

The Sorry Story of Psychosurgery

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"The Stealers—Psychosurgery and Mind Control" By Samuel Chavin, Houghton Mifflin Co. Boston, 1978 \$ 8.95.

*'What is matter? Never Mind,
What is mind? No matter.'* Punch.

THE human condition, through history, has always been marked with dread, anxiety, awe, fear, humbug and much confusion about the entity of 'insanity'. Everyone seems to know what it is, yet there is no general agreement about the whole concept of psychiatric illness, much less regarding the constituents of possibly specific entities like schizophrenia or hyperactivity. For instance, the diagnosis of schizophrenia varies with geography; it is made more stringently in Great Britain than in the United States or the Soviet Union where the condition mushrooms into subtypes (Szasz, 1976). It may have biological markers such as neurotransmitters or chemical messengers that affect the way brain cells work. However 'no unequivocal abnormalities' have been found in the neurotransmitters after three decades of intensive research into their possible role (Snyder, 1982). Both a genetic pre-disposition and as yet undefined infectious agent have been suggested as causative factors (Crow, 1983). Arguments continue whether schizophrenia is one disease or a group of widely different entities presently erroneously being lumped together, nearly a century after the disorder was identified (Hays, 1984).

There are other ill defined entities, that once appearing on the medical scene grow with time. The 'hyperactive' child in the U S or the 'maladjusted' child in the U K grew from three per cent of the U S school children in 1971 to 15 per cent in 1974, with about two per cent of all school age children receiving medications to control hyperactivity in that year. Hyperactivity is defined as: unmanageable, defiant, disobedient, aggressive, lying, truant, unable to concentrate, violent, overactive etc. No wonder Thomas Szasz calls all mental illness a myth—a category error. The brain can be sick says Szasz, but the mind is not an organ; "it is an abstract noun that lacks a concrete referant". (Szasz, 1984)

So we have a field of study where the entities themselves are not clearly defined, the possible underlying mechanisms ill-understood, the role and effect of mainstays of therapy like shock-therapy (E C T) and drugs (the major tranquillizers) controversial. In all of this for the past five decades there was yet another aspect—the surgical removal or destruction of a part of the brain to help or cure individuals with severe mental illness.

It is this form of brain-surgery or psychosurgery that Samuel Chavkin's book discusses, not only in a narrow medical sense but in its wider social and political context. On reviewing Chavkin's book on other related material, I am amazed at the virtual absence of any medical or scientific basis for psychosurgery and of the overwhelming social, political and cultural influences that determined the indications for it. For any surgery, say removal of an abscess or an inflamed appendix, the rationale is two-fold: non-removal will result in greater harm or fatality, and removal result in some alleviation or even a permanent cure. In a non-life threatening condition such as chronic mental illness one is presumably aiming at substantial alleviation if not a cure. Surely removal or destruction of as important and crucial a part of the body as bits of brain requires clearly defined entities at the outset, which have disrupted or

incapacitated the individual's life and which no other form of therapy can help. The method of surgery itself should be a standard one so that identical areas are removed or destroyed at the patient's outcome judged not by the operating surgeon but by an impartial observer. None of this was true for psychosurgery.

The Historical Perspective

"This was the most unkindest cut of all" Julius Caesar.

The history of psychosurgery, even as recounted by the strictly 'medical' account of Kucharski (1984), reads like a macabre piece of science fiction. In fact, the initial proponent of psychosurgery was a world renowned professor of neurology, Egas Moniz of Lisbon, who had invented the technique of cerebral angiography, a method by which dye was injected and x-rays taken to see the blood vessels of the brain. In 1935, Moniz heard two American neuroscientists present a paper at an international conference. They described the effects of destroying the prefrontal area of the brain of two trained chimpanzees thus: "the animal without frontal areas no longer appears to worry over mistakes. Whereas the normal monkey or chimpanzee may become excited, cry or have a temper tantrum or on the other hand turn away and ignore the problem after several successive failures, the subject lacking frontal areas seems quite impervious to any frustrating effects or errors" (Jacobsen, 1936). After the presentation, Moniz stood up and asked "Why would it not be feasible to relieve anxiety states in man by surgical means?" A few months later, Moniz's colleague Almeida Limm used alcohol injections to destroy areas of the frontal lobe of a middle-aged woman with 'agitated depression'. Following surgery the woman was said to be markedly less agitated than before. After four patients had been operated upon, Moniz admitted that the patients were more apathetic than he had hoped. The four were sluggish, disoriented and incontinent. The alcohol that had been injected tended to seep further down into the brain than intended, and damaged vital centres that regulate breathing and blood pressure in the brain stem. The referring psychiatrist refused to send further patients for surgery.

But the era of psychosurgery had begun and in the next two decades nearly 100,000 individuals were operated upon (BMJ, 1971) in many countries including India (Valenstein, 1980). The operations were performed for a variety of conditions: aggression, neurotic depression, psychotic depression obsessive-compulsive neurosis, schizophrenia and other psychosis etc., with surgical procedures directed at different parts of the brain: the frontal lobe, the cingulum, the amygdala, or multiple sites. Moniz refined the technique of injecting alcohol to a leucotomy—a mental rod with a wire loop that could be extended from its end to cut a bit of the white matter of the brain. In the U S A with true American expertise the technique was further simplified so that the operation could be performed in the doctor's office. Initially an icepick was used as a leucotome by the American psychosurgeon Walter Freeman because other instruments "dog-eared things would break. They weren't as good as an ice-pick."

(Shutts, 1982). The ice-pick leucotome would be forced through the skull immediately above the eye, and the surgeon destroy parts of the frontal lobe by manipulating the instrument. Moniz was awarded the Nobel prize for medicine in 1949 "for his discovery of the therapeutic value of the prefrontal leucotomy in certain psychoses".

Opinions on psychosurgery divided the scientific community almost from the beginning of the operation with proponents consistently claiming that the procedure made it possible for patients who were suffering from crippling mental illness to lead normal or near normal lives. Others strongly disagreed. They viewed psychosurgery as a mutilation of the brain to eliminate troublesome behaviour which turned the patients into 'vegetables'. Informed consent, that is, the patient's active consent to the procedure was not a factor in the decision to operate. Children too were operated upon.

All the while the operation rested on the basis that mental characteristics as different as creativity, memory, initiative and anger were transmitted via a fixed pathway in brains of the mentally ill. A normal person could be angry, happy or sad at various times, but not any of these all the time. Cutting the fixed abnormal fibres in the mentally ill would discontinue their sending the same emotion through the brain. Contrast Moniz's certainty with the comments of Phillips et al, in 1984. They are answering questions put by an imaginary individual who meets neurobiologists every 50 or hundred years. To the question "but can you tell me how the areas of the brain interact to display the integration evident in thought and behaviour?" The answer today would be "no". (Phillips et al., 1984). Surgeons who had performed hundreds of leucotomies were themselves aware of the lack of any physiological basis. One of them, Dr Harry Solomon had been asked by the Veterans Administration in 1948 to "describe the rationale of the operation at somewhat greater length and in terms of pathologic physiology". Solomon replied that a discussion of the rationale "would of necessity be very theoretical, and probably completely unsound. We would be better advised not to attempt it" (Shutts, 1982).

Not only did the psychosurgeons lack a theoretical basis for their procedure, 'they had no way of knowing what they had cut when they made radical stabs with their instruments' (Kucharski, 1984). They failed to consider damage to blood vessels, or to make allowance for differences in skull size when they made their cuts. The fibres that were supposedly intended to be cut changed as autopsy failed to provide evidence to corroborate the surgeon's theory. Though editorials in the medical literature had repeatedly asked for carefully controlled studies to assess lobotomy (Finesinger, 1949) none were done. A long term follow-up of 707 patients who had undergone lobotomy four to 30 years before showed that 70 per cent of those hospitalised for less than a year prior to surgery were either still living in hospital or were at home in a 'state of idle dependency'. (Kucharski, 1984).

The Recent Past

"That's the reason they're called lessons" the Gryphon remarked, "because they lessen from day to day." Alice in Wonderland.

The advent of major tranquillisers in the early fifties and their widespread use led to a decrease in the number of psychosurgical operations. However in the late sixties, these operations were advocated as a means of controlling urban unrest. Summer after summer in the years 1964-1968 American cities exploded in anger. In 1967 alone, there were riots in 127 cities as black people in the urban areas vented their frustration, despair and rage. Some Harvard doctors chose to inter-

pret these riots differently, as follows.

"It is important to realise that only a small number of the millions of slum dwellers have taken part in the riots, and that only a sub-fraction of these rioters have indulged in arson, sniping and assault. Yet, if slum conditions alone determined and initiated riots, why are the vast majority of slum dwellers able to resist the temptation of unrestrained violence? Is there something peculiar about the violent slum dweller that differentiates him from his peaceful neighbour?

"There is evidence from several sources, recently collated by the Neuro-Research Foundation, that brain dysfunction related to a focal lesion plays a significant role in the violent and assaultive behaviour of thoroughly studies patients. . . we need intensive research and clinical studies of individuals committing the violence. The goal of such studies would be to pinpoint, diagnose and treat those people with low violence thresholds before they contribute to further tragedies" (Mark, Sweet, and Ervin, 1967).

Not surprisingly their view was popular with the U S establishment, for here social injustice was medicalised, racism not mentioned, the victims were blamed, declared to be mentally ill, suitable as candidates for 'scientific research', and possible psychosurgery. The letter caused a furore in the U S but was not without its defendants. The two main authors subsequently published a book called *Violence and the Brain* and continue to hold prestigious university appointments to this day.

Psychosurgery is performed very infrequently nowadays, but it has not been rejected by the medical community. It has an aura of respect, and its opponents are labelled as politically motivated, fanatic in their hatred etc. (Morley, 1985). Psychosurgery is a tragically perfect example that "science is not an objective truth machine, but a quintessentially human activity, affected by passions, hopes, and cultural biases" (Gould, 1980). Many examples of such science and of the pursuit of sociobiological determinism, its popularity and its extensive patronage by the rich and powerful are found in Chavkin's book. It is a chilling story which continues. . . Every field in biology is claimed as fortifying the belief that while "we may not live in the best of all conceivable worlds we live in the best of all possible worlds" (Lewontin, 1984). Needless to say such a world is capitalist with the white males at the very top. Biology is recruited to convince us that intelligence is genetically determined, that we have 'selfish genes', and that men are "compelled by their gender to be rogues". (Beckwith, 1984). For a reader who wants to know more about the sorry story of psychosurgery and the larger dimension of sociobiology *The Mind Stealers* can be highly recommended as a good introduction.

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nounced several military and police doctors had approached the members of ethics committee to report that they had been asked by the authorities to examine or treat prisoners who had been tortured. They also sought assistance from the Association in informing military authorities that they would not become involved in covering up torture.

In a backward bourgeois democracy like India, the flagrant violation of democratic rights of people is a routine affair. Our readers need no introduction on the daily torture of detenus carried out in a small police station to a well maintained torture chamber (like the 'retreat' in Calcutta) all over the country. The women prisoners need a special mention as they, in addition, face sexual abuse. In fact, the rape of a teen age woman triggered off a new wave of protest in the women's movement in recent times.

The democratic rights organisations have done significant work in making torture a political issue. No doubt, doctors have also participated in such organisations. The recent killings of a doctor, who was a prominent human right activist, by the police in Andhra Pradesh shows that individual doctors have played their role, even at the risk of their lives.

However, the medical community as such has much at stake in the system and therefore, its official organisations have consistently shunned responsibility to do anything in this matter.

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and female development, while complete in certain aspects is also deficient in other aspects. However, such a change would need to be accompanied by an effort at understanding how much of the pattern of human development is a result of socialisation and how much of it is due to 'inherent' or 'innate' human nature. Such an effort is vital, for without it, there is the potential danger of development theory recognising the importance of both male and female perspectives of development, yet drawing a clear distinction between the two patterns and declaring male and female nature as being 'inherently different'. As it is difficult to say different without saying better or worse, women may once again become victims of such a theory. Finally, since theory reflects a given social context, a change in development theory is likely to come about only when social conditions permit a

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They did not have enough courage even to issue a statement when a doctor was killed for his human rights activities. Indeed, they will take a long time to learn from what their counterparts are doing in Chile. Thus, the responsibility is now with voluntary organisations of socially-conscious individuals working in the field of health to show courage, to build public opinion and agitate in the official associations to pressurise the medical community.

Secondly, at the same time, socially-conscious doctors will have to look into the medical aspects of the problem. As Stover and Nightingale suggest in their report, "physicians (particularly psychiatrists) need to become familiar with immediate and long-term physical and psychological effects of torture, for the purpose of diagnosis and treatment. Although research on the after effects of torture and the means of treating these effects is still in its infancy, recent medical research indicates that the major symptoms of torture victims, which sometimes occur years after the torture, include feeling of helplessness, heightened anxiety, impaired memory and inability to concentrate, nightmares and phobias. Publishing research on victims aids in the prevention of torture by informing the public of the pernicious effects of torture on victims; their families and society at large."

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change in our conception of what we consider 'male' and 'female' in the psychological realm.

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