The subject and the object are more strategically assigned than some might readily assume, both as people speak and as they live them. Subjectivity is associated with doing, hence responsibility, and therefore it noticeably slides in matters of credit and blame, with issues like Newton's or Laplace's discovery. In scientific papers the subject has an ironic status, as illustrated by such expressions as, "The subject was given a mild dose...." In this statement the subject is the receiver rather than the performer of an action. This primary rhetorical move of science is only half completed, however, and requires the additional objectification of the subject (the scientist) to make it whole. Beneath the thin veil of language, however, the scientist is present as the subject—not only as the puller of levers but also as he or she who adopts a certain position toward "the subject." Excerpts from three autobiographical writings—concerning the electroconvulsive therapy of Uglo Cerletti, the lobotomy of Egaz Moniz, and the electrode implantations of Jose Delgado—demonstrate the extent to which scientists can objectify their subjects. However, the writings also demonstrate the extent to which these scientists cannot eliminate their own subjectivity. In describing their works, their subjectivity surfaces as egoistic absorption. Characteristically, the researchers reveal themselves as pioneers, venturing into unknown territory with courage, forthrightness, and insight. (Contains 14 references.)
The subject and the object are more strategically assigned than some might readily assume, both as we speak and as we live them. Subjectivity is associated with doing, hence responsibility, and therefore it noticeably slides in matters of credit and blame, with issues like Newton's or Laplace's discovery of the calculus on one end of the continuum and Larry and Curly Joe pointing at each other as they shout to Moe, "He did it!" at the other. In this sense, Einstein's build-a-bomb letter to Roosevelt might not be divorced from the fatal moment when the Enola Gay dropped her payload upon the residents of Hiroshima -- unless we choose to make that separation. Nevertheless, Einstein comes down to us as everything from a poster to a book-marker, Hitler as Machiavelli with a hangover, and Prufrock as nothing more than a pair of ragged claws.

In scientific papers the subject has an ironic status, as witnessed by such expressions as, "The subject was given a mild dose..."; The slightest attention to such writing reveals that the subject is the receiver of, rather than the performer of the action. Listen again: "The drug was given to the subjects." "Subjects received a small electric shock." Thus we see that the supposed subject of science is the object of virtually every other type of speaking and writing -- a concept which can be best expressed by saying that science subjectifies the object.
This primary rhetorical move of science is only half completed, however, and requires the additional **objectification** of the **subject** to make it whole. Any sincere, English-speaking person would recognize that the subject in a scientific experiment is the scientist -- in fact this is the hardest thing to "beat out" of a grade seven student's science papers -- the acknowledgement of her own role and responsibility as the manipulator of the situation.

Thus we learn to write science, and as we do our sense of knowingly participating in it becomes adjusted until scientific thinking takes place in disinfected spaces where organisms and organs cannot dwell. Were there a carry over into other discursive realms, we might rewrite our history books to say things such as, "Subjects of the experiment received a large atomic bomb." This conceptualization figures in scientific writing and dwelling -- the scientist is worked through-and-through by the distance afforded by his non-status in the objectified laboratory even as he dreams of research grants and publication awards. In this sense, through language and self reflection via language, the scientist is constantly involved in mopping up his own tracks, even if they should be formed from stepping in the blood of others. Scientists act. And they will. But this will is manifested in the form of a mimicry which accelerates the efficient movement of the scientific machine by total involvement in it, perfected when it reaches the level of an identificatory trance best expressed by the robotized gestures of Grace Jones in the video "Pull Up To The Bumper". The
perfection of the scientist's precise relation to the technical engenders a denial to the autonomous self. This denial reaches its apotheosis in a robotized Dr. Frankenstein who is entranced by his own condition in the manner of a fetish.

Beneath the thin veil of language, however, the scientist is present as a subject -- a puller of levers, an injector of doses, a presser of buttons. Should any of these actions lead to moral uncertainty, the researcher as an object in the rational (mechanical) environment of science leaps above any such charge -- as gracefully as any agent who might announce afterward to themselves or to others that they were just following orders.

Before introducing my cases I would like to speak for a moment on notions of relevance and recency. Theory is infected with time in manners which range from the esoteric to the vulgar. From the lower end of the continuum we could argue that a theory arises in an epoch and that the centrality of the theory as it speaks to that epoch determines its popularity -- with validity arising in a post hoc fashion. In this sense, the present is often its own legitimation, as the popular -- the faddish. Thus the nows of science by this argument are constantly becoming thens. In this paper I present autobiographical reflections surrounding:

1) the electroconvulsive therapy of Uglo Cerletti,
2) the lobotomy of Egaz Moniz, and,
3) the electrode implantation of Jose Delgado.

Although they are parts of the then of science, I attempt to
characterize aspects of their nature which remain part of the now
of generalized scientific discourse.

Jose Delgado popularized the surgical implantation of
electrodes within the brain for the purpose of exciting psychic
activity. One electrode made the victim/patient/subject jump.
Another made her snarl. Another made her lose her train of
thought. Cerletti pioneered high voltage electric current across
the head, ECT, a still-unexplained means of treating mental
illness. Moniz cut the connecting fibers which link the front
area of the brain to the rest of the organ -- the inventor of
lobotomy. Issues surrounding the status of subject and object in
all three cases lead to similar forms of reasoning, action,
vioence, and apparent mystification on the part of these
researchers.

OBJECTIFYING RHETORIC (Imposed Upon The Other):

Kenneth Burke says that, "one could confine the study of
action within the terms of motion only by resigning oneself to
gross misrepresentations of life as we normally experience it."
(Burke, 1945, 56) In that vein, when describing how he came to
the discovery of lobotomy, Moniz indicates that his work was
based on his grasp of neurological functioning:

Starting from these anatomical facts I arrived at
the conclusion that the synapses, which are found in
billions of cells, are the organic foundation of
thought.

(1948, 7)

Here we clearly see the classic transformation of a subject
of experience into an object of research, with thought transformed into synaptic activity through what is referred to as the "operational definition", the boldest slash of Occam’s razor.

The belief that psychic activity is no more than brain mechanics forms a determining aspect of Jose Delgado’s electrode implantation treatment and research: He says:

In my opinion it is better to consider the mind as a functional entity devoid of metaphysical or religious implications per se and related only to the existence of a brain and to the reception of sensory inputs. (1969, p. 28)

Delgado, like Moniz, depends upon this reduction or equation of the mind to the brain, because he explicitly treats the brain. With blind arrogance, Delgado makes clear that such projects require the transformation of spirit into matter. He says:

A natural question would be whether or not the soul could be modified by experimentation... (1969, p. 29)

Thus we have the grammatical object (the patient) positioned by science as subject, yet transformed by researchers into a concatenation of neurons whose subjective status is little more than a byproduct. The layers would read as 0(S[o]). But it is not over here. This new object (the brain), which is the chemo-electrical source of action, transforms into the brain as the home of demons, secularized into the order of enemy. Thus we read:

The great war in which we are now engaged has compelled us to recognize the fact that science could forge for us a host of effective weapons for use against a hostile world. Should it be otherwise if we are
fighting an internal enemy (i.e., mental illness) seeking to destroy the fabric of our existence? (italics mine -- WK)

(Kraeplin, 1917, 152)

The brain, as object, having become the researcher's stand-in for the mind will also stand-in as the enemy, and Moniz can say:

My purpose being to annihilate a great number of associations, I preferred to attack (en masse) the cell connecting fibres of the anterior portion of both frontal lobes aiming at positive results.

(Moniz, 1948, 8)

The formula for the speech now moves to the following:

0(S[0<s>]).

The object status of the patient is also reinforced by a characterization of the patient's condition which is superficial, Cerletti says:

The condition of the patient on April 14 was as follows: lucid, well-oriented...passive behavior, incoherence, low affective reserves, hallucinations, deliriant ideas of being influenced, neologisms.

(Cerletti, 1956, 33)

No doubt the notions of "being influenced" suffered by this patient were readily corrected once Cerletti ran one hundred volts of current through his head.

Similarly, in describing leucotomy, Moniz never refers to a patient or patients. He says:

The first alcohol injections in the white matter of the prefrontal lobe were given on the 12th of November 1935, and the first intervention with the leucotome took place on December 27th of the same year.

(Moniz, 1948, 18)
Delgado, of the three, shows the most recognition of the subjective status of the patient, but the manner of detached consideration with which he presents their perspective, creates an even more hideous effect:

Leaving wires inside a thinking brain may appear unpleasant or dangerous, but actually the many patients who have undergone this experience have not been concerned about the fact of being wired, nor have they felt any discomfort due to the presence of conductors in their heads. Some women have shown their feminine adaptability to circumstances by wearing attractive hats or wigs to conceal their electrical headgear....

(Delgado, 1969, 88)

Objectification Of Actions:

The objectification of action takes the form of precision which is expressed in the writing of science in a manner which of occasion belies the activities engaged. Cerletti, whose independent variable was electric current passed through a person’s head, sought the appropriate amount thorough dogs, but killed too many, until he was informed by one Professor Vanni that pigs in Rome were killed by electricity.

Since a great number of pigs was available at the slaughterhouse for killing, I now set myself the exact opposite of my former experiments; aims; namely, no longer to make efforts to keep the convulsed animals alive, but rather to determine what the conditions must be for obtaining their death by an electric current. Having obtained authorization for experimenting from the director of the slaughterhouse, Professor Torti, I carried out the tests, not only subjecting the pigs to the current for ever-increasing periods of time, but also applying the current in various ways: across the head, across the neck, and across the chest.

(Cerletti, 1950, 89)

Cerletti thus characterizes his research in terms of intensity and locality variation in so hygenic a manner that one
hardly imagines what the scene had to have been: the scene of a "scientist" in hip boots, sticking prods in pigs and zapping them all over, while they screamed and sometimes ran, unless they were held down by eager-to-assist graduate students or apprentice butchers. Pigs shocked until dead, but we read from him "subjects" who experience "ever-increasing" current under the watchful eye of professor Torti.

After his expedition to the slaughtergouse, Cerletti decided to try his procedure on a human subject the very next day. The subject chosen was sent by the police commissioner to Cerletti's institute, an engineer and resident of Milan:

Two large electrodes were applied to the frontoparietal regions, and I decided to start cautiously with a low intensity current of 80 volts for 0.2 seconds.

(Cerletti, 1956, 94)

The patient's response indicated that he had not been sufficiently therapeutized, so...:

The electrodes were applied again, and a 110-volt discharge was applied for 0.2 seconds.

(Cerletti, 1956, 94)

As it happens Cerletti knew more about the value of precise measurement than he knew about the measurement itself. In another article on the same event (1950) he indicates that the first voltage was 70, rather than the eighty specified in the above quotation. He also says that the time involved was 0.5 rather than 0.2 seconds.

Delgado's description of his independent variable, electrode implantation, though it does not measure in numbers does claim a precision:

Through a small opening in the skull, the shaft is
introduced down to a predetermined depth and is secured with dental cement at the point where it passes through the skull. Then the upper portion of the shaft is bent over the bone surface and secured again a short distance away, and the terminal socket is exteriorized on the head. Each contact of the socket corresponds to a determined point in the depth of the brain which is accessible merely by plugging in a connector, a procedure as simple as connecting any electrical appliance to a wall outlet.

(Delgado, 1969, 82)

I think it is important to remember that Delgado rose to prominence during the era of the gold medallion (that is fully electrical) home, and there is every indication in his text that no home would be complete without an electrode in every resident.
Subjectivity:

One aspect of human subjectivity which none of the researchers seems capable of eliminating from their autobiographical writing is, however, their own; and it stands out in dramatic contrast to the lack of subjectivity given to the patients whom they treat. Ironically, for example, two of the three researchers warrant their claims that mind is matter on the basis of careful reflection. Cerletti says:

Continually turning the problem over in my mind I felt that I would sooner or later be able to solve it...

(Cerletti, 1950, 88)

And from Moniz we hear:

It was owing to no sudden inspiration that I performed the surgical operation which I called prefrontal lobotomy.... after more than two years of meditation I decided to sever the connecting fibres of the neurones in activity.

(Moniz, 1948, 7)

In describing their works, the subjectivity of the researchers often surfaces in the form of egoistic absorption. Characteristically the researchers reveal themselves as pioneers, venturing into unknown territory with courage, forthrightness, and insight. Delgado poo-poos the primitive attitudes of others towards brain exploration, which he has apparently overcome:

Manipulation of natural elements for the benefit of mankind is usually accepted as highly desirable, and most of us are rather proud of the colossal engineering efforts involved in changing the course of a river, joining oceans formerly separated by land, or reaching distant stars.... Can we imagine the attitude of primitive man about tampering with the eternal stability of the rivers or about the capturing of lightning with a metallic rod?... We may wonder whether
man’s still ingrained conceptions about the untouchable self are not reminiscent of the ancient belief that it was completely beyond human power to alter omnipotent nature.

(Delgado, 1969, 245-246)

Moniz identifies his humanity through references to anxiety, his hope, and his gratitude:

"On the eve of my first attempt, in my justified anxiety at that moment, all fears were swept aside by the hope of obtaining favorable results.

(Moniz, 1948, 12)

Cerletti inflates with the significance of his heroic decisiveness, as evidenced after the patient was initially shocked with no apparent response:

Someone got nervous and whisperingly suggested that the subject be allowed to rest; others advised a new application to be put off to the morrow. Our patient sat quietly in bed, looking about him. Then, of a sudden, hearing the low-toned conversation around him, he exclaimed -- no longer in his incomprehensible jargon, but in so many clear words and in a solemn tone -- 'Not a second. Deadly!'

The situation was such, weighted as it was with responsibility, that this warning, explicit and unequivocal, shook the persons present to the extent that some began to insist upon suspension of the proceedings. Anxiety lest something that amounted to superstition should interfere with my decision urged me on to action. I had the electrodes reapplied...

...So electroshock was born; for such was the name I forthwith gave it....

(Cerletti, 1950, 88)

I will not belabor obvious elements of self-inflation in this passage: keen sense of observation, refusal to yield to irrational fears, conviction to carry through toward the great goal of progress -- the intrepid spirit of which Delgado speaks in considering the ethics of research such as his own:

There is one aspect of human research which is usually overlooked: the existence of a moral and social
duty to advance scientific knowledge and to improve the welfare of man. When important medical information can be obtained without infringing on individual rights.... Failure to do so represents the neglect of professional duties.... Subjects with implanted electrodes provide a good example....

(Delgado, 1969, 211)

Delgado, then, though he does not characterize himself in heroic terms, does characterize his work as his ethical duty. Again, I must admit, I find his language most frightening of all, and I understand why it has been said:

Dr. Delgado assures us that he is against aggression, but his conquering of the mind is aggression raised to another order of magnitude.

(Thompson, 1976, 33)

CONCLUSION:

Some regard it as a horror that Egaz Moniz, who was awarded the Nobel prize for his work in 1949, was shot and permanently crippled by one of his patients. I too see horror, but I see it in both these facts, rather than only the latter. I urge you to consider the following story:

It concerns a 34 year old woman who entered a mental hospital and was diagnosed as schizophrenic. A very agitated woman, she was placed on Haldol. At first she improved, and then lithium carbonate was added to her treatment followed by congentin. The result was simply this: By the eighth day she was, "prostrate, stuporous and restless with involuntary purposeless movements of all limbs and trunk...and lead-pipe and cogwheel rigidity....Temperature rose to 104.* F. She could swallow when fed but was otherwise completely helpless."

The particular drug cocktail mixed for this woman had taken
her agitated mind and run it through an existential blender.

Within a week there was nothing left but a body.

After a report of the case was read at the 1973 World Neurological Congress atributing "severe neurotoxicity and irreversible brain damage" to the combination of haloperidol and lithium, another group of doctors "deliberately gave three patients lithium and haloperidol to test the...hypothesis" All three developed similar symptoms.

I have not scratched the surface of the issue of violence in psychology, but much has previously been written on the subject. In the present paper, however, I believe that I have shown some of the characteristic manoeuvres by which the scientist denies to himself and to the world what he is doing and where responsibility might be placed. For myself, I will close by acknowledging my own agreement with the following passage from R. D. Laing:

I hope if someone wanted to get to know me he would not smash my head, cut out my brain, take my head from my neck, cut my body in half, turn me upside down, burn me with acid, and torture the whole and all the bits of me with electricity and God knows what.

R.D. Laing

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