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Last resort or early intervention: discourse and practice of psychosurgery in Strasbourg (late 1940s to early 1960s)

Florent Serina

As of 2024, almost ninety years have passed since the foundational experiences of modern psychosurgery, and seventy-five years from the peak of these practices, which led to some of the the most lively controversies in the history of psychiatry.[1] The surgical treatment of mental pathologies is often considered a highly problematic method, mostly because of its side effects, generally irreversible, on the cognitive capacities or personality of the treated individuals, the lack of clarity of its results, and the questionable value of the arguments and scientific data supporting the interventions. Although it has been seen as a prime symbol of punitive psychiatry and has been outlawed for several decades in many countries such as Germany and Japan, and several USA states, psychosurgery is not formally prohibited by law in some European countries such as Sweden, Great Britain, Spain and France.[2] Moreover, it seems to have benefitted from the resurgence of interest in neurosurgery, sometimes described as 'spectacular', since the advent of deep brain stimulation (Lévêque, 2014; Lévêque and Cabut, 2017). The apparent exhaustion of the postulates and hopes initially raised by psychopharmacology, the decline of psychoanalysis, the continuous development of neurosciences, the highlighting of brain connections and the emergence of neo-localisationist conceptions seem to support the notion of new brain interventions. As the current context seems more favourable than ever to a re-emergence of invasive practices, though not without provoking heated debates (Bottéro, 2005; Benabid, 2006; Parada,

2016), the development of historical studies on the topic seems particularly welcome. This applies especially to the Francophone context, where historians have until this point shown relatively little interest in this contentious and thorny topic.[3]

The present chapter aims to give an overall account of the history of psychosurgical practices at the Strasbourg Psychiatric University Clinic, regarded as the central university hospital service in the mental healthcare system of north-eastern France. This case study traces the modalities of its introduction after an initial period of reluctance, its progressive routinisation, the spectrum of its indications and contraindications, as well as its gradual abandonment. Methodologically, this research first consisted of collecting all the medical records of the patients concerned in order to form a database allowing a detailed reconstruction of the range of psychosurgical practices implemented. The results were obtained by comparing this database with the content of all the publications of the practitioners of Strasbourg psychosurgery in order to highlight possible divergences, paradoxes, and even contradictions between their discourse and their practices (Risse and Warner, 1992). In other words, this chapter intends to uncover and report on the history of the surgical treatment of mental pathologies, at a time when it was regarded as revolutionary and potentially effective, by providing solid numerical data as well as a critical account of the main principles, whether explicit or implicit, guiding its practical implementation for just over a decade.

A progressive lifting of reticence

Unlike in neighbouring Italy (Kotowicz, 2008), the idea that mental illnesses were due to an organic cause, located in the brain, which could be eliminated by surgery, did not provoke immediate euphoria within the French medical community. In 1936, Egas Moniz (1874–1955), who supervised the first twenty 'leukotomies'[4] in Lisbon, went to Paris to present the results of his experiments before the Académie nationale de médecine (Moniz, 1936a). The Portuguese neurologist, who had done part of his studies at the Salpêtrière, was no doubt hoping for support from his peers. Although the majority gave a cold welcome to his presentation (Parada, 2016: 31–7), some Strasbourg

physicians seem to have paid favourable attention to it, as Moniz was invited to publish his paper in the *Strasbourg Médical* (Moniz, 1936b), the main Alsatian medical journal. This publication certainly owes more to René Leriche (1877–1955), the inventor of the concept of non-aggressive surgery, thanks to which the Strasbourg surgical clinic gained an international reputation,[5] than to the director of the psychiatric clinic at that time, Charles Pfersdorff (1875–1953) who arguably remained refractory towards psychosurgery.

At first, only Gaston Ferdière (1907–90), medical director of the agricultural colony of Chezal-Benoît for chronic psychiatric patients, tried to replicate Moniz's experiment, at the Issoudun hospital in central France on a case of 'catatonic schizophrenia' (Vernet *et al.*, 2021), though not without incurring the wrath of his colleagues. This intervention remained the only psychosurgical operation made public in France until the mid-1940s. It was only after World War II, and quite gradually, that several other French teams tried to reproduce Moniz's experiments, which by that point were increasingly being practised in North and Central America (Parada, 2016: 41–8). At that time, the hope of being able to heal mentally ill people was more prevalent than ever. The thesis of incurability had been questioned since the appearance of malaria therapy for the treatment of progressive paralysis and the development of other shock therapies. However, while electroshock therapy was becoming prominent at that time, the perceived potential of cardiazol and insulin therapies began to wane markedly. Against this background, psychosurgery aroused a renewed general optimism despite its potential dangers. Strasbourg could not remain cautious for long in the face of what appeared to be a major trend and groundswell spreading throughout the Western world and beyond. Despite its controversial character, the Strasbourg psychiatrists were forced to ask themselves whether all or part of the future of the treatment of mental illness might not lie in the mastery of this practice.

Maintain one's rank

Exhausted by the war years, Pfersdorff resigned in 1945, shortly after his return to Strasbourg.[6] Eugène Gelma (1882–1953) succeeded him as director, carrying out a series of remarkable transformations.

Whereas diagnoses were previously based primarily on Kraepelinian nosology, the new director, formerly trained in Paris, made a breakthrough by introducing the diagnostic categories promoted by his French counterparts (such as the 'brief delusional disorder' of Magnan, the 'chronic hallucinatory psychosis' of Ballet, the 'interpretative delusions' of Sérieux and Capgras, and the 'psychasthenia' of Janet).[7] And despite his advanced age, Gelma was more open to therapeutic innovations than his predecessor. He immediately advocated the use of insulin therapy and made electroshock therapy routine practice. Gelma felt that the clinic had to keep up with the times and had no interest in ignoring the potential of the 'surgery of madness'. Thus, his establishment would not miss the boat by rejecting these rapidly expanding techniques at the cutting edge of scientific modernity. Indeed, in his view the prestige of academia, drawn in part from research and experiments, may have also depended in part on the mastery of psychosurgery and the recognition of their excellence in the field.

First, Gelma suggested that a student devote her thesis to 'leukotomy' (Gross-Offenstein, 1949). However, this work, based on the observation of patients operated on at the hospital in Rouffach (Haut-Rhin), was somewhat cautious and refrained from arguing in favour of, or making generalisations about the efficacy of, the operation. Gelma also reached an agreement with René Fontaine (1899–1979), director of the surgical clinic and former student of Leriche, to allow patients to undergo this treatment in Strasbourg as well. Gelma and Fontaine chose Demetre Philippidès (1907–99) and Adrien Dany (1918–2008) as surgeons. To this end, the latter was sent to Lyon to be introduced to psychosurgical techniques by Pierre Wertheimer (1892–1982), another student of Leriche, trained by the two leading figures of American psychosurgery, James W. Watts and Walter Freeman. Gelma also solicited one of his most promising interns, Léonard Singer (1923–2009), a former extern of Fontaine's department, to prepare a thesis on the interventions carried out within the clinic (Singer, 1951).[8] Strasbourg's first 'leukotomy' appears to have been performed in January 1948 on a 28-year-old woman diagnosed with 'schizophrenia'.[9] A few months later, Gelma's team, often in collaboration with colleagues from the Lorquin hospital (Moselle), began to take part in more talks and publish more articles on the topic. Within three years, they published a dozen papers in

their in-house journal *Cahiers de Psychiatrie* and in nationwide journals, in which they praised the advantages of the treatment method.[10] Patients once considered incurable and condemned to confinement for the rest of their lives could now leave hospital to reintegrate with their families, parents could care for their children, women could care for their households, and men could return to work or find gainful employment for the first time. This was at least the earnest belief shared by Gelma and his team, who still asserted emphatically in 1953 that the rejection of psychosurgery would be 'an anti-medical stance' undermining the successes they had achieved to that point (Dany *et al.*, 1953: 553).

Diagnostic and technical assessment

In May 1953, Dany, Singer and Boittelle put forward the figure of 163 patients operated on before the end of 1952 (Dany *et al.*, 1953: 551). If one subtracts six cases of 'cancer patients with pains', and adds four other patients operated on before Kammerer took charge of the clinic, the total number of patients operated on during Gelma's directorship comes to 161. This makes up 3 per cent of the total number of patients admitted between 1948 and 1953. This first group of patients was mainly composed of individuals of French nationality living in the region. Among them, males made up a majority (59.5 per cent male and 40.5 per cent female). The youngest was a 6-year-old boy; the oldest was a man aged 65. Thirteen of them were underage, of which two were girls; nine were diagnosed with 'schizophrenia', one with 'epilepsy', one with 'depression', one with 'hysteria' and one with 'psychological retardation'. The vast majority of adult patients were single, divorced or widowed (70 per cent). One man was apparently 'without family',[11] and another a baker's apprentice who was admitted through public assistance.[12] Others were geographically distant from their families, mostly of immigrant origin, such as a 36-year-old 'former head trauma victim' diagnosed with 'nervous breakdown', described as an 'Italian with no family'.[13]

With a good reputation among the population in comparison to other psychiatric hospitals in the region (in particular Hoerdt, which then housed a high-security ward for dangerous criminals), the clinic

received patients from a variety of social backgrounds. However, most patients operated on were of modest social rank; only one patient, the son of an industrialist, benefitted from a 'special regime' including a stay in a single room.[14] Thirty-nine per cent of patients were 'without profession', including a majority of women (85 per cent), whose overall employment rate was still much lower than that of men at that time. Among the workers, most were in low status and socially undervalued occupations (the most qualified was an engineer, the others were farmers, domestic servants, craftsmen, railwaymen, blue-collar workers, etc.). In addition, three patients were physically disabled, including a World War I veteran.[15] The last patient to be operated on under Gelma's supervision, a woman charged with theft, breach of trust and fraud, was presented as a 'stallholder': homeless, and belonging to 'a very special environment, similar to that of the gypsies, where lies, duplicity, amorality, fraud, trickery are common conduct', and who, although married, would not hesitate to 'run wild with several Algerians',[16] suggesting a racist bias on the part of the record taker towards the Traveller community and North African immigrants.

Although the majority of patients were considered 'schizophrenic', the diagnostic spectrum went far beyond this single category, reflecting a willingness to experiment on a broad spectrum. According to Dany and Singer's assessment, eighty-five were diagnosed with 'schizophrenia' (54.5 per cent); nineteen with 'epilepsy' (12.2 per cent); thirteen with 'obsessional neuroses' (8.5 per cent); eleven with 'chronic mania and melancholia' (7 per cent); ten with 'chronic delusions' (6.5 per cent); seven with 'constitutional psychopathy' (4.5 per cent); five with 'psychalgia' (3.2 per cent); two with 'chronic psychasthenia' (1.3 per cent); two with 'hypochondria' (1.3 per cent); one with 'hysteria'; and one with 'oligophrenia' (0.5 per cent). The last, a 6-year-old 'deaf-mute' diagnosed with 'psychological retardation, agitation syndrome, aggressiveness',[17] appears undoubtedly among the most atypical cases, especially since the 'topectomy' undertaken remained 'without effect'. Another rare case was a 21-year-old left-handed girl with tics. She underwent a 'lobotomy' whose results were also quickly judged 'null'.[18]

Initially, the Strasbourg team seem to have preferred topectomy over lobotomy. In a letter dated March 1950 to Gelma's assistant, Roland Lanter, Gelma stated that the latter technique had not brought

anything conclusive.[19] A few months later, Singer and Dany differed from Gelma's view by pointing out the limits of topectomy, and expressing their preference for lobotomy (Gelma *et al.*, 1951: 527). Singer even concluded in his thesis that it was 'clearly superior to topectomy' (Singer, 1951: 95). Singer and Dany stated that they decided to abandon topectomy in favour of lobotomy, using Poppen's technique, and that the last topectomy was performed in May 1950. Two reasons led to this rejection, the first of which was 'some osteitis of the flap'. In fact, the records reveal six cases of bone inflammation, of which three patients had to undergo a second operation,[20] and one, three operations.[21] The second motive was the 'less valid' results of topectomy compared to those obtained by lobotomy (Boittelle *et al.*, 1952: 461–2). While the records attest that Poppen's technique was indeed favoured, especially to treat 'schizophrenics', they also show that the practice of topectomy continued for a little over a year. Fourteen operations of this type were performed between June 1950 and July 1951, mostly on 'schizophrenics', as well as on two cases of 'manic-depressive psychosis', one 'psychasthenic', and one 'epileptic'.

Institutional routine and patients' trajectories

One can distinguish patients sent to the clinic by a physician, generally a specialist from Strasbourg or its region (approximately sixty patients, or 39 per cent) and patients from other sections of the Strasbourg hospital (neurological, surgical, dermatological, or outpatient clinics, making up 6 per cent), or from the various other facilities in the region. Other psychiatric establishments in the east of France (Colmar, Rouffach, Nancy and Maréville) already performed psychosurgery and therefore did not send any of their patients to the Alsatian capital. The Lorquin hospital appears to have been the largest provider of patients with sixty-six inmates transferred (44 per cent). However, these transfers ceased when Lorquin set up its own surgical department, where within two years around fifty operations were carried out (Diligent, 1997: 179). The number of patients sent from other hospitals was much smaller: eight from Ravenel (5.5 per cent); seven from Notre-Dame-du-Bon-Secours Hospital (5 per cent); and seven from Hoerdt. Stéphansfeld, the largest psychiatric hospital in the

Bas-Rhin region, whose post-war staff were known to be reluctant about shock therapies (in reaction to its tragic past during the German occupation), sent only three patients (2 per cent). In a letter to one of his Strasbourg colleagues, a Stéphansfeld psychiatrist stated that the patient's husband had 'begged' them 'to submit her to psychosurgical intervention and it was only at his insistence and under his responsibility that she was proposed for this treatment'.[22] Unlike Hoerdt, Lorquin did not share records with their Strasbourg colleagues, but provided a summary of the transferred patient's history. This summary could take the form of a letter of a few lines, occasionally handwritten or as short typed reports, where the state of the patients before their transfer is described succinctly. Lorquin also organised simultaneous transfers of inmates, diagnosed by different diagnostic criteria, on whom Dany was called upon to operate in series.

Regardless of the modalities of their transfer, and following their admission to one of the clinic's four services (two for the 'agitated', and two others for the 'calm' of each sex), each patient underwent a battery of routine examinations, except for a few from other institutions. In addition to somatic tests, the first constant was the determination of the patient's blood type in the emergency blood transfusion laboratory. Depending on their condition, radiological, ophthalmological and electroencephalographic examinations were performed. Some patients underwent psychological tests, especially the Rorschach test, most often performed before the operation. However, no report found reflects the research carried out by Robert Durand de Bousingen during his thesis, carried out between 1950 and 1952 (Durand de Bousingen, 1955).

The decision to operate, taken after repeated admissions and several months of hospitalisation, was most often made before the patients were transferred from another establishment. Then, before intervening, psychiatrists sought the agreement of the patients or their family, regardless of whether they were underage. This procedure was specific to psychosurgery. The implementation of shock therapy, in contrast, does not seem to have required the slightest consent. Psychosurgery and the risks involved seem to have led the physicians to adopt a more cautious attitude, and to obviate, in case of failure, any objection. This authorisation, always handwritten by a caregiver, could be endorsed by the patients, a sign that the physicians considered

them to have a sufficient capacity to consent, or otherwise one of the patient's parents, a sibling, the husband or spouse, or the legal guardian. The text is always succinct: it stipulates that the patient or the solicited relative 'authorises the surgeons' to intervene. The exact name of the operation is sometimes given, but the terms are often imprecise. It is also worth noting that many records do not contain any such document, although the patient was clearly not living in isolation. In fact, one record suggests that operations may have been carried out without authorisation. The sister of a patient of Italian origin wrote to the clinic to find out why her brother was transferred from Lorquin to Strasbourg. Singer replied laconically that he had 'the honour of letting [her] know that this patient had undergone brain surgery'.[23] However, there is no record suggesting that the doctors would have decided to override the opposition of a patient or of his family.

All operating reports are brief. The first ones from 1949 are limited to indicating the patient's name, their age, date of admission, health insurance company, department where they stayed, diagnosis, type of operation performed, date of the operation and the surgeon's name. A second type of report appears from 1950 onwards. The above information was accompanied by details of the type of anaesthesia used, a brief description of the technique implemented, how the operation was carried out, the weighing of the brain 'pieces' extracted, and the means used to plug the holes made with the trepan. The expression 'operation without incident' usually concludes the report on the successful completion of the procedure. A few reports contain observations on the patient's brain, such as that of a 'hebephrenic' described as 'a distinctly pathological brain with small lesions in the form of whitish placards'.[24] Over time, these reports became gradually shorter, indicating that this procedure had become routine. Thus, for an 'epileptic', the report simply states: 'Bilateral prefrontal lobotomy following Poppen's technique. Galley closure and silk skin';[25] or for a 'depressive' woman: 'The lobotomy is done according to the usual Poppen technique. It is total. Operation without incident.'[26]

Records reveal the occurrence of seven deaths between 1948 and 1953, making up almost 4.5 per cent of documented operations during the peak of Strasbourg psychosurgery. Among them were six men and one woman, aged between 23 and 53 years, diagnosed

with 'schizophrenia', 'neurasthenia', 'depression', 'mental debility' and 'hypochondriac delirium'. All of them underwent a 'lobotomy using Poppen's technique', except for a former head trauma patient with mild brain atrophy and 'nervous breakdown', who underwent a 'topectomy'.[27] When a patient died from the intervention, the operating surgeon formally requested an autopsy via a form to determine the exact cause of death. At least one patient's brain was subsequently preserved in formalin as a result of this autopsy process.[28]

The stay in the surgical clinic rarely exceeded one week. Patients were then sent back to the previous psychiatric department for observation and post-operative psychotherapy, about which little is known due to a lack of recorded data. According to Singer, of 'all the hypotheses concerning the mechanism of the transformation of symptoms following psychosurgical intervention', the preference was for the idea of Jacksonian inspiration that the operation 'would produce a uniform dissolution of the psyche, followed by a revolution' which 'was not always complete'. It was then up to post-operative psychotherapy 'to perfect it: it had to use replacement in a favourable family environment, and, for the schizophrenics, a resumption of insulin treatment combined with re-education; rehabilitation in hospital if the family environment proved to be of poor help, with individual and group' (Singer, 1981: 66). In Lorquin, this rehabilitation took the form of:

> an extremely rapid start to work on jobs requiring a certain precision: unclogging intravenous needles, cleaning syringes, trays, rolling up bandages (work obviously taken over by the nursing staff). Around the tenth day of the return, those whose even slight improvement allowed it were taken out into the gardens for most of the day, entrusting them to other so-called serious patients in order to break the monotony of the neighbourhoods as much as possible … Finally, they were put to real work, in a branch corresponding to their previous profession (most of our patients are manual workers) … The start of work coincided with the passage to a semi-liberty service, which led to the granting of free discharge in the village. (Boittelle *et al.*, 1951b: 547)

As Singer mentioned, some patients underwent insulin therapy for 'consolidation', in order to reinforce the effects of the operation. According to the director of Lorquin psychiatric hospital, Georges

Boittelle (1916–66) and his wife and collaborator, Claudine Boittelle-Lentulo (1919–77), 'the improvements obtained' were often 'only temporary, but the insulin therapy which had given no results before the operation "proved" to be otherwise effective after the operation. Of this, we cannot give an explanation other than that of experience' (Boittelle *et al.*, 1951b: 547). Apart from a man diagnosed with 'chronic psychasthenic depression', this consolidation therapy only targeted 'schizophrenics' (about a quarter of the patients). In light of the records collected in Strasbourg, the effects of this treatment were not especially impressive, since out of twenty patients, twelve had results listed as 'null', six as 'excellent', and four as 'improved' or 'mixed'.

Lastly, the records do not show post-operative follow-up in the medium or long term. Nevertheless, while working on his thesis, Singer endeavoured to gather information on the progress of patients by sending a questionnaire to each of them. Thanks to this he concluded in his thesis that 48 per cent of the patients' results were 'excellent', 14 per cent were 'moderate', 34 per cent 'failed', and 4 per cent resulted in death (Singer, 1951: 111). Beyond 1951, in the vast majority of the cases, the clinic ceased to follow patients from the moment they were discharged. These patients were probably monitored or taken in charge, either by their attending physician (possibly by a member of the clinic – these for the most part also practised in private practice, including Gelma and Singer), or in another institution. However, it also happened that patients spontaneously wrote to their 'saviours' to give them news, such as the 'topectomised schizophrenic' who sent several letters to her 'dear and devoted benefactors' in the months following her operation.[29]

The evolution of recommendations

At first sight, psychosurgery was presented as a treatment of last resort, reserved for the most 'agitated' patients and the 'incurables'. Selection seems to have been based on their symptomatology rather than on strict diagnostic considerations. One argument that repeatedly arose was that the patients could not be worse off after the operation than they already were. Nevertheless, it seemed essential to question the criteria established in this respect, in light of the

fact that psychiatrists argued that these operations should only be reserved for incurables and individuals who had been ill for an average of two years and who presented a serious clinical picture (Porot, 1947). But as we shall see, the standard of chronicity gradually moved over time.

Certainly, in the early days, Strasbourg treated mostly patients who had long since fallen into chronicity. If one considers only patients operated on in 1948 and 1949, there are only five patients out of twenty-six whose onset of the disease was estimated at less than two years prior. The oldest patient was regularly followed for more than thirty years,[30] the most recent ones for one year,[31] and the average was about six and a half years. As a result, among the patients operated on, twenty individuals were hospitalised during World War II, and experienced difficult, even disastrous internment conditions.[32] The most striking case is undoubtedly the woman who began to show serious disorders after her husband's enlistment in 1939, and her evacuation to Vichy and to the Dordogne.[33] Hospitalised in Clairvivre, Strasbourg and Philadelphia between 1944 and 1950, she underwent a 'prefrontal lobotomy' in Strasbourg as a patient diagnosed with 'chronic mania' in 1951. Singer asserted in a medical certificate that 'the anti-Semitic persecutions to which the patient was subjected may to some extent have triggered her mental disorders.' Others were direct or indirect victims of the German occupation, such as the 26-year-old woman diagnosed as 'schizophrenic', whose troubles dated back to her return from the Reich Labour Service in 1944, and who underwent a 'topectomy' in 1950.[34] This case appears all the more tragic as she was one of the fifteen thousand girls from eastern France who were forcibly incorporated into different Nazi structures during the war, known today as the *malgré-elles* (see Anstett, 2015).

Singer insisted on the following point: just as this type of operation could only be envisaged for 'schizophrenics' after 'exhausting all other therapies', so 'there is no point in delaying either, because when the disease has already been evolving for some time … the chances of spontaneous remission have diminished'. Thus, even if 'excellent results' had been recorded in patients 'whose schizophrenic process was long-standing', 'the duration of the preoperative morbid evolution' should 'not be too long' (Singer, 1951: 44–5). He came to a similar conclusion about patients diagnosed with 'obsessions',

while simultaneously criticising the effectiveness of the Freudian method:

> it is questionable whether patients should be allowed to suffer for long periods of time while waiting for the problematic results of expensive, lengthy psychotherapy reserved for the privileged few. It is true that obsessional neurosis is seen above all in the rich classes, but it is also true that this condition exists both in the poor classes and in those who are excluded from psychoanalysis because of a lack of resources (Singer, 1951: 50).[35]

The following year, Strasbourg and Lorquin finally began to exclude the chronic nature of schizophrenia from their selection criteria. The chronicity of the disease, coupled with a very pronounced distancing from social life, was retained only for the treatment of epilepsy, neuroses, pains and severe depression. Boittelle, Singer and Dany noted that all the failures had 'occurred in patients whose conditions had been evolving for many years, with uninterrupted hospital stays, or who had been hospitalised on several occasions, the discharges were only more or less brief remissions', and that, on the other hand, 'good results' were only obtained in patients who had been 'troubled for scarcely more than two years, but who were on the path to chronicity'. They also formulated three criteria which were to be checked before a psychosurgical intervention: the first two consisted of tossing aside patients with 'a marked schizophrenic family heredity', or suffering from tuberculosis, 'for fear of post-operative reactions'; the last criterion was to consider the operation only after having attempted all other possible treatments, and foremost insulin shock therapy, generally practised twice. In conclusion, they stressed the importance of an early intervention:

> It is better to intervene quickly, before the transition to chronicity. Beyond four or five years of evolution, the prognosis seems very poor to us, our best results are around the second year of evolution. Sometimes, we had to intervene much earlier, when the dissociative process was evolving rapidly in a 'flash in the pan' (Boittelle *et al.*, 1952: 462).

An examination of 'schizophrenia' records affirms these assertions. Nevertheless, there is no evidence of the exclusion of chronically ill older patients or a significant increase in non-chronic patients. In fact, the surgeons continued to operate on both older and younger

individuals. For example, in 1951, Dany operated on a man who had been sick for at least eleven years prior to surgery,[36] and on a woman sick for ten years prior.[37] In 1953, Dany was still operating on a woman of Polish origin, hospitalised in Hoerdt for 'delusional schizophrenia', who had been sick for sixteen years at that point.[38] Conversely, some patients were operated on very soon after the onset of disease.[39] But the effects of these operations were inconclusive, as evidenced by their subsequent readmissions.

Gradually, the Strasbourg psychiatrists came to believe that it was necessary to intervene before the illness could definitively take hold and flourish, and not only for those diagnosed with 'schizophrenia'. Records show that young patients diagnosed with 'neuroses' were operated on, although their disease had manifested only a few months before.[40] The priority was therefore to operate on cases that were insensitive to other treatments, but which had not yet become chronic. Although the objectives put forward by the doctors were similar, a careful examination of the records clearly shows that between 1950 and 1952 there was a noticeable shift both in the selection of patients and in the arguments used to justify the intervention.

A more reasoned practice?

Questioned by a mainstream journal on the future of his discipline, a Swiss neurosurgeon declared with optimism in 1950: 'Psychosurgery is only a stopgap measure while waiting for the progress of psychoanalysis or other medications. In ten years, leukotomy will be an outdated method, I hope, and then it will be banned. But without forgetting the services it has rendered' (Caloz, 1950: 14). Finally, it was not in any way Freud's exponents who put a stop to psychosurgery (in fact, some even defended it), but rather its mixed results, and the introduction of the first neuroleptics, with their apparent reversibility.[41]

It was under Gelma's direction that the very first patients were treated with Largactil, as shown in several records from 1953. A few patients, who would otherwise have been operated on, were spared thanks to these new medications. This was notable in the case of a man admitted for 'hypochondriac depression'.[42] An operation

was initially envisaged, as shown in a letter from Gelma, who wavered between recommending a long psychotherapy programme and a lobotomy. The patient was at last administered chlorpromazine, as well as electric shocks, and left the establishment after two months without having been operated on. Although it is impossible to say whether his condition improved consistently over the long term, the patient in question was never rehospitalised in a psychiatric ward, at least in Strasbourg.

Théophile Kammerer (1916–2005) officially took over the directorship of the clinic in October 1953. While not making it one of his areas of specialisation, this former extern in Leriche's department had put his faith in psychosurgery (Gelma and Kammerer, 1951; Kammerer, 1951). Although he had built up an image as a reformer and a humanist practitioner, especially because of his psychoanalytical orientation (Serina, 2022), his arrival at the head of the establishment did not immediately put a definite end to psychosurgery. Kammerer, like other psychiatrists of his generation, never set Freudianism in opposition to psychosurgery, as one might be tempted to think from a modern-day perspective. Nevertheless, his appointment was undeniably followed by a very sharp decline in the number of interventions, especially due to the spread of the pharmacological innovations.

The profile of the group of patients who underwent psychosurgery during Kammerer's directorship differed markedly from the patients who were operated on during the previous period. Selection became much more limited, as it was only reserved for individuals who were resistant to all other therapies, including neuroleptics, antipsychotics and antidepressants. Only eight cases were recorded in the space of six years – i.e. about 0.1 per cent of total admissions between 1954 and 1959.[43] The last psychosurgical operation was apparently performed by Marcel David (1898–1986) from the Sainte-Anne hospital in Paris, called to Strasbourg to intervene. David performed a 'leukotomy' on a single beekeeper diagnosed with 'obsessional neurosis with the onset of schizophrenisation', whose results were quickly judged as 'null' and 'disappointing'. Unlike during the last months of Gelma's era, it was no longer possible to hope to counter the chronicity of the disease by operating rapidly, since most cases were chronic or very long term in nature.

Each patient presented a rather particular profile. Among them were three women, including a 'neurotic' nun,[44] and five men,

including a 13-year-old epileptic boy.[45] One was a 'delinquent' diagnosed with 'constitutional psychopathy',[46] who was the only patient transferred from a hospital in the region. The others were sent by their attending physician, notably by Kammerer.[47] With four cases, 'obsessive neuroses' formed the largest part, including one with 'latent homosexuality',[48] and another with 'the onset of schizophrenisation'.[49] Two were diagnosed with 'melancholia',[50] and the last two with 'epilepsy' and 'constitutional psychopathy, mental debility and delinquency'. We have also identified at least one case of a woman being treated for 'obsessive neurosis' for whom Kammerer recommended a lobotomy.[51] Nevertheless, her husband refused and took her away against the advice of the doctors, who considered the operation 'necessary'. This assessment shows that psychosurgery had not proved its worth in the treatment of 'schizophrenics' to the general public, although a few years earlier they were considered the main target group. No operation undertaken during Kammerer's tenure resulted in the death of a patient.

A few records explicitly testify to the abandonment of psychosurgery. In 1960, a 36-year-old man was referred to the clinic at the request of a doctor from the small town of Meurthe-et-Moselle for a 'lobotomy'.[52] His records indicate that he was suffering from a 'character neurosis with obsessive elements' that had been evolving for several years, and that he was already undergoing all kinds of treatment (including electroshock and sleep therapy) without improvement. Even though a psychosurgical operation might have seemed appropriate, Kammerer voiced his opposition after an interview with the patient and treated him with an antidepressant. Nevertheless, in 1961, the patient's wife, lamenting the lack of improvement in her husband's condition and his 'inability to return to work full time and be productive', asked an intern about the advisability of a 'new treatment', namely lobotomy. The latter replied a few days later: 'Lobotomy is an intervention that we know well, but that we have practically abandoned for a few years', and ended up proposing an outpatient treatment in the policlinic. It is also worth mentioning that in the records of a 'schizophrenic', admitted the same year, who was convinced that she was going to undergo a lobotomy, is an attestation by Kammerer in which he formally guarantees the patient that 'there is no question of performing a surgical operation on her'.[53]

Contrary to other French facilities (such as the Salpêtrière), Kammerer and his team stayed away from all international psychosurgery conferences, and Singer decided to reorient himself towards psychopharmacological therapeutic research, the epidemiology of mental illness, and criminology. There is no doubt that the disappointing results of many interventions as well as the apparent effectiveness of the new drug treatments contributed in large part to the abandonment of psychosurgery. However, it seems that Dany's departure for Limoges in 1959, where he performed one or two operations per year until the late 1970s (Hanon, 1979), can be seen as the main practical reason for psychosurgery losing importance in Strasbourg. This end came before many other French institutions, including other hospitals in the region which continued the practice and study of the effects of these kind of operations for many years. This was notable in the case in Colmar, but also in Nancy, where psychosurgery was practised until the end of the 1960s, and where three theses on this topic were defended (Poiré, 1960; Lamarche, 1961; Mabille, 1961).

Finally, it should be noted that, except for Durand de Bousingen's thesis (summarised in an article co-authored with Kammerer and Singer (Kammerer et al., 1956)), no study on the effects and after-effects of long-term psychosurgery was conducted in Strasbourg.[54] This absence is perplexing for at least two reasons. Firstly, because some patients treated in this way had subsequently been readmitted and treated in the establishment again (most often with insulin therapy, neuroleptics, and to a lesser extent with shock therapy, before being transferred elsewhere), sometimes nearly ten, twenty, even thirty years after having been operated on. Secondly, many studies on long-term results of psychosurgery have been carried out in other French institutions since the early 1950s: first in Paris (Bartier, 1952; Ferrieu, 1952; Nguyen-Tuan, 1960; Dachary, 1963), then in the provinces (Roullet, 1960; Simon, 1960; Lamarche, 1961; Guillou, 1963; Souet, 1965; Zemmour, 1970). Thus, Strasbourg clearly stood on the fringes of the French medical community with respect to this research trend, even though some lobotomised patients were likely to have received outpatient care in the polyclinic. A thesis defended in Strasbourg in 1979 before a jury chaired by Singer could have been an exception. In fact, the thesis only concerned patients operated on in the Paris region and Colmar (Foucrier, 1979).

Conclusion

In total, about 169 patients were operated on in Strasbourg in the space of just over a decade – i.e. about 1.1 per cent of patients admitted between 1948 and 1959. The majority of them were men (60 per cent). This result might appear questionable as it contrasts with the claim that psychosurgery was more targeted at women (Terrier *et al.*, 2017). [55] However, this can be explained by the fact that the clinic admitted more men overall at the time, whereas women were more numerous among the patients admitted in all French hospitals until 1953 and were the majority of the interned population until 1968 (von Bueltzingsloewen, 2007b: 100). More broadly, and on the basis of the few known statistics (Jaubert, 1975–76), the total number of patients operated on in Strasbourg seems rather low compared to national figures. It is higher than in Le Mans, with 115 operations between 1949 and 1962 (Guillemain, 2010: 77), or in Bourg-en-Bresse, where 153 operations were performed between 1949 and 1958. On the other hand, this total is much lower than the 500 operations carried out at the Salpêtrière, or the 485 operations in Nancy (1947–68). Finally, if the figure of 1,344 lobotomies performed in French-speaking Europe between 1935 and 1985 is taken as reliable (Terrier *et al.*, 2017), it can be concluded that 13 per cent of them were performed in Strasbourg.

In addition to providing a fairly accurate numerical estimate, this research has shown that the extensive use of patient records can counterbalance an internalist narrative solely based on the publications and memory of physicians. In a kind of balance sheet of his career published in 2000, Singer devoted only a few lines to psychosurgery, saying that 'from 1949 to 1954 a number of prefrontal lobotomies were performed in a surgical department. Psychosurgery was only practised on schizophrenics hospitalised for decades or had completely disabling obsessional neuroses. It was abandoned as soon as chlorpromazine was introduced' (Singer, 2000: 60). The study of the medical records shows, on the contrary, that the first operations were carried out long before 1949 and Moniz's Nobel Prize. If psychosurgery was indeed, and obviously without much success, mainly applied to people diagnosed with 'schizophrenia', it also targeted many other pathologies. While this treatment was initially aimed at patients with long-standing disease, the Alsatian psychiatrists

gradually considered that psychosurgery could be used before patients' conditions became chronic. Psychosurgery was therefore used not only as a last resort, but also as a means of halting the progression of the disease, and as such could be used early in the treatment of certain patients. Moreover, the advent of psychopharmacology did not lead to its immediate stop. In the absence of data on the lives of those operated on in the medium or long term, it must be added that any attempt at retrospective evaluation of long-term results seems impossible to envisage. Finally, it should be noted that while psychosurgery may have been considered during the post-war years as one of the most innovative, if not one of the most effective, techniques for the treatment of mental illness, it is striking to note, through the study of the records, the extent to which this method was, in practice, more a kind of bricolage based on a series of beliefs, assumptions and risky speculations than the rigorous implementation of a truly scientific method.

Notes

1 See especially Pressman, 2002; El-Hai, 2005; Raz, 2013; and Meier, 2015.

2 In France, a report by the Inspectorate General of Social Affairs reported thirty-two lobotomies out of thirty patients between 1980 and 1986. Its authors also admitted that they did not know the reality of the figures at the time they were writing their conclusions. See CCNE, 2002.

3 For an internalist perspective, see M. Zanello *et al.*, 2017. Parada's (2016) essay deals with the history of the controversy in a documented way, but its argumentation is never based on the examination of medical records. Recently, Guillemain has examined the effects of psychosurgery from the archives of the hospital of Le Mans, but only for 'schizophrenics' (Guillemain, 2021). On Wallonia, see Missa, 2006: 195–244.

4 Among the most used techniques, one distinguishes 'leucotomy' or 'lobotomy', which consists in the incision, inside a lobe, of the nerve fibres, from 'topectomy' whose goal is an ablation or excision of one or both sides (unilateral or bilateral) of certain zones of the cerebral crust (a layer of grey cells covering the brain, specifically cortical areas). The reader will find more details in the set of references mentioned in footnote 1.

5 On this preeminent figure of French surgery, see Rey, 1994.

6 It should be noted that the Germans who controlled the clinic between June 1940 and November 1944 do not seem to have practised psychosurgery during this period (personal communication from Lea Münch, author of the PhD thesis in development *Von Straßburg nach Hadamar: Patient*innen-biographien und Alltagsgeschichte der NS-Psychiatrie im annektierten Elsass, 1941–1944*).
7 For an overview of this topic, see Ey, 1954: 11–34.
8 Singer's thesis was rewarded with the Herpin prize of the National Academy of Metz. A few months later came a greater honour: a favourable review by Walter Freeman himself (Freeman, 1952). Singer became a psychiatrist by default, and reluctantly at first. He admitted that he initially felt a deep uneasiness when he saw himself surrounded by patients dressed as concentration camp inmates. A few years earlier, Singer, who was of Jewish origin, contributed to the identification of the remains of the Struthof camp prisoners. See Singer, 1993.
9 Patient records of the University Psychiatric Clinic of Strasbourg, Département d'Histoire des sciences de la Vie et de la Santé, Strasbourg (hereafter DHVS), file number 48–0442, 1948.
10 In July 1950, at the French Congress of Alienist Physicians and Neurologists, Gelma, Singer, Dany and Kammerer, in cooperation with colleagues from the hospital of Lorquin, gave a series of presentations on this topic (Gelma *et al.*, 1951; Boittelle *et al.*, 1951a; Boittelle *et al.*, 1951b). In December 1950, Dany and Singer presented an initial assessment of their practice before the French Society of Neurology, prior to presenting a case study in collaboration with Fontaine (Dany *et al.*, 1951). In November 1951, Gelma and Kammerer jointly presented a case at a session of the Eastern Psychiatric Meetings (Gelma and Kammerer, 1951).
11 DHVS, File number 49-0055, 1949.
12 DHVS, File number 51-0048, 1950–51.
13 DHVS, File number 49-0344, 1949.
14 DHVS, File number 52-1090, 1952.
15 DHVS, File number 55-0810, 1939–55.
16 DHVS, File number 53-0813, 1952–53.
17 DHVS, File number 50-0228, 1950.
18 DHVS, File number 52-0785, 1952.
19 DHVS, File number 50-0694, 1950.
20 DHVS, File number 50-0742, 1950; and 50-1079, 1950.
21 DHVS, File number 50-0244, 1948–50.
22 DHVS, File number 50-0662, 1940–50.
23 DHVS, File number 51-0223, 1951.

24 DHVS, File number 50-0014, 1950.
25 DHVS, File number 51-0315, 1951.
26 DHVS, File number 51-0762, 1951.
27 DHVS, File number 49-0344, 1949.
28 DHVS, File number 49-0248, 1949.
29 DHVS, File number 50-1079, 1950.
30 DHVS, File number 49-0344, 1949.
31 DHVS, File number 49-0055, 1949; and 49-0692, 1949.
32 On the conditions of internment during World War II in France, see von Bueltzingsloewen, 2007a.
33 DHVS, File number 51-0912, 1945–51.
34 DHVS, File number 64-0945, 1944–64.
35 Singer followed up on the effects of a 'topectomy' on a former patient of René Allendy, one of the founders of the Société Psychanalytique de Paris (DHVS, 50-0159, 1950). He maintained strong reservations about psychoanalysis throughout his life. See Serina, 2022.
36 DHVS, File number 51-0221, 1951
37 DHVS, File number 58-1283, 1941–58.
38 DHVS, File number 53-0852, 1953.
39 DHVS, File number 54-0476, 1952–54; and 53-0485, 1952–53.
40 DHVS, File number 51-0311, 1951; and 52-0785, 1952.
41 Some French psychiatrists curiously used the image of 'chemical lobotomy' to talk about the effect produced by neuroleptics on their patients' minds (see Parada, 2016: 3).
42 DHVS, File number 53-0007, 1953.
43 Among the clinic's records is that of a patient who was initially treated in the neurology clinic where it was decided to perform a lobotomy to remove a right frontotemporal tumour. The woman was then transferred to the psychiatric ward due to a 'confusional syndrome'. A few months later, she was admitted again to psychiatry because of 'severe behavioural disorders with clastic attacks' (DHVS, 64–0655, 1964). Thus, it is not impossible that other psychosurgical operations took place in Strasbourg, not at the request of the psychiatric clinic, but that of the neurological clinic.
44 DHVS, File number 55-1150, 1955.
45 DHVS, File number 56-0435, 1956–77.
46 DHVS, File number 54-0293, 1954.
47 DHVS, File number 59-1189, 1959; 61-0786, 1954–61.
48 DHVS, File number 59-1052, 1959.
49 DHVS, File number 59-1189, 1959.
50 DHVS, File number 57-0159, 1955–57; 57-1710, 1957–58.
51 DHVS, File number 58-1095, 1958.

52 DHVS, File number 60-0556, 1960.
53 DHVS, File number 61-1057, 1961.
54 The production of scientific research related to psychosurgery significantly decreased from the mid-1950s. In addition to Durand de Bousingen's thesis, one finds a short paper on a case of 'chronic melancholia' lobotomised (Kammerer *et al.*, 1958).
55 It should also be noted that the result put forward by Terrier is not based on the study of patient records, but only on the scientific literature, which constitutes a significant methodological bias.

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