Conclusion

In a 2006 article,¹ provocatively entitled, “Beware, Psychosurgery is back!” the father of deep brain stimulation, Alim-Louis Benabid, addressed all those “who will have the grave responsibility of redeveloping therapeutic methods able to bring certain relief to patients suffering from diseases which lead to their exclusion from society, their family and their own dignity.” The celebrated neurosurgeon from Genoble warned that, “the renaissance of psychosurgery gives us, patients as well as physicians and scientists, a second chance, and it is our duty to use it as best we can and to positive effect. We will be responsible if once again because of our errors and lack of judgement we let it fail and give rise to a new era of darkness.” The path forward for psychosurgery will not be easy. It is burdened with a history of past controversies that are hard to escape. Some authors have therefore suggested renaming psychosurgery “neuromodulation” but such a semantic trick is of little value. Quite the contrary, it invalidates efforts to educate the public about the difference between lobotomies practiced in the 1950s and current interventions, which are no longer synonymous with mutilations of patients’ personality. Going forward, there is a risk of abuses if this intervention is practiced without heeding fundamental ethical principles. The future of psychosurgery, caught between past errors and the threat of being condemned for ideological reasons or because of technophobia, is uncertain. Nonetheless, this discipline seems the offer a way to improve the lives of tens of thousands of patients who today face a lack of treatments and are condemned to suffer from mental illness. In order for it to flourish, the future of psychosurgery must be strictly supervised. It therefore seems essential to end this book with a reminder of the safeguards without which the continued development of “deep brain stimulation for psychiatric pathologies may be doomed”² as Marwan Hariz warns.

First, these techniques must be used exclusively for patients suffering from serious debilitating disorders for whom less invasive therapies have failed.

Secondly, these treatments must be discussed by multidisciplinary teams with the proper authority and the indications approved in a collegial manner. 

Thirdly, independent ethics bodies must ensure that fundamental principles of bioethics are respected. The issues of free and informed consent and conflicts of interest require the utmost vigilance.

Only democracies are capable of guaranteeing the requisite independence of these ethics bodies. Psychosurgery is inseparable from the political order.³ For example, the press can be both a tool for emancipation in democracies as well as a tool for manipulation in dictatorships. Psychosurgery can likewise be used for good or evil: as a treatment or a tool for control. To counter this danger our societies must be kept informed, with utmost transparency, of the advances being made in this field and of its applications throughout the world.

We are at the beginning of an era of renewed interest in neurosurgery for psychiatric illness. The keyword of this new era of psychosurgery is “neuromodulation,” as opposed to the neuro-ablation of the past. Neuromodulation makes use of a surgical technique called Deep Brain Stimulation (DBS). This new technique is promoted, and perceived, as being non-destructive, adaptable, and especially “reversible.” Psychosurgery, including stereotactic psychosurgical ablative procedures—which had been thrown out through the door, sometimes reminding of the idiomatic expression of throwing the baby with the bath water—is now re-entering through the window of “neuromodulation,” a disguise meant to reassure the public of the innocuous and leniency of this “modern” procedure.

The great contribution of this book by neurosurgeon Marc Lévêque is to put this new emerging era of non-ablative surgery into a historical, scientific, and ethical context. Reading this book is like reading an anthology, or rather an encyclopaedia of the field of psychiatric surgery, spanning more than a century. This is a work with an unprecedented degree of erudition and knowledge, and the subject is presented in a didactic, scholar, and scientific manner, and is extensively referenced and illustrated. If only one book is to be read by anybody interested in this field, regardless of specialty, this is The Book to read.

Where is the field now going? One may reflect upon the fact that, as described in the book, modern DBS for psychiatric illness was pioneered already in 1999 with DBS for obsessive compulsive disorder (OCD) and DBS for Tourette syndrome. A few years later, DBS for major depression was introduced. Today, there are about eight published brain targets for DBS in OCD, ten published brain targets for DBS in Tourette, and nine published brain targets for DBS in depression. Some of these brain targets overlap each other, and none of the brain targets and indeed none of the psychiatric indications for DBS is yet “established,” despite the plethora of scientific papers published in the last 14 years of activity in the field. Despite this lack of consensus about DBS in these three major psychiatric illnesses, DBS is now trialled or advertised as a potential treatment for drug addiction, anorexia nervosa, post-traumatic stress disorder, and dementias. Lately, an alarming qualitative jump has occurred in that DBS is being considered as a tool, not for diseases and illnesses, but for enhancement of
cognition in normal people. Finally, that alarming jump has now approached an abyss as illustrated in a recent article published in the prestigious Journal BRAIN, in which “scientists” suggested the theoretical use of DBS to treat “antisocial behaviour” and to improve “morality”!

All this shows that the prophecy of Dr. Joseph H. Friedman from Rhode Island in 2004 is being confirmed. Friedman wrote then: “Now that DBS means that psychosurgery is reversible, we no longer have to worry about permanent harm. On the other hand, now that psychosurgery could be readily available, potentially for a large number of conditions, we have a lot more to worry about.”

Indeed if the field continues in this direction we will have a lot more to worry about, and we may witness then another setback for surgery for psychiatric illness. The tragedy of the past is well illustrated in this book in relation to old times DBS as practiced in Tulane University in the 1950s through the 1970s, and that had been condemned by Beaumeister in 2000 as being unethical “by yesterday’s standards”). This tragedy of the past may well become the farce of the future.

Neuromodulation should not be allowed to become neuro-manipulation, and the DBS technique as such is neither always “reversible,” nor is it per se necessarily more “ethical” than well-performed stereotactic lesions such as anterior capsulotomy or cingulotomy, in the treatment of refractory psychiatric illness. The “second chance” of psychosurgery—as Benabid put it in 2006—and that is permitted by DBS, should not be allowed to degenerate into a farce. One should bear in mind the famous quote attributed to the Great Swedish neurosurgeon Lars Leksell: “a fool with a tool is still a fool.” This book of Marc Lévêque will invite those who read it to a profound reflection about the field of psychiatric surgery, and about the moral and ethical guardrails (garde-fous) needed, if real severely ill patients who suffer from real diseases of the mind that are refractory to all other non-surgical treatments, are to benefit from a justified, well-performed, well-evaluated stereotactic procedure, be it stereotactic DBS surgery, or stereotactic ablative surgery.

November 2013

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This book is the product of a reflection on psychiatry, neurosurgery, and ethics. I would like to thank Monique Carton, who through her humanity and talent taught me to love psychiatry. My thanks to Patrice Simon, who guided me during my internship at the Charles Perrens Hospital and showed me the richness of psychoanalytic discourse. Jean Guérin, Dominique Liguoro in Bordeaux and Thierry Gustin and Claude Gilliard at the UCL helped me with their generosity and talents take my first steps in surgery of the nervous system. Thank you. My two years as a fellow in Montreal alongside Michel Bojanowski were incredibly fruitful. He is an exceptional neurosurgeon and a peerless teacher. Our discussions on neuroanatomy, ethics… the French language nourished me as much as the smoked-meat sandwiches at Schwartz’s we would eat after those interminable interventions. My thanks to Danielle Laudy at the Université de Montréal who awakened me to the field of medical ethics and then made it possible for me to teach alongside her. With all their talent, Jean-Claude Péragut and Jean Régis at the Timone trained me in functional neurosurgery. I am grateful to them and to Jean-Philippe Azulay who encouraged me to learn more about the fascinating and promising field of psychosurgery. My thanks to Marwan Hariz and Bart Nuttin, two eminent specialists in psychosurgery, who welcomed me into their department and took the time to answer my numerous questions.

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into her collection. I express my immense gratitude as a young author. I thank Charlotte Porcheron, whose brush strokes reflected my thoughts perfectly. This book would never have seen the light of day without the encouragement of Philippe and the tender support of Sophie. I dedicate it to our daughter, Marie.
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Ethics


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The latest scientific findings, testimonies, public domain elements of the bibliography as well as illustrations and videos on psychosurgery are available on the author’s blog:

www.psychochirurgie.info
With a controversial past, psychosurgery, or the surgical treatment of mental disorders, has undergone a spectacular revival over the past 10 years as new brain stimulation techniques have become available. Neuromodulation offers new possibilities for the treatment of psychiatric disorders such as depression, obsessive-compulsive disorders (OCD), addiction, and eating disorders. This work presents the history of this singular specialty and investigates current techniques and ethical challenges. With a wealth of illustrations and accessible anatomical diagrams, this book aims to inform and entertain medical practitioners as well as anyone interested in the fascinating advances being made in neuroscience today.
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