, San Francisco: Freeman, 1973, 101-25.
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22. J. Semmes, in Ornstein, 1972, 63-4. Typically, new ideas generate many metaphors (the right brain at work?), some of which, relevant here, are carried forward in Marilyn Ferguson, *The Aquarian Conspiracy: Personal and Social Transformations in the 1980's*, Los Angeles: Tarcher, 1980.
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28. 1970, 232.
29. Trevarthen, *op. cit.*, 378.
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31. *Op. cit.*, (1974).
32. Klaus D. Hoppe, 29 *Psyche* 10 (1975), 919.
33. *University of Chicago Magazine* (1964).
34. Trevarthen, in Kinsbourne, *op. cit.*, 379,376.
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36. See the photo, p.280, pc, in J.P. Hallet, *Congo Kitabu*, N.Y.: Random House, 1966.
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## CHAPTER FOUR

### DISPLACEMENT AND OBSESSION

We have come to view the human as a poly-ego casting forth throngs of displacements, paradoxically in order to recapture instinctive certainty and so reduce the level of one's anxiety. "Paradoxically," I say, because there is a heavy return flow of displacements; they are in the mind and hence cannot simply be cast off, but are to be regarded as transactions: what goes out must come back.

From this elementary state of human nature, the morphology of thought emerges. It begins like a person who seeks to build a crude dam across a brook. He seizes and places rocks in the path of the flood, intending to embed enough of them to block the flow, and, after a time, he does, but there is leakage, and there are diversions of the water, and anyhow the flow must continue by some means. But still he has a structure. In the mind these would be obsessions. And the rocks of obsessions are also of different forms, which we call compulsion, habit, attention, and memory, all of which we shall define here.

Before confronting the ideas of displacement and obsession, an aside may be permitted, an apology. For it seems that I am culpable for using metaphoric language in describing a neurological and behavioral world, as with the analogy of bridging a stream. But not only this, which may be excused if the metaphor does not beg the question; further, I may seem to choose terms too often out of the jargon of psychopathology, as with "displacement" and "obsession," perhaps even preferring them to terms describing normal behavior.



I have found, however, that the terms most useful in describing mental operations are technical words tinged with reproach, as if a person should not ordinarily engage in such an activity. In the very first chapter, it will have been noticed, I took the step of distinguishing human nature largely by what would be considered a fault in animal behavior and hardly sounds nice when attached to people — an instinct-delay. And then "schizo" itself. I must warn that this verbal situation may become worse.

But names come out of attention and identities. A family will love a dog and while away many an hour talking about "what old Shep is thinking of now. Look at him ! He knows a lot more about us than we think he does. Too bad he can't speak." I should hardly wish to challenge such a statement, which would arouse a united family against me, but what word would we use for the process going on in the people if not "projection," the ascription to "old Shep" of ideas that are our own. Much more could be made out of the simple remarks quoted, too, but we must move along.

The qualities of humans that one cherishes are aspects of the qualities one dislikes. And, because the empirical science of psychology has been built upon what is problematical and evident, the most helpful terms may be those conferred upon disliked qualities. The "good" comes out of "bad," so to speak. One takes what one gets, as in evolution where the marvelous eye comes out of a "damaged" skin, the tongue from the endoderm, the leg from a fin, the breasts from enlarged sweatglands, the cerebral cortex itself called a successful tumor, etc.

If it were not for the throngs of displacements, we would be able to attend to very little of what we are pleased to attend to as humans. And without projection, a delusion certainly, we could not "know" the world. The "sick" propensity to displace and project in uncontrollable quantity is the fundamental basis for human behavior and its competences. To speak of "cures"

for these mechanisms is like asking how we may best perform cerebralectomy. The most clever humans are those whose displacements and projections are the most varied, free, abundant in hypothesis, while stupidity can be readily associated with an inability to perform these operations whether because of blockage or hominidalism.

Some words I might otherwise use would belong to a defunct theology and philosophy that prospered for 2000 years from Aristotle to Descartes, which, as will be described in another chapter, employed ideas of man as a rational being, much of whose behavior would be termed irrational. In that vein, savants spoke of "reason against faith," and argued interminably but inoperationally over the conflict between the two faculties.

Most people still use the language of, and tackle problems of human nature in the manner of, Aristotle and Saint Thomas Aquinas, so that we have an additional task set for ourselves, namely, to show that one does not get very far in understanding human nature by this traditional route. But again, the analysis of reason is for Chapter Seven.

In this chapter, stress is placed upon the major mental strategy that the human mind employs to exist and ply through life. I employ the word "strategy" realizing that it is teleological and that things without purpose should not be granted purposes. (But not such usages as: "The strategy of the French generals in World War II was obsessed with the Maginot Line complex." That is, strategy can be both conscious and unconscious.) I can also use the word "mechanism" leaving to some demiurge the purpose of constructing this "mechanism." I mean by "strategy" or "mechanism," of course, a system by which the human operates, but again one must beware of the word "system" because that implies an order, and again an author or a demiurge or a will to operate systematically. Shall we say that by these words we mean: "It happens that a pattern (or gestalt) is evident when a human acts"? And, given the operational

pattern, typical consequences follow." Thus we can rationalize some suspicious terms here, and also in the chapters to come and in the past chapter, where we talked of the urge to re-instinctivize, a pattern of behavior that is largely unconscious, uncontrolled, and un-willed.

Upon the elementary state of human nature, the morphology of thought is erected. It hardly matters that some of its aspects are regarded as "normal" and others as "abnormal." It is like a mountain that is a precipice when viewed from the north, and a slope when seen from the south; the core can be of the same mineral substances. The basic shape of thought occurs by displacement and obsession.

### *DISPLACEMENT*

Personal histology and history cast their images against the screen of instinct delay. A major effect is the human displacement complex. Animals displace, but humans do so with a plenitude and magnificence that lets us be astonished at ourselves.

N. Tinbergen, an authority on the stickleback fish, unsurprisingly took examples from the animal in his general treatise on instincts. A male stickleback cannot ejaculate sperm until he seduces a female into depositing eggs in the nest that he has built. If two males are forced to nest closely together, they dig nests continuously "and the result is that their territories are littered with pits, or even become one huge pit." Their nest-digging activity here is part of their fighting repertoire. Similarly, "herring gulls, while engaged in deadly combat, may all at once pluck nesting material..." American television seems at times to follow only one plot: "Sex and Violence: guess which is which?"

Tinbergen writes, "The motivation of an instinct when prevented from discharging through its own motor pattern finds

an outlet by discharge through the centre of another instinct." Further, "the fact that a displacement activity is an expression, not of its 'own' drive.. but of a 'strange' drive..., makes it possible for it to act as a signal to fellow members of the same species, provided it can be distinguished from the 'genuine' activity, activated by its 'own' drive." As I've heard boys jeer at truculent comrades, "Are you tough or hungry?"

Every action involves an emotion, which is the sensing of action, therefore an experience. And every other experience involves an emotion. Every experience invites a response, an experience feedback of some affect. Both the experience and the feedback cross the neural synapses and are in the human manner delayed at the crossing. Wherever they may wander, while waiting for their vaguely denominated neurotransmitters, they inspire a new activity, a new experiencing, which is a displacement.

The human has all the instinctive foundations of the animal. But once unleashed, human instinctive behavior can rarely reach its target, if such can be discerned, but expresses itself all over the cerebrum in a splatter of displacements. Tough *and* hungry *and* devout, the Aztecs cannibalized their enemies. The Hebrews of *Leviticus* devised fulsome logic to accompany the slaughter and eating of a beast.

It is a basic proposition of anthropology that in a "pure" culture, all practices and artifacts are interrelated. Human culture is one grand intermeshing of displacements. The result, working backwards, is to defeat the blind workings of the brain. Everyone is given to know, and to see it proven, that displacements, no matter how remotely scattered among the recesses of the central nervous system, are logical and under control. "Hold onto your mind! Nothing happens but that it is all of a piece."

The stickleback and the seagull have relatively so few displacements (although even these were hard to discover and label), that Tinbergen can readily assert that they are genetic. I think that only the infinite variety of human displacements lets *homo schizo* congratulate himself on his large imagination, splendid lucubrations, ingenious associations, and poetic invention. It is important, all-important, "what we live for," etc., but who says so is ourselves—judges in our own trial. The human is sufficiently depressed instinctively, and thereupon anxious enough, and has enough continuously active positive and negative feedback operating, amidst ample gray matter, to support a world of delusions, no two of them alike.

We can appreciate then how absurd it is to attempt physiological distinctions between good and bad (healthy and unhealthy) displacements and projections, just as it is to divide good from bad (healthy from unhealthy) psychosomatism. Nor can we even speak of true and false displacements and projections. Once the brain casts its affect upon the external world, that world is physiologically real. When a god suffuses the starry heavens and a lover glances covetously at a stranger, what happens to the brain is as real as what happens when one drinks a wine or receives a blow in the stomach. All are *real* experiences.

Displacement might be conceived very broadly as one's sensing of anything as having effects upon one. Surely it is animal, yet the concept is the same in ethology and psychoanalysis [1]. Thanks to displacements, a great world exists that has no "excuse" to exist. But it is a virtual cornucopia in humans. "Anything" means just that; no matter is ineligible as an object of human displacement. Attempting to segregate logically or empirically those things — an enemy, a swamp — that will surely affect one, and other things—a sound, a shape— that will most certainly not affect one is largely useless. We merely say, an animal displaces little, while a human displaces much.

### *PROJECTION AND PEDAGOGY*

So it is with projection, which is a common feature of displacement; anything can be a subject of projection. Projection is the animation of the universe. Everything potentially is sensed to have a will with regard to oneself. The breeze sings to one, the birds call one, the volcanoes command one, one's automobile refuses to run, the enemy possesses one's thought. Displacement and projections operate in the thousands in the human mind. While the mammal tends to a few things, the human extends almost unlimited attention to the world, an attention containing affect, that is, psychic involvement.

Displacement is accompanied by affect or emotion. The human, and for that matter the animal, does not pay attention to anything unless it invests the thing with emotion and anxiety. This process seems predictable, inasmuch as the reason for the displacement in the first place is to test the capacity of the displacement object to receive a neural load that is not being fully unburdened by an instinctive reaction to a stimulus.

The displaced affect being unloaded may be called positive or negative depending upon the instant state of the discharge. The perception of hovering vultures in the distance is a cultivated interest, with an ambivalent response, to which a new positive or negative affect is added, depending upon whether one imagines them to be focused upon a foreign body or a body with which one is identified. It is clear, too, that ambivalence accompanies attention to a great many displacements, even gods and spirits whose presence has signified both benefits and deprivations in times past. Indulgence and deprivation become forever related to the identification-affection nodes.

The central nervous system is laced with interconnections of affection. Once the larger world opens to the baby, he must begin to accept those displacements that his attendants point out as the true sources of indulgences and deprivations. His

teachers, while pointing to certain nearby objects with a cause-and-consequence nexus fairly obvious even to the inexperienced human are especially interested in indicating to him some very great abstractions as ultimate causes of his well-being or ill-being; they are not at all scrupulous, even if they could be, in pursuing cause-and-consequence in such cases.

For most teachers, logic has an authoritative meaning. The myriad names of gods and spirits are short-hand vulgar logic. So it happens that their obsessions with gods and laws and great natural forces are imprinted early upon the young. A consensus of obsessions is achieved, along with some disrespect for necessary causal connections between the objects of identification and the actual production of benefits and evils.

To inculcate in a child the determination to use only a special pot for his toilet needs can be, depending upon the age of the child and criteria of correct performance, a massive exercise in the transfer of obsessive behavior from adult to child. The displacement of toilet-training obsessions upon many other objects occurs readily, whether the object is an administrative routine (a "clean desk") or the traits of god, so the Judaeo-Christian god is not imagined to have an alimentary canal, but many other cultures dwell upon the excretions of their gods, the very word "urine," for instance, being originally from the god "Uranus," who rained many things upon the Earth.

### *TIME AND REMEMBERING*

Man practices displacement and projection in creating space and time. The space dimension is little more than the scope of displacements, to begin with. Measure the area of displacement and one has the boundaries of space. The poly-ego can fill space; put another way, all space can be internalized so that a most remote object - a star, say - or a thought or an hallucination can vie with an insect bite for his attention, even affecting the way in which he scratches the bite. A person, and not necessarily a savage, feeling guilt before his god, may scratch himself roughly.

There is a need to sense time, one more empire for the mind to conquer. Memory is of the animal, too, and so is the ability to reach back for the pattern of experiences to relate to an immediate or approaching experience. The distinction of human memory arises from its flexible control of recall. Since man's experience is rich, his memory impressions are richly patterned. It is one more great area to which he can resort for the resources of control. He can play one film against another, like a curator of a hologram museum, until he selects one or imagines a new one that will cope with an ongoing experience. Once more, fear drives him over the stubble field of instincts.

The delayed impulses that are aroused by experiencing flow out electrochemically in all directions through the mind and back and forth between the hemispheres of the brain. They excite the glandular and muscular system. The feedback of "flowback" is voluminous, too. The irrelevance of much of the activity does not embarrass the brain. It highly stimulates it. Some twenty percent of the typical person's oxygen intake is consumed by the brain.

What effect does this have upon the level of fear? It makes the universe fearful; for owing to projection, now the fear which is



displaced upon others returns, relevant, and reinforced. But, at the same time, the fear is probably thus rendered more bearable, at the price of weakened identity and a great many unnecessary involvements.

What, then, happens to the need to control? "*Divide et impera*": the more one's displacements are scattered, the more the selves feel secure. The need to control, already strongly felt respecting the alter egos, is also pointed towards the outer world, other people, things, notions, the sky, the phantoms out there. The great power-seeker of the universe is *homo schizo*. He seeks to control everything onto which he displaces and projects. Where his fear is sensed to lie, there he will seek control.

Time is an expansible contoured traveling bag to carry displacements, indexed by the pockets they occupy. Old memories rest as imprints that become expectations in present action. The present is a developing succession of snapshots upon used film, especially film containing analogous memories from the file. Andrew Jackson at the Battle of New Orleans thinks: "We can expect the British troops to attack us in rows and frontally, as they always do," and they did and were mowed down. An hallucinator says: "Members of my family were across the football field yesterday and that made it easier for me to talk to the crowd on the other side;" and he asked his family really to attend the following week, to lend further aid. Time's veritable meaning in any person's life is almost entirely a plastic envelopment of shapeless experiences, erratically related.

Cultures take over the obsession with time that the individual cannot avoid and *pro bono publico* define the intervals of time that must be mastered. This requires certain schizoid distortions of time. "Pure time," or "absolute time," does not exist save as another delusion yet one of the greatest of all cultural drives since the beginning has been to find absolute time. Lunar time is a mass of obsessive behaviors — rites, lore, and scientific study— surrounding a fairly expectable cycle. Past bad

experiences and their anticipated reoccurrences are probably the chief factors in the choice of time clocks and the ways of using them. Disputes over time-reckoning and calendars have precipitated many bitter struggles in human history.

The "rational" student protests: "See the big pay-off from marking time: planting, hunting, saving resources, warfare, rendezvous." No doubt, these are the pragmatic effects (gains) from partially restoring animal instinctive capacities. And they can only come when a culture's people succeed in frightening themselves into observances of certain obsessions. As an *aide de peur*, gods and suns and terrible memories are called upon to assist as *aides-mémoires*. In consequence the obsessed biologist and souvenir-hunter can calculate exactly the time to arrive at Cape Cod when the instinctively driven horseshoe crabs arrive to breed.

Time is also a way of watching oneself, hence watching the world of one's displacements. The sky-watcher is fascinated in part because he can see how "absolute time" is up there and controlling his destiny. As Immanuel Kant once said: "Two things fill the mind with ever-increasing wonder and awe, the more and the more intensely the mind of thought is drawn to them: the starry heavens above me and the moral law within me." [2] There ensue the obsessions of mental discipline, the routines by which life is conducted so as effectively to generate, in individuals and groups, those technologies, artifacts, and means of subsistence that so exceed the capabilities of other species.

The rules of memory and the rules of forgetting are the two sides of the same coin. Who says remember, says select. Who names memory, names forgetting. In the earliest human, memory was a desperate structuring of current events to retain on the surface of the mind what was necessary to be human — that is, a sense of time, a manipulation of symbols and projections, and the practical means of ordering the

environment — while relinquishing to the subconscious the impressions so intense that they would catatonize or panic the organism.

The sharpness, detail, and durability (in conscious and subconscious form) of remembering is proportional to the gravity of a trauma, that is, to the deepness and adverseness of its effect upon one or all areas of life. Forgetting speeds up with the intensity of the trauma. Thus a severe memory and its forgetting in all or part go hand-in-hand, and they follow upon the heels of the traumatic event.

The most intense memories occur without being willed. They emerge encased in dreams and myths. The less intense memories ride upon and cover over the more intense ones. Disorders of recall, of forgetting, otherwise unexplainable, can be interpreted as the effects of what is memorable having become willy-nilly attached to the un-rememberable, and often relate to the symbols and affects of the repression of the great disaster, that is, the primal conditions that established the rules of the conscious human.

Memory and forgetting operate like a bookkeeping system to keep the mind in balance. Little is forgotten, and therefore the balance will continue to show a profit or increase throughout life. Like many bookkeeping systems in commerce, memorial bookkeeping has numerous ways of casting a balance. With the forgotten material, the mind works to create myth and art, even scientific hypothesis. By storing and recategorizing forgetfulness, the mind achieves its ability to maintain consciousness and behave with instrumental rationality (that is, with a cause and effect logic in relation to practical goals).

Memory, in the specifically human sense of ability to recall at will, is inseparable from the sense of time. One can bring back the past in part voluntarily. This past can be shared with others through signs, symbols, and language. It can also be cast into

the future, just as other current and past experiences are cast forwards in time.

The future-thought is born and partakes of the delusional quality of human nature in general. For time is a concept whose only existence is that given it by the time-keeper. Yet its implantation in humans gives them a tool for mental expansion and environmental control (as well as for suffering), not otherwise recognizable in the plant and animal kingdoms.

Culture institutes furious rites to make people remember something that they are forbidden to remember in all of its detail. Saturnalias, the prototype of all anniversaries, famous scenes of joy and orgy, are masquerades literally of the end of the world. They must be compulsively celebrated in order, by aggressive joy and wantonness, to cover up, to ensure the amnesia, of events that cannot be forgotten. People create an elaborate mnemotechnology, to use Friedrich Nietzsche's term, to assure that they do not forget whatever it is that they have forgotten, that is, suppressed. In this same sense, a great paradox emerges: we remember most emotionally what we forget most determinedly.

Memory of animals is set into "naturally" occurring categories by the predictability of instinctive response. "As I respond, so must the world be," would be a fancied animal or plant cosmological formula. The information storage and retrieval system are automatically coordinated for the most part. The human has the unique problem of determining what data to store and in what forms to retrieve it.

He is very much helped by instinct, of course. Like the beginnings of most modern computer data banks, the material going in is predetermined — bank cheques, social security accounts, tax records. Thereupon, however, the human stores immense amounts of material that an animal computer technician would call "garbage."

The vast weird human universe of displacements is duly punched into the memory bank. When the experience is recalled, it emerges not in the pristine sharpness of the original experience, nor even in a dulled image of it, but as a new thing, like a raised rusty anchor encrusted with weeds and shells. It entails various distortions, suppressions and reinforcements.

### *OBSESSIONS, COMPULSIONS, HABITS*

Lorenz tells of a goose that at sundown habitually climbed a flight of stairs, always stopping on the landing to look through a window. One day, she climbed the stairs in too great haste, forgetting to stop at the window. She was very agitated in consequence; to relieve herself from her agitation, she climbed the stairs back down, and then up again, stopping dutifully to look out of the window before proceeding, now in a becalmed way.

Obsession, not habit, we say, was involved. To specify the occurrence of an abnormal resistance to change in routine is not proper language when referring to a goose. But no clear line is to be drawn. Many a person is silly as a goose. In "normal" humans, we expect an acceptance of the frustration and an adaptation to the new condition. Why do we accept this? Because we appreciate that "normal" people are aware of what they are doing habitually and hence are capable of letting a frustration flow over into "irrelevant" spheres of activity. No sooner do we claim this, though, than we realize how few people are without severe reaction to a break to some of their routines. That is, most people are more or less obsessed. If they cannot find their shoes in the morning, they will behave strangely for a long time, until somehow they find the shoes, find substitutes, are given "reasons," or develop a new lifestyle for spending the morning without shoes.

Stern memories, pathologically called obsessions, are an important part of human memory. Obsession is "excessive," "unstoppable" attention to something (by which, as usual, we mean "anything"). An animal can be trained to "extra" obsessions. Humans are naturally obsessive. They can be obsessed with a pair of shoes, a piece of cow dung, an inner voice or pain, the Second Coming of Christ, or a line of poetry. This "obsession with obsessions" determines what is remembered, what is recallable from memory, what the person will spend his time on, where the important things of life are in his estimation to be found. Moreover, it will give him an enormous capability. A person will be able to abandon all other thoughts and temptations and stick to a task through thick and thin. With this one (or two) abilities, he reconstructs animal instincts with some embellishments. That is, provided that he is compulsive as well as obsessive. Freud speaks of "the compulsion to repeat—something that seems more primitive, more elementary, more instinctual than the pleasure principle which it overrides. . . the pleasure principle — to which, after all, we have hitherto ascribed dominance in mental life."

A simple example of compulsion is the patient who insists upon playing the same chord a thousand times in succession. Or the repetition of nonsense syllables unendingly, which reminds one of religious liturgies that depend for effect upon an obsessive idea and the compulsion to repeat, which in turn must be related to the catatonic wish to stay as one is, forever in place. This again connects with the obsessive compulsive return to origins, to a recollected and imagined primordial set of events, *illud tempus* (that primordial time when ...) which M. Eliade has so well abstracted from primitive ceremonies.

The terms "obsession" and "compulsion" are separate but confused in the psychiatric lexicon. No special neurology is assigned to one or the other. Each can be tied to both behavior and thoughts. Obsession is of the family of memory, planning, and habit. It is a compulsion to repeat. Compulsion is the kind

of driven act which is likely to become an obsession. Insofar as all major problems associated with the terms are internalized, they are indistinguishable. Furthermore, they may originate together and act together.

Existential fear, and the need to control it, pursue the logical line of reestablishing the human as an effective mammal. It is not our choice whether to vary from it. We have no recourse; if we seek to follow the smithereens of our explosion of attachments, we shall go to pieces ourselves, psychologically and shortly afterwards as living organisms. We must stay at home while our displacements travel adventurously, and here recompose the hominidal character as best one may: hence, obsession and compulsion, or obsessed compulsiveness.

Obsessions are linked to habit. They are deemed "bad habits". Compulsion may be an urge to shout obscenities upon entering a church. Obsession may be an agonizing repetitive recall of an embarrassing scene, like the time one uttered a string of obscenities in a church. The relation of obsession to habit is clear in this case. The relation of compulsion is not, as in many compulsive behaviors the thought has preceded the deed and has occurred obsessively prior to the occasion when the act is finally committed. Then it is a habit of thought converted into a deed.

Obsession can be viewed as a form of deeply imprinted memory, which repeatedly calls the attention of the self to its selves. If a person suffers a fearful accident, the memory of it may occur with or without volition and despite a will to the contrary. At the same time, an obsession (and even faint memory is in a sense an obsession) is a repetitive trained behavior. Therefore it is a habit. It is also a compulsion, for one is compelled to recall.

Compulsions as acts are distinguishable from habit only by intensity. A drug habit becomes a compulsion, or addiction,

when the behavior that is represented in the mind forces itself upon the organism, consciously or unconsciously. It is impossible physiologically to distinguish between a compulsive tic of the eyelid and a compulsion to step on the brake when a deer surprisingly leaps out ahead of one's speeding automobile.

Furthermore, a great many compulsions are consummated repeatedly, especially when uninterrupted by the forces of law, the community, the family, another person, or by destructive reaction or nature of the objects, or by self-destruction as in the compulsion to commit suicide.

We have two further cases where a compulsive element is present: one when the act is singular in its nature, but lacks a history of obsession with it, and springs forth compulsively as an invention. Such would be an impulse out of nowhere, as a model worker for twenty years is seized by the idea of walking out of his office immediately, forever, and does so. We would surmise that the thought had been formulating in an obsessive form but unconsciously, for a long time. This contrasts with a case in which, after a decade of concentration upon a mathematical problem, a solution offers itself to a professor abruptly, and the obsession is extinguished. The place of habit in both cases, despite the compulsion and extinction upon their conclusions, is manifest. In this second case a compulsion might be exercised upon the completion of the compelled act. The professor might insist upon the correctness of his solution, despite all proof and urgings to the contrary, and then proclaim it, marking the close of his prolonged studies.

Habit and obsession are distinguishable in two ways, one misleading, the other appropriate. In Aristotelian terms, a good person is one of good habits, and habits are what are rationally accepted by the free will of man. In modern and preferable terms, habit is an obsession that is governed by awareness and instrumentalism; a habit can be broken or strengthened; conversely, an obsession is a rigid habit. A controllable



obsession is then a habit. The habit can be generated, moderated, and extinguished, according to the consequences sought from its practice.

Only when the obsessive foundations of habit are understood, however, can the distinction be made. The human "naturally" is prone to obsession. This is because "the cheapest way to run the works" is to concentrate energy upon the most forceful options and derive security and profit from them. The infant gains all he can by means of affection, so his whole life becomes colored by the exercise of and the memory of the affection he achieved in the beginning. All his other values are supplied *via* this one value which of course in its turn is not only a way to food and warmth but a way to reduce existential and immediate fear.

One ought not slip into half-way explanation, the sophistry of "Which came first, the chicken or the egg?" Toilet training is an obsession that is culture-bound, varying widely. To be instituted it had to be preceded by an obsession for obsessions. The question is: "What generated the master strategy obsession?" And, once more, we revert to the theory of a disordered poly-ego that welcomes order and repetition as a substitute for instinctive reaction.

People speak of animal habits, though not of animal obsessions. It would appear that an animal habit is already an obsession. If a human trains an animal, too, the animal's habit is more obsessional, in our terms, than habitual. The same difficulties are encountered with the two words, in the animal and human settings, and we had better abandon any distinction here and regard the two concepts as interchangeable in the physiological context.

The human is obsessive-habitual because he cannot otherwise cope with existence. His obsession-habits are infinitely variable. They succeed, not precede — although the organic structure is partly in place — the basal human disorder and are

the human method of correcting the disorder, with all due limitations and difficulties.

In the illumination provided by psychopathology, habit is more readily understandable as an obsession under some degree of control, but at all events as a repeated practice, the regularity of and insistence upon which makes it obsessive, and the social judgement of which makes it reasonable as opposed to pathological. So it goes with compulsiveness very often. One might say that all obsessions are compulsive, but not all compulsions are obsessive; these latter are better called impulsive acts. Still, it would be rare that an impulsive act does not proceed from unconscious obsession, or from an impulsive character, typically given to such actions.

Examining behaviors known as memorizing, commemorative (as with the need to celebrate collective anniversaries), obsessive, bureaucratic, conventional compulsive, and ritualistic, we find in them the essence of habit. Habit originates in the need to control exploded behavior and unruliness. Fear or anxiety reduces in the presence of habit, increases in its absence. If fear diminishes, one can claim that instinctual behavior has been in some sense restored and the reduction of fear was anticipated in the creation of the habit.

**Notes (Chapter 4: Displacement and Obsession)**

1. Tinbergen, *A Study Of Instinct*, 113-g.
2. *Critique Of Practical Reason*, conclusion.

## CHAPTER FIVE

### COPING WITH FEAR

"First of all, the gods created fear in the world." So goes an old Latin saying. The expression can be reversed, for it was also said, as by Statius, "In the beginning, fear created the gods." Let us suggest the primordial condition: human fear and holy dread. The fear is the existential fear of which we speak in this book. It remains, when immediate causes of fear are absent. So it is incorrect to blame ravages of ordinary life, as did the philosopher Thomas Hobbes (1588-1679), for mankind's fearful state. Regarding primeval man, there occur several famous lines of his *Leviathan*:

Whatsoever therefore is consequent to a time of war, where every man is enemy to every man; the same is consequent to the time, wherein men live without other security, than what their own strength, and their own invention shall furnish them withal. In such condition, there is no place for industry; because the fruit thereof is uncertain: and consequently no culture of the earth; no navigation, nor use of the commodities that may be imported by sea; no commodious building; no instruments of moving, and removing, such things as require much force; no knowledge of the face of the earth; no account of time; no arts; no letters; no society; and which is worst of all, continual fear, and danger of violent death; and the life of man, solitary, poor, nasty, brutish, and short.

Hobbes, by our theory, is incorrect in two important regards. He explained "progress" as a result of "order" whereas, in *Homo Schizo 1*, order and progress are seen to have always and necessarily been mixed; man is by nature bent upon order. The twentieth century, and Hobbes' own times even more, provide "poor, nasty, brutish, and short" lives in large numbers. Hobbes

also conceived of human life as originally solitary. From his birth, *homo schizo* was individuated, it is true, by his human character, but he still required the group, actually demanding a larger group to work out his insatiable appetite for controls.

Further, as we have been saying, man was very much more dependent upon psychological "income" in comparison with material subsistence. However, fear accompanied him on his widest and wildest searches. Contrary to the speculations of Hobbes and markedly against John Locke, writing in the same period, man's mind was no "blank tablet" (*tabula rasa*) upon which experience alone might write. By origin, ever since, and at present, man's mind is congenitally inscribed with an existential fear that inspires his most important human operations.

Closer to our concept of existential fear were the ancient philosophers Epicurus and Lucretius. They understood such fear, even in "good times." Lucretius (96?-55 B.C.), who sought a scientific account *Of the Nature of Things* in order to allay human fears of death and of the gods, presented the universe as an essentially neutral and natural order. Significantly, in view of Chapter Seven to come, *ratio*, whence "rational," is the synonym for order.

Time to Lucretius was an infinite succession of cycles of creation and destruction, fashioned out of eternal atoms. Mankind should come to see death and disintegration as the work of nature; "to be able to regard all that is with a mind at peace," wrote Lucian (V, 1203). To no avail. Philosophers and theologians can pile all of their wishes for mankind, Ossa upon Pelion, without his ever attaining the heights of the peaceful mind.

### OMNIPRESENT FEAR

People will agree with the observation that life is spent largely on the problem of feeding themselves. The comparable idea that life is spent largely in coping with fear is met, by contrast, with disbelief. That fear should be central, dominant, and universal in humans is hard to believe, and harder to accept. Indeed one may propose, to begin with, that a cloak of denial is spread over the idea. We are afraid to admit what is forever present and all-determining because the admission, we fear, will simply worsen the condition.

No amount of testimony by heroes as to their frequent fears, no expositions of how humor erupts as a safety-valve to fears, nor all the case studies and historical treatises on fear and anxiety available for affirmation, can dispel the will to believe in a life without fear. How can fear be so all-pervasive, it is objected, when our lives are crowded with details of thought and behavior from which fear is usually absent, as when tying a shoelace, eating a dessert, digging a ditch, reciting prayers, or reading a romantic novel? Once more, to reply, the very fact of crowding our existence with details arouses suspicion that a mechanism of avoidance and adaptation is operative, avoidance of and adaption to fear.

To convince oneself of pandemic fearfulness, one ought to consider the total life-ways of all people in all cultures in all times. One checks off the major portions of life clearly beset by fear: infancy, childhood, dreams, religion, war service, competitive sports, risks of all kinds, old age. Then note the component of fear in all conscious mental illness and normal "neurotic" feelings. Then recall all the fear one seeks to impose upon others —intimidation, command, coercion, and so forth: is this not one's own fear projected (and milder) and is one not the victim, too, in one's own turn? Further, are not all those behaviors that are included in the paradigm of legendary creation, primeval stories and fairy tales emergent from fear? And, as Hobbes declared, does not man live in fear of violence when he is not engaged in it—just as foul weather affects not

only the days when it happens but also the times when it might occur?

Still, where is the fear in apple pie *à la mode*? Dietary, to be sure, whether fear or defiance of overweight. But the lusty appetite of the twelve year old boy: where is the fear there? In the mother-figure looming over the culinary transaction? In showing fathers how mothers love their sons? The apple and Eve? In the haste to gobble the pie and get away from the table? Why must one explain? This is all trivia; but it is in explanation of the trivial that science shows its muscle. Here is an instinct to eat a sugary carbohydrate, a culturally defined concoction, with ramifications into the habitual cuisine, the family table, with "Mom" and the "sweet tooth."

If it were a cannibal feast—then none would doubt that terror is at the diner's elbows. Instead we have a most generalized, sublimated human activity, but still human, and hence suffused—even if remotely and joyfully—by fear. For the history of this particular feeding is incomprehensible (indeed there is no history to tell) without, like the Last Supper of Jesus, its carrying along the most ancient determinants of human species behavior. The trivium is generalized into a multitude.

This line of reasoning is no different than that so well employed in sociology and economics when we say casually that "Joe is one of the army of the unemployed." Whatever the special circumstances of Joe's case, he is part of a large statistical aggregate responsive to general causes. He is part of an army of fear. Or should we choose some stumbling, famished French soldier in the retreat of Napoleon's army from Moscow in 1812?

### *PHYSIOLOGY OF FEAR*

In terms of the psychology of conditioning, existential fear is to be regarded as continuous self-punition, whether it is called

fear, anxiety, frustration, or depression. (Depression, writes J. Gray, is "a state induced by sudden loss of important sources of reward." [1]) The punishment takes the form of inhibiting rewards, the most basic of which is probably the surcease from existential fear itself. According to Neal Miller and his associates, in a conflict between approach and avoidance the animal will come to rest at that point where the forces favoring the simultaneously feared and desired goal equal each other. The "decision" is to come to rest. Then the human, by our theory, cannot come to rest, nor does the wild animal completely, in the presence of the effective extinction of the stimulus. The human continues to live in a heavily displaced world where the avoidance-fear sensation will always find some home and sustenance.

The physiology of existential fear, apart from the brainwork of cerebral conflict, is not structurally or electro-chemically much different from that of mechanical fear (in the presence of accident, blows, threats of punishment, aggression of divine wrath). Nor is it distinguishable from the long-term fear of death. It is clear that it does not constitute a major structural leap in evolution, though its actual effects are quantavolutionary. Hence it operates much like the animal mechanisms.

Especially *apropos* is the "fight or flight" system, about which we can say, with Tepperman [2]:

Although people who are disturbed by teleologically 'impure' thinking in biology are sometimes made uncomfortable by Cannon's 'fight-flight' characterization of the sympathoadrenomedullary discharge, the fact is that the over-all effect of such a discharge is to mobilize the individual to meet an emergency.

Hans Selye elaborated a model of the fight/flight mechanism, as well as Cannon, generalizing it into a "General-Adaptation-Syndrome" or G-A-S [3]. So much of total human activity



implicates the G-A-S, that one is compelled to view it as the dominating action determinant, which by the theory of *homo schizo*, means that once the G-A-S comes into play, once the Central Nervous System is operative, the essence of the response to stress is also functioning. One does not flick off the G-A-S when one is thinking about the rings of Saturn or washing dishes. And Jeffrey Gray employs in his own theory of fear essentially the Cannon-Selye model, "a single fight-flight mechanism which receives information about all punishment, and then issues commands *either* to fight *or* for flight depending on the total stimulus context in which punishment is received." [4]

The enhanced release of the adrenomedullary hormones, epinephrine and norepinephrine, denotes that a fight-flight signal has been passed to the central nervous system. In humans, the signal (I would argue) is incessant, or at least intermittent and rapid, and comes from a high level of excitation of the cerebral cortex, which is continually dealing with conflicts — past, present, and future. For a precise description of the body's response, we may best refer to Tepperman:

The over-all response to the effects of simultaneous sympathetic discharge and adrenomedullary secretion involves cardiocirculatory responses which are qualitatively similar to those seen at the beginning of exercise—an increase in cardiac output, increase in pulse rate, rise in blood pressure. In addition, after a brief initial period of apnea, there is an increased minute volume of respiration. Splanchnic vascular constriction (including a reduction in renal blood flow) and dilation of the skeletal muscle vessels produce a redistribution of the enlarged cardiac output which anticipates muscle work. The central nervous system arousal effect of the catecholamine substances results in alertness and quick responsiveness. Hepatic glycogenolysis, its attendant hyperglycemia, and the mobilization from the fat depots of a large supply of free fatty acids (FFA), all collaborate to provide a quick charge of readily available energy to muscles that may be called

on. Chemical changes in the muscles themselves increase their capacity for work and possibly diminish the generation of a fatigue signal by the muscle. The central nervous system effects of the substances may, at the same time, diminish central perception of fatigue. As if in anticipation of blood loss, the spleen contracts while the coagulability of the blood increases. If a committee of expert physiologists were appointed to draw up specifications for a set of physiological responses that would meet emergency needs it would be difficult for them to devise a more interesting effective set than that described here [5].

Notable is the cyclical effect - for the brain, arousing itself to signal a fancied or real threat, is immersed in the products of the responses to the signal, and hence can be forced to continue the signaling. Fight and flight tend never to end, save out of exhaustion. And human thresholds of exhaustion—of will and of muscle—tend to be forced to farther limits than those of animals. Horses and dogs reach their limits because men drive them. Whether in sex, sports, eating, warfare, prayer, business, or art, humans frequently test their limits.

Anxiety is moderate and continual fear and, were we dissatisfied with the mechanisms of fear in producing human nature, we should seek the mechanisms of anxiety. But they are the same as those described already. The dozens of physical and mental symptoms of anxiety [6], if they are not subsumable under the fear/flight system in operation, are by-products or effects of the system.

The explanations of anxiety are significantly related to the theory of homo schizo. M. Gray mentions five types of hypothesis. That anxiety is a catastrophic response of the organism to stress is advanced by Goldstein. That anxiety is a threat to one's concept of the self is advocated by Rogers. That anxiety arises out of unassimilated percepts is put forward by McReynolds. That it is related to commitment and awareness is Kirkegaard's notion. And that it signifies perceived threat to existence as a personality is conceived by May [7].

All can be related to the poly-self problem. Going beyond Gray to the sources, one can synthesize from them a concept of anxiety as an unending (because not quite exhausting) flight from oneself occasioned by defeat in containing emotional stress and by inability to face up to the everyday world. These opponents would be never a sufficient cause, however, were there not the ever-present existential fear that the self is not itself, but rather a dissociated confederacy.

And the outer world *per se* is a source of fear because with this discordant confederacy, who can be sure that the world is real and fixed? One need not be a philosopher to sense this fear, but it helps in expressing it. As Schopenhauer wrote, "The uneasiness which keeps the never-resting clock of metaphysics in motion, is the consciousness that the non-existence of this world is just as possible as its existence."

Is anxiety normal? Yes, endemic. Is anxiety part of the fear-flight syndrome? Yes. But for the "flight" part of the syndrome, we must investigate other behavior, beginning with punishment.

### *GUILT AND PUNISHMENT*

A taboo forbids some relationship of a group's members to an object or being. It functions as an obsessive phobia. It can also be regarded as an unconscious plan by a social group to proscribe an activity in general but to grant that the prohibition will be violated by "sinners." Despite the score of theories as to the nature of taboos, there seems to be no significant difference between a taboo and the process of law in rationalized societies except in the degree of analytic awareness accorded to the two types of phenomena.

Both condemn a transaction, elicit guilt for its performance; excite reliably the "satanic" impulse of individuals to violate the proscription; thereby exciting impulses in the satanist and, by

identification, the society, to feel guilty; punish the guilty and give thereby a sado-masochistic bonus to the group members; and then conclude with the expectation that the cycle will repeat itself. So the taboo, and the law, are techniques of varying awareness for producing routine behaviors, with exceptional cases providing a leavening of guilt and punishment.

A taboo and a law that are never violated are not only unnecessary, but undesirable, and a contradiction in terms. It is for the group consensus that the law or taboo is needed, for "reasons" and "consequences" that are more or less clear but in any event affirmed, if only in order to exercise the ritual guilt and punishment that the human uses to assure that his psyche is under governance and can control its aberrations, both internal and external.

Punishment of the self and of others has the same etiology. Humans who could punish others but not themselves, or vice versa, are structurally impossible. That observers have been misled to believe that people exist who are capable of one but not the other attests to the deluding permutations that are possible in the essential need to deal with the punitive aspects of the gods.

Guilt is an obsession with the conceived need to punish some part of oneself.

*I am the wound and the knife!  
I am the slap and the cheek!  
I am the limbs and the wrack,  
And the victim and the torturer.*

Thus Baudelaire [8]. Guilt and punishment are both "moral" activities, meaning by moral that their processing in the central nervous system is associated with compulsive identifications with symbols or beings of authority. The wish for, or condoning of, such authority is a wish to control oneself and others, thence

ultimately existential fear. The origin of morality is frequently the perceived behavior of the gods, whether based on some reality or hallucinatory. The behavior of the gods is an effective instrument for inculcating fear because of their actual behavior as perceived by the delusory and projective apparatus of the primeval human mind.

The gods, as perceived, commit wanton injury, cease to commit injury, and commit benefits more infrequently. They do so ostensibly in all the combinations and permutations of the high-energy natural forces — lightning, seismism, volcanoes, hurricanes, meteoritic phenomena. They also do so by facile penetrations of the minds of people — demanding, exhorting, frightening, and promising.

The individual split-self, comparing itself with others, works to discover a pattern of actions that distinguishes his behavior from that of others, and one category of others from another category. Driven by extreme anxiety, his hypotheses become obsessions. He discovers what he thinks to be such patterns and the relation of such patterns to the response of the gods.

He proposes and follows with obsessive subjectivity and paranoid zeal the line of conduct that appears to promise the greatest benefits and the lightest treatment from the gods (and their representatives—men, animals, plants). He projects his own correlations into the motives of the gods. Depending upon his charisma and the degree to which the god's behavior actually has a consistent appearance to others as well as himself, he makes a consensus of believers, a religious sect.

To strengthen his own self-restrictive behavior and to bargain for control over others, he transfers his authority to the sect. He finds thereby an accommodation that far exceeds, in the security and satisfactions that it brings, even the great benefits being experienced by group cooperation in hunting, farming, and manufacturing. Indeed, this basic security is so beneficial,

that it causes the great development of these latter activities, and of art, sex and procreativity. All of these activities, affecting all life, became then suffused with and dependent upon the origination of guilt and punishment.

Punishment takes many forms — of the self and of others, of the world and of the thought, of the body and of the mind, of deliberate action and of subconsciously driven behavior, of mildness and extremeness. All emanate from self-awareness and the reservoir of primeval fear filled by it.

The need to punish is always independent of the demonstrable effects of the punishment. Fear finds its nexus whenever it encounters the obstacle of its own illogic. To sacrifice one's own child to a demanding god is by its own extremity of pain and sorrow the proof that the punishment must be effective. Moreover, the persistent and universal presence of human sacrifice is the mere outcropping of self-destructive and destructive activity, both deliberately and subconsciously conducted, which masses itself beneath the innumerable different cultures that have evolved since mankind originated.

The kind of puniton that asks first for the logical connection between offense and punishment, and seeks to follow the crime with correction in the future, has only occasionally and especially in recent times had some impact upon deliberate punishment. Even then, though faced with psychiatric theories attacking primeval guilt and punishment, the urge to punish has tended to go underground into the subconscious, there to expand upwards once again in destructive behaviors that are handled in a context of fear in which punishment occurs as an ever-present instrument of relief and discharge.

Basic patterns of behavior are infused with appropriate modes of puniton — catatonism with paralysis for having moved, and by moving, moved the world order to destruction; obsession with numerous rules to proceed in fixed ways on pain of a

variety of punishments ranging from mild social disapproval to the most horrifying extirpation that can be devised; sublimation with the torturing of thought, art, and institutional behavior, generally playing out the eternal drama of the sin of being human; orgasm with displays of violence, sacrifice and ecstasy.

The common need for authority, especially one who can punish and forgive, is plain, for puniton tends to unite the self, whether it be by the self or by the authority, and a god is therefore much needed. So is the god needed in external relations, interpersonal affairs where, as Martin Buber, the theologian, says, God, the Great Thou, enables human I-Thou relations between one person and another to subsist [9].

It is plain what an important role the gods play in holding the self together, and why gods are assigned the tasks of punishment. The tenuous self, striving for integrity, for self-rule or selves-government, invites a third party, the god, to intervene, who, by definition rather than logico-empirical proof, restores order in the self by punishing one or more of its components; it matters not which, and matters not why. What matters is that the punished being feels whole, feels "better" afterwards. Such is probably the essential dynamic of masochism.

The transfer of godlike qualities to the rulers of the state—kings, judges, and generals—and of institutions (presidents) and families (parents) lends these real beings authority, which hoi polloi can disregard only at the risk of punishment, whether self-inflicted or imposed by the rulers.

Witness today, for instance, a typical sequence of problems and behavior in the "educated" family, pictured through the mind of the father: 'My children have no conscience... They discovered that I was not obeying a third party... they don't obey me... they feel free to attack me... they should have been given a party [abstract and delusional] to which both I and hence they would

refer judgements... I could have dominated them [paradoxically] much more if I showed them that I was submissive to a third party... then they would join me in relation to the third party and I would not be the target of their hostility..."

Every life activity displays guilt and punishment — sexuality, food production, tool-making, war and justice, death. The peculiarly human aura of sexuality, like that of other human life areas, is owing to the architectonics of fear, with its archinstruments of guilt and punitiveness, working its way through the continuous mind-exploding mechanisms of the split self (selective memory, symbolization, control-seeking).

As M. Gray has mentioned, fright in man is more complex than in animals because "the new dimension that is reached in man can be viewed as symbolic fear." [10] Sex and fear systems are tied together in endocrinal secretions, so that there is little need in psychology to devise a logico-rational explanation of how, beginning with fear, the human mind runs to sex, or *vice versa*. The fight-flight system is basically the fear system, and is "ubiquitous," using Tepperman's word.

Bleuler discovered early that "the idea of intercourse is often expressed by that of murder," that "wars and duels are symbols of cohabitation," and that the idea of being burned is tied up with murder and sex [11]. Often we observe that peacetime anxieties or fear produce sexual impotency, whereas wartime fears, where violence is pervasive, produce lust and rape. Men going about looking for jobs develop impotence; men infiltrating an enemy town or abandoning it seek sexual outlets. Unleashed violence uses sex as a screen for and release of fear. However, regarding murder, say, sex is not the originator. The life areas are intertwined, as are all others.

The human does not compartmentalize, especially when under stressed fear, nor do many animals, but the human has a lower



threshold of compartmentalization than the animal and must endure, indeed often enjoys, the confusion and mingling of life activities. Strange, because the human is the greatest analyst of mixtures, and can separate, in his mind and by scientific tests, the life areas so that pure categories of sex and aggression and work, etc. are educed.

A wide range of "normal" and abnormal" behaviors are developed in man, reflecting every known special sex behavior of every species, even at least up to the point of zoological impossibility as in divine and mythical hermaphroditism. (In rare cases, as today, and in perhaps a flurry of mutational cases in primordial natural disaster, hermaphrodites may have provided the grain of truth to the common myths of divine hermaphroditism.) Man's mind certainly dwells upon hermaphroditism. Resistance, obsession, sublimation and orgiasm, in turn and in combination, emit a host of various sex behaviors, in the individual and group.

What the mental strategies do to characterize the sex instincts of humans is also done in the other areas of life. Consequently, if one were to eliminate, in each successive area of life, the generic holistic mechanism working upon continuously renewed and stored fear, one would discover at the end of each process of elimination a root element, the sexual, the grower, the maker, the fighter, the dying person. Although no more complex than the fullness in *toto* of animal behavior, these areas are elaborated in an exceedingly rich manner within humans by the basic mechanism operating out of fear in unending supply.

### *AVERSION AND PARANOIA*

A common element in schizophrenic symptomology is an aversiveness to humans. This includes social distrust, desire for privacy, fear and dislike of others, expectation of being rejected, and the conviction that one is unlovable—all on an

intense level. A strong rejection to being helped is common. It is a mutual rejection of the bodyselves and a separation from the world and others of the poly-self. It is self-conscious — not animal awareness, but a delusory standing off from oneself, with the whole world (inner and outer) thus revealed, expanded by the sense of time—of recall, memory, and forgetting—and of space.

The "paranoia" comes from the Greek where, anciently, to be "out of one's mind," that is *para* (beside) and *nous* (mind), denoted insanity in general; in American vernacular one would say "I was beside myself with worry." Now, narrowly, paranoia is restricted to projections of threat. The paranoid aspects of primordial and existential fear are well known. Fear fathers destructiveness. Whenever the skies darkened, or certain stars approached, or the Earth trembled, paranoia was stirred up. Legends often openly assert that "because" the gods were destroying the world, men took up arms against each other. Even voices out of highly civilized cultures, such as Alsatian peasant culture, will assure one that wars follow upon great meteoritic showers, as in 1914.

What the gods are intending, as projected, is retrojected back to oneself, to one's group members, and to outside humans. *In extenso*, it often happens that the gods instruct men to destroy each other. Official psychiatric reports of the great Alaskan earthquake of 1964 describe how blame for the disaster, often couched in terms of an Act of God, was expressed in guilt-feelings and in accusations against others, such as "I changed my church," or "He changed his church."

The inventive aspects of paranoia are considerable. The paranoid is highly energized. He stresses symbolism. He acutely discerns remote analogies as he searches for conspiracies. He prospers upon the unknown and unintelligible. He is obsessive, confident where others falter; he has answers, and insists that others adopt his answers. The dominating role

of the paranoid in the origins and history of civilization becomes understandable. His "sickness" was no sickness in primordial times.

Nor, properly rationalized in the language and procedures of existing culture, is the paranoid "sick" in the world of today. For every provable connection of effect with cause, humans resort to hundreds of paranoic assertions. The reason, when experts are asked why, is usually given as "ignorance." But is it not as easy to apply a simple logic on what is known, or to confess ignorance, as it is to learn or invent false accusations continually? The primary ego is compelled to assert its omniscience and, since the function of "knowing" is really to reduce internal fears, accusatory explanations are in heavy demand.

A paranoid is usually beset by ambivalence, the love-hate double face and double mind of the schizophrenic, the abrupt turn from one to the other make relations between schizophrenics and others often more terrifying than consistent hostility.

### *AMBIVALENCE*

But ambivalence, we should argue, if we are set to follow *homo schizo* theory, must be universal in man and culture. And so it is. It is the good and the bad of everything. It is "the two sides to every question" that underlies the judicial systems and many cultures. It is manifest in the fact that people and cultures "choose" to differ in every way that they can, from one another and within themselves. The alter egos must emerge. Cannibals can be divided into those who eat their enemies and those who eat their friends.

Levi-Strauss says that the incest prohibition is the only universal culture trait, a bold and learned claim. But a moment's consideration will put the claim into a revealing context. The

scope of incest rules differs: some stop with parents, other with nuclear families, others with uncles and aunts, other with clans and so on in various combinations. By their existence and limitations, the rules implicate contrary wishes, hence ambivalence.

Furthermore, societies have rules about everything that can be the subject of rules; incest is no more specific a concept than murder, and all societies have rules about murder; further, all societies "by right" are totalitarian implicitly if not explicitly endorsing the old army saying that "there is a right way and a wrong way to do everything in this Army." (There is an alternative rendering which is, "There is the right way, and there is the Army way; you do it the Army way!") Finally "rules are made to be broken;" without infractions there would be no rules which means, more subtly, that it is desirable to have infractions, if only to gratify the punishers, but, more than that, in order to let what is right be known.

Today the gods are less frankly present in the operations of the "normal" mind and institutions; but the schizoid meaning of the primordial gods is clear. It is not enough to say that the first human mind could imagine the gods and imitate their imaginings (projection and retrojection). It actually did so on the basis of more reality than is fashionable to admit nowadays. The human mind was born with the gods, that is, with those terrible entities of the sky that are said to have wrecked the world, and that were hovering above and swooping down over a period of thousands of years, ever refreshing the reservoir of fear in the human mind.

The animation was imagined, or so our modern logic insists. No matter, for every symbol stood for a memorable sign, every myth represented an event, then came imitation — prompt, unquestioning, and illogical. Above all other relationships in the world was the identification with bodies that both hated and loved humans on a massive scale; these were the gods who

turned upon another, castrating (Saturn-Uranus, Jupiter-Typhon, etc.), maiming, tearing off heads and limbs, hurling mountains and cosmic discharges at each other and at men.

"Black magic" sees a hand in everything that happens. The paranoid often sees the same. Comets and meteors readily simulate the hand. The prehistoric caves contain the hand in great numbers. The "Hand of God" is frequently reported stretching out from the heavens to the agonized populace. At one and the same time, it is the image of terror, of inevitability (the hand finally grasps), of help and of punishment. He also "Holds the Whole World in His Hands."

But the hand is only a part of the rich assemblage of forms that natural bodies can assume, all of which contributes to the original and continued reification and anthropomorphizing of the gods. Schizophrenics, more commonly than controlled normal schizoids, reify the outer world. insofar as the schizotypical human has been in the forefront of human development, the gods as "humans writ large on the skies" are unending.

What they did to men was beyond modern belief and was deeply suppressed. But it was never truly forgotten. The myths of old, the dreams of the normal, and the autistic reveries of the schizophrene are basically alike in structure and purpose: to manage the unmanageable. Whoever survived had to believe that they were the chosen people of the gods. Further, all the new aspects of their environment (like the manna and the ambrosia from heaven) that helped them to survive, kill enemies, give birth, and carry on creatively (arts and crafts) made them believe in the love of god. It is the famous "double bind," which social environmentalists attribute often to a mother who works out a hate-love relationship with her child, and which makes the child schizophrenic. But going back generation-to-generation to the earliest times the mother, and

her mother, and so on, can only deal in hate-love ambivalence, because they were so dealt with by the primeval divinities.

### *ANHEDONICS*

After ambivalence comes the pleasure-phobia, the symptom of anhedonia, which Meehl has called "one of the most consistent and dramatic behavioral signs of the disease" of schizophrenia. It is a "marked, widespread and refractory defect in pleasure capacity." Man has been mistakenly called a hedonistic or pleasure-seeking animal. The psychiatrist would say that this is correct only if self-destructive and other anhedonistic behaviors can be termed pleasurable. If whatever the organism seeks becomes, by definition, pleasurable, then it is hedonistic.

The hedonistic theory is inherited from the Benthamite school of early nineteenth century England. The psychology of hedonism had taken over a commanding position in Western societies in the guise of democracy and socialism. Certain philosophers — ancient Epicurus for instance — certain societies, not many — the United States for example — take up the idea enthusiastically. Or, at least, so imply the advertisers. But, say the critics of American civilization, the attempt at hedonism fails miserably.

In reality, the pursuit of hedonism is always a secondary social aim. No society has ever been founded upon the pleasure principle. All societies are ideologically committed to the principles of anhedonia: pleasure is evil; pleasure is impossible; pleasure brings punishment, suffering is good; pleasure is a release from disciplined suffering; pleasure is to be tolerated only upon the celebration of a disastrous anniversary, as an orgy inviting repentance. The orgy is a complex of smile and snarl—as in dogs we have known, and in humans we should wish to investigate.

It is from the human person that society is constructed, and where anhedonia is born. To prove this, one may begin with deduction. Pleasure-phobia is logically implied in the theory of the fearful polyego. The mental construction of the human is fundamentally unsettled. The frustrations of existence — to satisfy needs and evade the blows of nature—write an undulating pattern over the basic unsettlement.

Now if one is permitted the irony, is it not strange that pleasure should be regarded as natural and in this day people who are anhedonic should be regarded as mad, when it is the hedonist who perhaps should more naturally be taken to be mad? It is significant therefore that the definition of pleasure itself is the greatest weakness of hedonism as a philosophy. The hedonist begins by thinking of pleasure as a commonplace idea: "eat, drink, and be merry," "a car for every family," "peace and plenty," "a chicken in every pot," "free love," etc. That is, the hedonist turns out to be a superficial psychologist who has a rationalist uni-dimensional view of people.

However, most people seem intent upon rejecting this kind of pleasure in part or whole. As soon as one asks of the hedonist, "What gives people pleasure?" he must reply: "People get pleasure from whatever they wish to do or have done to them." Pleasure, then, in a word, is "Voluntarism," as in the old-fashioned expression, found in several European languages as a mode of address to superiors, e. g. "What is the gentleman's pleasure?" Under the *Ancien Régime* in France, the King signed all of his promulgations with the phrase, "*Car tel est notre bon plaisir*," which phrase would be related upon every reading of a law or judgement, as when a man was condemned to death, "For such is our good pleasure."

But of what does Voluntarism consist in primeval humanity? Assuredly it is in fulfilling those devices that are animal in kind: feeding, fornication, fighting and fleeing danger. More

than that? Yes, hanging around where one can feed and fornicate and feel free from danger the next time on each cycle.

What else, that is typically human? To refuse food, to refuse sex, to fight instead of flee. Even more, to do all that can possibly be imagined to use these elemental desires in ways that will establish and secure the most wanted triple-control of the self, others and the gods.

Let us look at the earliest legends of mankind. What do they have him doing in these regards? A great many unpleasurable things. He sets up a host of taboos against the most plausible kinds of enjoyment.

He eats only certain food, and at only certain times. He eats what is bad to eat when good foods are available. He eats in a certain way, giving a portion of the best of his food to the gods, as hungry and insecure as he may be. He fasts. He eats his gods and his enemies. He builds a great oral literature on what to avoid eating and subsidizes priests to tell him what not to eat, when, and how to prepare what he does eat, ulcer or not. Would it be permissible to suggest that two out of every ten humans who have ever lived have died prematurely from pursuing irrational eating habits? (Meaning by irrational: ingesting or avoiding because of non-dietary reasons what is severely prescribed or proscribed.)

Sexual behavior, too, is thoroughly permeated by restrictions and impositions. Name an animal that lingers in coition. Other than man, of course. That exults in creating a female orgasm. Whose orgasms are compared with death itself? Not "I am born," but "I am dying" is the sometimes climactic ejaculation by the sexual partner, with subsequent relief and relaxation from having met with death and survived. And again creates a philosophy, as the Hindu, for one instance, that explains how you weaken yourself unto death by sexuality.



So, too, conflict. To defend is "natural," to flee is natural; but not to attack deliberately with one's guts roiling, in row upon row with bayonets fixed, with death ahead, yet death from behind upon whoever falters. Whence the awards go to those who have suffered most joyously, doggedly, "without questioning why, but to do or die." Verily who seeks pleasure seeks its own reward; who seeks pain and suffering is exalted before oneself, before man, and before god.

The earliest glyphs and scripts of mankind are pleasure-phobic to the degree to which they are sacred. Coming from the Egyptians, Hebrews, Sumerians, Mayans, Chinese, Icelanders, Myceneans and Greeks, these coherent patches of history and morality stress without exception that the pains of existence must be and should be, hardly ever do they set up mammalian or sublimated pleasures as a human ideal.

The anhedonism of primordial and schizophrenic humans is understandable: existential fear demands not pleasure, but relief. And this relief results from a broad spectrum of activities that are hardly pleasurable: self-mutilation, sacrifice, cannibalism and exhausting ritual. The ambivalence of the gods and of the self, too, warn against pleasure.

T. Reik has argued that the original sin was not sexual but rather of *hubris*, the imitation of the god's power, such as the seizing of the God's fire [12]. It was alright for the Homeric heroes to address the gods as "blessed and happy;" but calling themselves happy was an invitation to disaster.

Far more institutions have been created in ancient and modern times for the suppression of pleasure than for its enjoyment. But as Freud intimated in his *Civilization and Its Discontents*, without suppression of the instincts there would be no civilization. Herbert Marcuse has more recently elaborated upon the thesis in *Eros and Civilization*. Even these trenchant criticisms for culture now seem superficial. They have but

carried forward another version of "the noble savage" of eighteenth century philosophy. One cannot discover, nor properly induce from pre-history, a human culture that sought to provide pleasure except as it might be incidental to relief and escape. Anhedonism is imprinted upon human nature, the individual schizoid psyche, which is pleasure-phobic more than pleasure-prone, abets and invents the anhedonistic institutions. And institutions "hate pleasure," whereas they cultivate suffering.

Usually, pleasure-phobia is an aversion to interpersonal and "animal" pleasure rather than to cognitive and aesthetic pleasure. The schizo-type can evince aesthetic and intellectual hypercathexis without the fears and guilt of interpersonal pleasures (i.e., human pleasures). Anhedonia is not apathy, but is pseudoapathy, a tense and anxious state; its final form is catatonism, which is really "playing possum" with the gods.

### *CATATONICS*

Manu, the Noah of the Hindus, "practiced severe and great self-mortification." Wearing a bark shirt, his hair matted, "while he stood on one foot with his arms raised, with bent head and eyes unblinking, he performed awesome austerities for 10,000 years." He was chosen by order of the gods to recreate all creatures after the Deluge. "By virtue of his very severe self-mortifications the manner shall be manifest to him." [13] So the model of man is taught the greatest knowledge by the greatest suffering.

Freud in one place quotes Kaempfer on the taboos governing the Japanese Emperor of old:

In ancient times he was obliged to sit on the throne for some hours every morning, with the imperial crown on his head, but to sit altogether like a statue, without stirring either hands or feet, head or eyes, nor indeed any part of his body, because, by this means, it was thought that he could

preserve peace and tranquility in his empire; for if, unfortunately, he turned himself on one side or the other, or if he looked a good while towards any part of his dominions, it was apprehended that war, famine, fire, or some other great misfortune was near at hand to desolate the country [14].

Gurdjieff reports an experience from Central Asia. There in a village a religious sect was playing games of magic circles. A girl was frozen in the circle that other children had drawn around her. She could not move out nor could adults from the sect drag her out. Persons who entered and left the circle remained in a catatonic state for many hours. It seems that one entering the circle grants her vital force over to an outside being as a bribe to prevent harm to oneself. Thus emptied of vitality, one cannot move.

There is more than an analogy with some psychological problems in a rigid bureaucracy. The incubant at his desk gives over his life forces to an outside being—in this case the inanimate collective representation that is the agency or bureau. Whereupon the employee becomes inert, immobile, and cannot direct the very forces he is employed to manage.

Workers concerned with disaster assistance comment frequently upon the fatalism and denial of the victims; often the outsiders are baffled and become angry. In one of the few honest reports ever written on this question, a transport expert working intimately with the truck drivers bringing food in the recent Sahelian drought and having substantial contact with the rural population, reported that at first none of the local population seemed ever to have heard of the drought; later he concluded that they felt it deeply and were taking rational steps to minimize the hurt in ways they had known all their lives. In much of the Savannah and desert of Africa, people take drought to be a necessary divine warning that religions and moral standards are slipping and that a revival is due. The harm done to them must actually be received in a sacred mood. It is notable that

this report is of rare honesty. Ordinarily the nervous givers of charities must be reassured that the recipients are responding "logically" and "rationally," and reporters generally supply such news upon demand.

What is the fear of change of habits, customs, society and human relationships, even of aging? Is it based upon some pragmatic calculus of cause-consequence; that is, is it based upon the experience of change, discovering that change is always for the worse? And why does the feeling vary so greatly, then, among individuals, so that, for example, a social psychologist such as Lowell could divide politicians and public opinion into two categories: the optimistic and the pessimistic?

The fear of change derives from the anxiety over the potential loss of an ego stability, which is markedly worse the less the poly-ego is stabilized to begin with. May this not explain the phenomena of personal and social conservatism and stagnation? The process in society, as in the person, is self-aggravating. As a society destabilizes in revolution, whether social, industrial, or political, far from people becoming habituated to the change, they become more desperate. Even though the change may be rationalized as beneficial, any material improvement and a formal lift in dignity become inadequate consolations for the failures of individuals to compose new poly-selves for the new times. This should constitute a lesson for non-Marxian revolutionaries.

A catatonic patient, like Manu, is far from "despairing" of control of the world. He may hold a position for months, but if moved, flex and adjust so as to maintain the assumed position [15]. His ability is unconscious in that it far exceeds any normal ability. Other patients (Bleuler called them "waxy cataleptics") were without spontaneous movement but maintained any position in which they were placed. Another type went on repeating motions that were supposed to have begun and stopped. Often the cataleptic exercises himself in an "affirmation of

negativism" that requires great muscular energy and coordination.

Here is what other mental patients say: "I can't move if I am distracted by too much noise. I can't help stopping to listen. That's what happens when I am lying in bed. If there is too much noise going on, I can't move." Another says, "I get stuck, almost as if I am paralyzed at times." They are driven sometimes to losing their subjectivity. They become objects and, as one patient said, "Objects don't have feelings." [16]

Catatonism tells the gods or other authorities: "I do not move, lest when I move I am noticed, and the world, too, will move." Catatonism is a common response to the shocks of primeval and historical disasters. It is seen in every accident ward and especially in military hospitals. In a great disaster, such as Hiroshima, catatonism is a major behavioral response.

Non-rationalized cultures (mistakenly termed "primitive")) simulate catatonism when reenacting the earliest days of creation. Members of a certain Jewish sect must remain throughout the Sabbath in the same posture that they were assuming when the Sabbath began. Children present during traditional religious ceremonies are warned to be particularly silent and immobile while the priest reenacts the primordial end of one world and beginning of the next. Wherever the authority of religion has descended upon secular institutions— be it a library or the mausoleum of Lenin—a "respectful" silence is maintained. Gestures become restrained. Clothing becomes "appropriately" somber, unobtrusive. All that is individually outward is suppressed, and it all "happens naturally."

Short of catatonism and beyond anhedonia exists the realm of apathy. Schizophrenics, the psychiatrists say, are so contradictory: sometimes excessively voluble, hyperactive, frenzied, and then again and for prolonged periods apathetic. Nothing interests or excites them. They may be occasionally

aroused, and then retreat dramatically into torpor of manner, posture, and speech. They are impossible to arouse. No one knows what stimulus will once more perhaps excite them. Meanwhile no indignity inflicted upon themselves or others, no injustice, no deprivation seems to matter. Electric shock treatment is resorted to, a horrible experience, a repetition of primeval bolts of Jove. Occasionally, a cure of apathy results, but note that it is a worse pain, a greater fear of the lightning discharge, that arouses the patient, not a pleasure; no pleasure will ever do the job. Pain, not pleasure, is the route to resuscitation, a recovery of a status as a punished one, a way to please the self, others and the gods.

Self-deception of anhedonia and catatonics can be carried to the expected extreme of self-destruction by suicide, just as with the other delusions of man. Karl Meninger sees in all mental illness a core of self-destructiveness. Freud's last paradigm had "Thanatos," the death instinct, juxtaposed to "Eros," the life instinct. There is no use in trying to draw a line to include only the mentally ill. Self-destruction in its most obvious forms, leading to death, is an extreme anhedonism, by definition, which is to say that other self-destructive behaviors that are not so obviously leading out of anhedonia are tied into anhedonia for the simple reason that man seeks self-control holistically and hologramatically; the symptoms are interrelated. Oblivion in catatonism and death is the ultimate control of the self by surrender; the self is no longer divided or in disarray or scattered.

### *ORGIES AND HOLOCAUSTS*

But a place must be made for orgiastic behavior. Whereas one kind of violence emerges from the discipline and sacrifices of "law and order" or obsessive social forms and institutions, a second kind of violence entails the tearing down of structures and institutions. Sometimes this occurs in Saturnalian orgies where deliberately, for the nonce, all social forms are turned

upside down; masters serve slaves, equality reigns, contracts are broken, wealth is burned or otherwise wasted. Amidst the Assyrian terror, Isaiah cries out: "Let us eat and drink, for tomorrow we shall die." (*Is* 22;13) *Ecclesiastes* does him one better: "Eat, drink, and be merry..." At other times, orgiastic violence becomes warfare and social purges, such as witch hunts and political reigns of terror.

"The conscience for which [Hitler] stands," wrote Lasswell in 1933, "is full of obsessional doubts, repetitive affirmations, resounding negations, and stern compulsions." [17] Mass death followed. The obsessional and the orgiastic work hand in glove. Human sacrifices, an ancient Pharaoh inscribed, will purge you to the satisfaction of the gods. Warfare, for the Aztecs, was continuously needed to provide prisoners whose sacrifice was demanded to keep the world orderly and the sun regular.

Sizemore and Myers have connected schizophrenia, fear of world destruction, and ancient catastrophes [18]. Eissler calls Leonardo da Vinci's drawings of the end of the world by flood, fire, hurricane, and explosive seismism his last and greatest works [19]. The orgiastic event commemorates the end of the world or of one world. "Better a terrible end than an endless terror," said the Nazi slogan. Again, it is a replay of the primeval times of disaster, a carrying out of the will of the indignant or new god. Political force represents phylogenetically the force that overturns the earth; therefore, necessarily often, political force is adored, is not to be restrained, and when abused, remains still genealogically right. There are many analogies in the human mind between natural and political violence; Shakespeare, as Irving Wolfe demonstrates, interchanges social, personal and nature's language in a shower of metaphors. Holocausts are demanded. "The beast within us" is called forth. But, of course, it is not a beast; no beast acts so; it is the human within us that is called out.

A common phrase in writings about repulsive practices is "Even as late as..," as if mankind had been on an upward track of moral conduct. "Even as late as the Roman Empire, infant sacrifices to Saturn occurred...etc." "Not until the Spaniard arrived, did the Aztecs cease their regular cannibal sacrifices of thousands of persons," or "the Jews of Czarist Russia and the Armenians of the Ottoman Empire were not freed from the dread of pogrom and massacre until 1920," or "As late as the 1880's the Shawnee Indians sacrificed a maiden upon the near approach of planet Venus."

However, relief is not in sight. Progress is a matter of a few years. Somewhere, at any given time, a massacre or deadly persecution is probably taking place. The human "holocausts" of the German Nazis, Russian communists, Chinese communists and nationalists and of the lesser Balinese military, Cambodia communists and other groups of the past half-century took perhaps one hundred million lives. Wars and starvation by neglect killed another hundred millions. And the world arms, while it talks in terms of killing more hundreds of millions of people.

It is not difficult to prove that *homo schizo* is nearly as far from "killing only to eat" as he ever was. Nor has any social invention appeared that might promise a definite end to such catastrophic behavior. This, more than anything else, ought to motivate the study of human nature. We know, do we not, that the historical modes and inventions of systems of social cooperation have failed all critical tests?

There is an automatic anhedonia about modern holocausts. The pleasure-phobia sacrifices others to reassure itself: "The only good Indian is a dead one." But the phobia then goes farther to hide the emotionality of the deed by bureaucratizing (routinizing) it. The self-suffering (which is not rationalizable to others) is translated into sublimated self-suffering that makes sense to others. In cultures where religion provides infinite



legitimated anhedonia, this is an easy matter; every impulse to suffering can be indulged.

### *SUBLIMATION OF FEAR*

Nevertheless, older religions (theocracies, specifically) set up channels of suffering that lead to astonishing aesthetic and intellectual products. Especially in cultures deviating from heavy religious norms, self-suffering by sublimated activity is given an individual or scientific-bureaucratic base, and it is here that the schizophrenic is identified; since he is not incorporated into bureaucracy and rituals, his activity is exposed as psychopathic; then wonder is expressed at the great aesthetic and intellectual product that emerges from his suffering mental state as in the case of the composer Schuman, the sociologist Max Weber, the novelist Kafka, and so on.

Aesthetics and invention are displacements and trans-substantiations of interpersonal suffering, conveyed in ideas and symbols. Thus frequently the schizoid patient surprises his keepers by contrasting behaviors, on the one hand completely uncoordinated and erratic where people are concerned, but on the other hand competent, cool, logical in the pursuit of music, mathematics, and zoology.

In such pursuits, the schizoid leaps over his uncontrollable anxieties of the other self, the other person, the living nature and gods. Then he (or she) doubles back upon the percepts and cognitions left behind, purging them until they form a colorless fabric of abstractions which he drapes comfortably over himself.

In movies, novels, and journalism people (normal) express surprise and anger at how many institutions of love and priests of love behave contrarily; these are unfeeling, inhuman, interested mostly in abstracted aspects of people and things. Such frequent behavior of "welfare officials" is partly their

anhedonism and partly their personal aversiveness, whether expressed by them characterologically or as typical representations of institutions.

A climactic case of a love institution built upon a great fear and hatred is afforded by the American Jonestown community of Guyana, South America, where several years ago some 900 people living in a community of love were suddenly transformed by their leadership into a community of suicides and killers, to the end that within a few hours almost no one was left alive. In the interviews and reports issuing upon the disaster, the phrases of terror and doom dominate.

Man cannot lift himself by his own bootstraps. The human has been and is always in some combined state, varying cyclically in intensity, of self-punition, aversiveness, anhedonia, ambivalence, paranoia, catatonism, and orgiasm, as well as obsession. The social structures are but an extension to help him control these embodiments of anxiety. It may be hopeless to seek exceptions *via* cultural anthropology or special religious sects.

Fear phenomena can be manipulated, handled, understood, balanced, but not erased. Otherwise we should have a vegetable or simple animal, for the animals closest to man have also a problem of eternal *angst*. A normal scientist (and to be a scientist implies an abnormality), admittedly a superman of rationalized controls, is *ipso facto* allowed and trained to mistrust his senses, to mistrust the word of others, to regard everything as important (that is, engage in the most remote displacements), to check and recheck anxiously, to be obsessive about his subject, to avoid personal identifications and emotions, and to suffer self-punition over extended periods of times. What is science, indeed, but a capitalization of instinct-delay and the heavy anxiety-alert to develop and exploit them as actual products?

**Notes (Chapter 5: Coping With Fear)**

1. *Op. cit.*, 234-5.
2. Jay Tepperman, *Metabolic and Endocrine Physiology*, Chicago: Year Book Medical Publishers, 1962, 136.
3. *The Physiology and Pathology of the Exposure to Stress*, Montreal: Acta, 1950.
4. *Op. cit.*, 195.
5. *Op. cit.*, 136-7.
6. Cf. Melvin Gray. *op. cit.*, 97ff for a list.
7. *Ibid.*, 93.
8. *Baudelaire*, (Penguin ed., 1961), 160.
9. *I and Thou*, 1937.
10. M. Gray, *op. cit.*, 131.
11. *Op. cit.*, 415-6, 27.
12. Theodor Reik, *Myth and Guilt*.
13. J.A.B. van Buitenen, "Manu, Ut-Napischtim, and Noah," *U Of Chicago mag.* (Winter, 1975), 10-3.
14. *Totem and Taboo*, 1913, N.Y.: Norton, 1950, 45.
15. Bleuler, *op. cit.*, 180.
16. Mc Ghee and Chapman, 63, Patients 12, also patients 3, 5, 20, 14,1.

17. Harold D. Lasswell, "Psychology of Hitlerism," in *Political Behavior* (studies), London.

18. Warner Sizemore and John V. Myers "Schizophrenia and The Fear of World Destruction," I *Kronos*, (Spring, 1975), 75; cf. W.A. Spring, "Observations on World Destruction Fantasies," 8 *Psychanal. Q.* (1939), 48-56.

19. K. R. Eissler, *Leonardo da Vinci: Psychoanalytic Notes on an Enigma*, London: Hogarth Press, 1962.

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