

PSYCHOPHARMACOLOGY & THE GOVERNMENT OF THE SELF DAVID HEALY

Here is a picture of Jean Delay wearing the dark coat, along with Pierre Pichot on his right and Pierre Deniker on his left, with Bernard Sadoun, Jean Thuillier and Thérèse Lemperière to Pichot's right (Slide 1)¹.

Within the walls of the hospital you see behind them, the ice has just melted -- literally. Following the ideas of Henri Laborit, they had been giving chlorpromazine as part of an effort to enable the body to be cooled down with ice, in the hope that cooling would produce an anti-stress effect that would be useful in the treatment of nervous problems. The nursing staff observed that it made little difference whether chlorpromazine was given with or without ice - it was beneficial either way. Delay and his team had stumbled into the crucial discovery of the antipsychotic effect of chlorpromazine, the discovery that underpins modern psychiatry.

The spontaneity of the photograph is misleading however. It almost suggests a father whose child has just been born and who is rushing out to tell the world the good news. However, this is far from a spontaneous photograph. There is a rigid hierarchical arrangement here. Delay is distinguished by his navy blue coat, which he and only he wore around the university and hospital ground. When he was later elected to the Académie Française, he would wear the ceremonial sword that went with membership whenever possible. He is talking to Pichot rather than to Deniker, the discoverer of chlorpromazine because Pichot is, strictly speaking, the second most senior person in the Department.

This is a hierarchical world in which, had an emissary been sent from a University Department elsewhere in the world to visit Delay, even one considerably junior to Pichot and Deniker, Deniker and Pichot would nevertheless have been summoned to stand behind Delay while he talked to the emissary from elsewhere. Possibly for up to an hour without their opinions being sought. If the emissary had been from an ethnic minority, or was a woman or a senior member of a pharmaceutical company it is unlikely that Delay would have seen them. Women such as Hélène Deschamps and later Ruth Koeppel were written out of the chlorpromazine story.

There are two things happening in the background, however, that will change everything, unbeknownst to Delay and his group. Both in North American psychiatry. In the course of the Second World War, psychiatrists associated with the military have discovered that group therapies can have a dramatic impact on the nervous disorders produced in soldiers by the War. These therapies work best it seems where they involve a dissolution of the hierarchies of both preWar European social life and Army life. This is particularly clear in Great Britain. The more informal the setting, the better.

American military psychiatrists viewing this group therapy, in particular Karl Menninger, take home a message. The options were that groups work or that therapy works. Menninger opted for a message of psychodynamic therapy works. This led American psychiatrists returning from the War and also those manning the asylums during the War to abandon the asylums and to set up office practice. The asylums are left to the

Europeans. Power and influence in American psychiatry uniquely moves into the community. In so doing, American psychiatrists capture for psychiatry the vast range of nervous and psychosomatic complaints that have previously been the province of neurologists and internists with an interest in psychosomatic medicine.

The other thing that is happening stems from another war that began in 1914 - a War on Drugs. This began with the Harrison's Narcotics Act, which made the opiates and cocaine available on prescription-only. In 1951, a Humphrey-Durham Amendment to the 1938 Foods Drugs and Cosmetics Act makes all the new drugs produced by the pharmaceutical revolution following the Second World War, the new antibiotics, antihypertensives, antipsychotics, antidepressants, anxiolytics and other drugs, available on prescription-only.

Not everybody is happy with the new arrangement. Many complain that a system designed for addicts is not appropriate for the citizens of a free country.

A combustible set of ingredients has been put in place that will lead to an explosion. It only took 16 years for the explosion to come.

In slide 2, you see the Tokyo University on fire. Tokyo sits at the apex of the Japanese hierarchy. The students have occupied the Department of Psychiatry in an occupation that continues for ten years. Psychiatric research in Tokyo is brought to a halt. The most powerful psychiatrist in Japan, the professor of psychiatry in Tokyo, Hiroshi Utena, is forced to retire.

Why is there such an extraordinary development? Only 16 years after the discovery of chlorpromazine, which liberated the insane from their straitjackets. The great boast of the advocates of chlorpromazine was that it had restored humanity to the asylums. Previously, lunatics had been guarded by jailers, who treated them brutally. Now it was possible for therapists to see the humanity of their patients and talk to them. The level of noise in the asylum has fallen.

However, the times have seen the emergence of antipsychiatry and the antipsychiatrists respond that real straitjackets have simply been replaced for chemical straitjackets - the camisole chimique. That indeed there is silence within the walls of the asylums, but this is the silence of the cemetery.

What is happening? There is a revolution in progress. A revolution that stems in great part from the new drugs and the interaction between these drugs and the social order in which people live. The drugs have played or threaten to play a huge part in a changing of the social order. The discovery of chlorpromazine by Delay and Deniker was the discovery of a drug that acted on a disease in order to restore a person to their place in the social order. In contrast, Henri Laborit's discovery of chlorpromazine the previous year, which led to artificial hibernation was the discovery of a drug which produced an indifference, so that taking this kind of drug taxi drivers drove through red lights.

And out of the same test tubes and laboratories from which chlorpromazine came, came LSD and the psychedelics, Valium and the benzodiazepines and other drugs. These were

not drugs that restore people to their place in the social order. These were drugs that had the potential to transform social order.

By 1968, another drug, the oral contraceptive, had begun to transform the social order by changing relations between the sexes (Slide 3). In 1968, for the first time, the French clothing industry produced more trousers for women than for men. By 1968, feminism had appeared to challenge the colonisation of women's minds by men.

1968 saw the culmination of a project begun by Rousseau and Voltaire, the Enlightenment. This was a project, which overthrew the traditional hierarchical order in society. It led to the dethronement of kings and gods. It claimed that the people should be ruled by the people and that an individual's place in society should depend on merit. It claimed that individuals had rights in addition to duties. But this project had remained the preserve of white middle aged and middle class men. It had not extended to women, the young, ethnic groups, or others -- until 1968.

In 1968, antipsychiatrists and others protested against the colonisation of the minds of ethnic groups by white Europeans (Slide 4), the colonisation of the poor by the rich, the colonisation of the minds of the young by the old. They castigated the new drugs as a means of controlling the young. Madness was the protest of the colonised.

Some of the politics of the time can be seen if one considers the example of smart drugs now. We live in a time now when it is not possible to discriminate on the basis of sex, ethnicity, age or religion, but we still discriminate on the basis of intelligence. Bright kids get to go to good universities and are subsidised by the state to do so. These cognitive enhancers, it would seem, will bring benefits to less able or old animals compared with young and bright animals. Should cognitive enhancing drugs become available, they will favour those who are less bright. Will they be made available to society generally? Or will their use to be restricted to diseases such as Aged Associated Memory Impairment? – Can disease ever be a value free concept?

The anti-psychiatrists had a number of powerful weapons in their armoury. One was ECT and the other was Tardive dyskinesia. There is no question that ECT works – the problem with it and for psychiatry was its visibility, which led to its pivotal role in the movie *One Flew over the Cuckoo's Nest* (Slide 5). Tardive dyskinesia was a syndrome first described in 1960. By 1968, it was clear that it was a common and disabling side effect of antipsychotic drugs. It was neither the most common nor the most disabling side effect, but it was the most visible (Slide 6).

The response from most of psychiatry was the same response as from psychoanalysts to criticism against psychotherapy. When the treatment failed to work, they claimed it was the disease, not the treatment that was at fault. Similarly psychiatry blamed the disease rather than the drugs. Just as we have since done with the SSRIs and suicide.

However, the visibility of Tardive dyskinesia was a real problem and by 1974, SmithKline & French had settled their first legal case for over \$1million. With this settlement, a generation of antipsychotic discovery, which includes drugs such as chlorpromazine, thioridazine, levomepromazine, chlorprothixene, flupenthixol,

clopenthixol, haloperidol, droperidol, benperidol, perphenazine, fluphenazine, prochlorperazine, trifluoperazine, pimozide, sulpiride and many others came to an end. It was to be almost 20 years before another generation of antipsychotic drugs emerged. When new drugs came, starting with clozapine, they came not because they were better than the older drugs nor because they were good for negative syndromes –whatever you think about the evidence for these claims, they were not what led to the new generation of antipsychotics. The reasoning behind the re-emergence of clozapine was because it didn't cause tardive dyskinesia (Slide 7).

Slide 8 shows Leo Hollister. In 1957, Hollister had run a double-blind placebo-controlled trial of chlorpromazine in patients with no nervous conditions at all, demonstrating that it produced marked physical dependence. By 1966, a large number of studies had confirmed his observations that there was a marked and severe physical dependence on antipsychotics that was present in large numbers of people taking them, even at low doses for a relatively short period of time. A dose of 1 mg Stelazine given for several months might produce a state where the individual could never stop therapy ever again. This led to the concept of therapeutic drug dependence. A concept that blows a hole in most theories of addiction we have. These drugs produce no tolerance, no euphoria. They produce enduring post-discontinuation changes that are as extensive and long lasting as the changes underpinning current disease models of addiction². But recognition of antipsychotic dependence vanished around 1968, when the War on Drugs was declared.

Psychopharmacology was faced with a political problem. The problem was how to distinguish drugs, which restored social order from drugs, which subverted the social order. The 'decision' was made to categorise as problematic and dependence producing any drugs, which subverted the social order. This political rather than scientific decision set up a crisis a few years later when physical dependence on the benzodiazepines emerged. This broadened to an extraordinary crisis, which led to the obliteration of the anxiolytics and indeed almost the whole concept of anxiolysis. By 1990, physicians in Britain and elsewhere regarded benzodiazepines as more addictive than heroin or cocaine – without any scientific evidence to underpin this perception (Slide 9).

We may smile indulgently at this idea now, but the consequences could not have been more profound. To appreciate these, you simply need to look to Japan, where there never was a crisis with the benzodiazepines. In Japan, the concept of an anxiolytic remains respectable and the market for anxiolytics is much greater than the market for antidepressants. No SSRIs, not even "Prozac" are available on the Japanese market for depression as of 2001. The era of Depression that we have lived through in the 1990s in the West has arguably been a politically and economically constructed era that bears little relationship to any clinical facts. An era that has changed popular culture by replacing a psychobabble of Freudian terms with a new biobabble about low serotonin levels and the like.

As the 1990s ended, dependence on the SSRIs appeared. Is another group of useful drugs going to be lost to us the way the benzodiazepines were lost? Do we understand enough about what happened to the benzodiazepines to be able to guarantee that the SSRIs will not suffer the same thing? Do we understand how the concept of dependence on antipsychotics could have vanished just in time when a very obvious dependence

syndrome -- Tardive dyskinesia -- was causing so much grief to the psychiatric and pharmaceutical establishments? If we don't understand what happened here, we can offer no guarantees for the future.

Coming from my perspective the antipsychiatrist arguments that madness doesn't really exist are simply wrong. But the unarticulated force behind the antipsychiatrists' arguments was that they perceived that in some way the ways in which we govern ourselves had changed and that psychiatry was now part of the new order of government. Everyone agreed there had been a de-institutionalisation. But was it a de-institutionalisation of patients? Where patients are concerned, in Britain at least they are being detained at 3 times greater rate than 50 years ago. They are being admitted at a 15 times greater rate than before, and on average, patients are spending a longer time in service beds than ever before in history³. New conditions such as personality disorders are being admitted to hospital and the management of violence and social problems has become an issue for psychiatry (Slide 10). The figures are more consistent with a de-institutionalisation of psychiatry. Unselfconsciously, psychiatrists claim we are treating more patients than ever before. We are.

This was to lead to the greatest possible symbol for the times. On the next slide, you can see the protests in Paris in 1968. The students are on the march. Their march takes them to the office of Jean Delay, which they ransacked. Delay is forced to retire. He has no sympathy for the new world, in which students can expect to address the professors in informal terms (Slide 11).

But the fact that we are all here today suggests that we won, doesn't it? You may not know how we won. No history has ever been written of the period. No textbooks of psychiatry record the sacking of Delay's office. None refer to the fact that the key figures behind the revolutions of late 1960s, were psychiatrists or philosophers appealing to examples from psychiatry -- Franz Fanon, Michel Foucault, R.D. Laing, Thomas Szasz, Erving Goffmann, Herbert Marcuse. In the face of a repression like this, you may feel that the ghost of Freud is hovering somewhere, laughing at us, and perhaps you are right.

The truth is, we didn't win. The world changed. Both psychiatry and anti-psychiatry were swept away and replaced by a new corporate psychiatry. Galbraith has argued we no longer have free markets; corporations work out what they have to sell and then prepare the market so that we will want those products (Slide 12)⁴. It works for cars, oil, and everything else, why would it not work for psychiatry? Prescription only status makes the psychiatric market easier than almost any other market -- a comparatively few hearts and minds need to be won.

Within psychiatry, two factors have helped. One was the emergence of Big Science. Look at this graph from 1974, which shows the correlation between affinity for D-2 receptors and clinical potency. This is one of the most famous images in modern psychiatry. This version comes from Phil Seeman in Toronto (Slide 13). Solomon Snyder was doing roughly the same at the time. This was one of the triumphs of modern psychopharmacology. It remains as true and accurate today as when it was first published 25 years ago.

But these binding data introduce something else as well, for which neither Seeman nor Snyder, nor others who developed radiolabeled techniques can be held responsible. They introduced a new language, a language of Big Science, where physicians and companies had common interests. Where previously psychiatrists and antipsychiatrists and patients were using what was recognisably the same language, this no longer applied after 1974. Both sides had been governed by the visible presentations of the patients in front of them. But after 1974, to get into the debate you had to have a manifold filter and a scintillation counter. Far from this being a science that worked in the interests of patients, it led onto megadose regimes of neuroleptics. No longer answerable it seems to how the patients in front of us actually looked, following the science we moved on to these megadose regimes that may have caused as many brains to be injured as were ever injured with psychosurgery. Science won't necessarily save us, it must be applied with wisdom. We have moved into an era when patients depend on their experts in a new way – they depend on them to be genuine and conflict of interest begins to play as an issue.

Another factor stems from figures like Rene Descartes, whom you can see in slide 14, Blaise Pascal and others, who were behind the development of statistics and probability theory. It was this that laid the basis for the Enlightenment. A process began in the 18th century of mapping peoples rather than just the land. This led on to the notion of rule of the people by the people, as well as the creation of social science and epidemiology. It led to a moral movement in health and in psychiatry.

The same forces led at the end of 19th century to the first attempts to map the human individual, their attitudes and abilities, personality, or intelligence. Sales such as the IQ scale led to new concepts of norms and deviations from those norms and psychologists emerged to take a place in the educational system, the legal system, and in the government of ourselves – it was this that underpinned the psychodynamic revolution (Slide 15).

This was not just the replacement of theology and philosophy – the qualitative sciences – by a new set of quantitative sciences. The new statistics set up something else. They set up a market in futures. A market in risks. We were on our way to becoming a Risk Society (Slide 16). In the case of the IQ test for instance, deviations from the norm were now something that predicted problems in the future. Parents sought out psychologists in order to improve the futures for their children. This was how we would govern ourselves in the future. Through the marketplace⁵.

Psychotropic drugs entered this new market in many different ways. The oral contraceptives for instance are clearly not for the treatment of disease. They were a means of managing risks. Where once, the risks of eternal damnation had been those that concerned people the most, now it was a much more immediate set of risks – indicating that we had switched one set of future risks as the key ones that determined our behaviour for another set more immediate set (Slide 17). The best selling drugs in modern medicine do something similar – they don't treat disease. They manage risks. This is clearly true of the antihypertensives, the lipid lowering agents and other drugs (Slide 18). It is true also of antidepressants, which have been sold on the back of efforts to reduce risks of suicide (Slide 19).

The development of probability theory also gave rise to the clinical trial. We are now in an era, which is popularly portrayed as an "Evidence Based Medicine" era. What can go wrong if we have clinical trial evidence to demonstrate what works and what doesn't work, if we but adhere to this evidence (Slide 20). What more can we do than that?

Arguably, the term "Evidence Biased Medicine" would be more appropriate. Clinical trials in psychiatry have never showed that anything worked. Penicillin eradicated a major psychiatric disease without any clinical trial to show that it worked. Chlorpromazine and the antidepressants were all discovered without clinical trials. You don't need a trial to show something works. Haloperidol and other agents worked for delirium and no one ever thought to do a clinical trial to support this. Anaesthetics work without trials to show the point. Analgesics work and clinical trials aren't needed to show this. Clinical trials nearly got in the way of us getting fluoxetine and sertraline.

What clinical trials demonstrate are treatment effects. In some cases, these effects are minimal. One may have to strain with the eye of faith to detect the treatment effect. The majority of trials for sertraline and for fluoxetine failed to detect any treatment effect. This is not evidence that sertraline or fluoxetine do not work. In clinical practice many of us are under no doubt that these drugs do work. It is, rather, evidence of the inadequacy of our assessment methods. To show that something works, we would need to go beyond treatment effects to show that these effects produce a resolution of the disorder in a sufficient number of people to outweigh the problems such as dependence syndromes that these drugs also cause. If our drugs really worked, we shouldn't have 3 times the number of patients detained now compared with before, 15 times the number of admissions and lengthier service bed stays for mood and other disorders that we have now. This isn't what happened in the case of a treatment that works, such as penicillin for GPI.

Aside from the inadequacy of our clinical trial methods, professors of psychiatry are now in jail for inventing patients. A significant proportion of the scientific literature is now ghost written. A large number of clinical trials done are not reported if the results don't suit the companies' sponsoring study. Other trials are multiply reported so that anyone trying to meta-analyse the findings can have a real problem trying to work out how many trials there have been. Within the studies that are reported, data such as quality of life scale results on antidepressants have been almost uniformly suppressed. To call this science is misleading.

One of the other aspects of the new medical arena is that the most vigorous and hostile patient groups of the antipsychiatry period have been penetrated by the pharmaceutical industry. Other patient groups have been set up de novo by companies. Part of the market development plans for many drugs these days include the creation of patient groups to lobby on behalf of a new treatment. Meetings are convened for pharmaceutical companies specifically to advise and train on how to set up such groups.

All of this is perhaps part of the normal rough and tumble between clinical practice, science and business. But these are not the most important consequences for psychopharmacology of the development of probability theory post-Descartes that I wish to pick up. The critical development is contained in the following quote from Max

Hamilton: "it may be that we are witnessing a change as revolutionary as was the introduction of standardization and mass production in manufacture. Both have their positive and negative sides" (Slide 21).

Most of you who have used Hamilton Rating Scale for Depression will wonder what is this man talking about when he talks about a revolutionary aspect to using such a simple instrument as this. Note the date. 1972. Maybe Hamilton is close enough to the events that were happening at the turn to see something that we cannot now see. Maybe as a communist, he was sensitive to things that we are not sensitive to now.

Rating Scales have been such feature of psychiatric trials and clinical practice for so long now that it is perhaps difficult to see that there are revolutionary aspects to what happened. There is now a profusion of rating scales and checklists used throughout our schools and all walks of life. We quantify aspects of sexual behaviour, aspects of the behaviour of children, all sorts of things we never quantified before. Where once there was life's rich variety, now children in our schools fall outside all sorts of norms. And in the case of children falling outside norms, we now have a range of data suggesting there are things that parents can do to bring their children back inside appropriate norms. Things that we can do to minimise the risk for our children's future. Figures that just like the figures for IQ it is thought will generalise to the population at large.

The figures on treatment effects from rating scales used in our clinical trials have set up a new market. When you consider that we are now treating children from the ages of 1 to 4 with "Prozac" and "Ritalin", you will realise that we are not treating diseases here (Slide 22). I have written extensively on how corporations make markets but pharmaceutical corporations have not sold psychotropic drugs to children. The explosion of drug use in children is a manifestation of the force that makes markets, that underpins the market development of pharmaceutical companies and others. This is the force that creates pharmaceutical companies. The treatment effects from clinical trials have been taken to be findings that generalise across the community – they are taken to indicate that these agents will return children within the set of norms that will minimise future risks. What parent could not want to minimise future risks for their child.

The eating disorders perhaps offer an analogy for what is involved (Slide 23). Clearly people have starved themselves for millennia. For a variety of reasons, good and bad. Anorexia nervosa emerged as something different to previous starving behaviors in the early 1870s. No good epidemiological figures exist for this next claim, as the epidemiology of eating disorders didn't exist until recently, but the syndrome appears to have increased in frequency in 1920s and 1930s and increased yet again in the 1960s with new variants mushrooming. Competing theories have focused on the possible psychodynamics of the problem, the biology of the problem, or socio-political aspects of the problems. These competing theories have rarely spoken to each other however.

What is rarely recognised is that in the 1870s Weighing Scales emerged and with them norms for weight and deviations from the norm and an awareness that deviations in the direction of what had formerly been thought to be healthy and beautiful carried risks. The insurance industry published and promoted these figures. In the 1920s, Weighing Scales increased in frequency and the scales, with their norms printed on the front of

them, appeared in pharmacies, drug stores and other retail outlets. In the 1960s, the Scales were miniaturised so that we all ended up with Weighing Scales in our homes.

Clearly Weighing Scales don't create eating disorders in that even blind individuals can become eating disordered. But it's impossible to imagine eating disorders on the epidemic scale that now exist without the presence of both Weighing Scales and modern normative ideas about weight. And it is easy to imagine the removal of the feedback from Weighing Scales as being in many cases therapeutic in its own right. These new figures and norms have been a means for women to govern their bodies.

But the selectivity of the figures also grounds a peculiarly modern neurosis. Just as figures for GDP give us feedback from some areas of endeavour but not others and in so doing encourage the promotion of automobiles and the chopping down of trees, so also figures from this one area of life, which are easy to produce, have the power to control behaviour. Markets can be set up in other areas, such as air-quality and wilderness. Until such time as they are, it requires great wisdom and considerable internal resources to factor into our lives these other values.

What is the future? Well, there is bad and good news. Although in truth, both scenarios that I will outline may seem so strange that you may feel both of them are bad.

In Slide 24, you see the face of one of the greatest serial killers ever. This man was a doctor. His name, Harold Shipman. He worked close to where I live. Shipman's case illustrates that situations where trust is important can provide the conditions for extraordinary abuses.

One of the conditions where trust applies is in prescription only arrangements, this arrangement that was introduced for the bad drugs to restrict their availability but now applies exclusively to the good drugs. This arrangement was put in place so that physicians would quarry information out of pharmaceutical companies on behalf of their patients and would provide the counter-balancing wisdom to market forces.

Since this arrangement was first put in place, modern pharmaceutical companies and corporations have grown to be the most profitable organisations on the planet. There has been a change from companies run by physicians and chemists to companies run by business managers who rotate in from Big Oil or Big Tobacco. The companies are advised by the same lawyers who advise Big Oil and Big Tobacco and other corporations.

In the case of tobacco industry, it now seems clear that the legal advice in the face of the problems of smoking was not to research the hazards of smoking, as to do so would increase the legal liabilities of the corporations involved (Slide 25)⁶. Similar advice given to the managers of our pharmaceutical corporations would be completely incompatible with prescription-only arrangements. And the same lawyers who advise some of the pharmaceutical corporations are the lawyers for the tobacco corporations. In the case of Eli Lilly, Shook, Hardy and Bacon. Advice like this would convert prescription-only arrangements into a vehicle to deliver adverse medical consequences with legal impunity.

I happen to believe that Prozac and other SSRIs can lead to suicide. These drugs may have been responsible for 1 death for every day that "Prozac" has been on the market in North America. In all likelihood many of you will not agree with me on this - you haven't seen the information that I have seen. However we can all agree that there has been a controversy about whether there may be a problem or not. What I believe you will also have to agree with is the fact since the controversy blew up, there has not been a single piece of research carried out to answer the questions of whether "Prozac" does cause suicide or not. Designed yes, carried out - no.

How does this apply to the future? Well with the mapping of the human genome, we have the possibilities of creating new markets (Slide 26). We need this knowledge from the human genome to govern ourselves. It will set up the markets that we need to govern ourselves. It will tell us about some of the underpinnings to our beliefs - why we believe some of the things we do in the religious and political domains. We need this knowledge. But the products of this research will belong almost exclusively to pharmaceutical corporations. If they are advised in the way that they appeared to be advised at present, this knowledge, which is so democratically important, will operate against the interests of democracy.

Finally, you see here another image of the future (Slide 27)⁷. In the course of the last 50 years, plastic surgery evolved into cosmetic surgery. Plastic surgery began as a set of reconstruction procedures aimed at restoring a person to their place in the social order. It evolved into cosmetic surgery when the reliability with which certain procedures could be carried out passed a certain quality threshold.

The word "quality" has been pervasive in healthcare lately. Quality in modern healthcare however does not refer to good interactions between two human beings. Quality as we hear it nowadays is being used in an industrial sense to refer to the reproducibility of certain outcomes. Big Mac hamburgers are quality hamburgers in this sense -- they are the same every time. In the case of the antidepressants, the quality is currently poor. But the development of pharmacogenetics and neuroimaging is going to change all that. It is not that our drugs are necessarily going to be dramatically more effective, but the quality of responses that we can produce is going to be much greater.

Viagra gives good indication of what will happen when we get to this stage. Viagra is a drug that produces quality outcomes – reproducible outcomes. When this happens, it becomes possible to abandon the disease concept. Pharmaceutical company executives and others talk openly instead about lifestyle agents. This is the world that lies in store for us. It is not the world of traditional medicine, where drugs treat diseases to restore the social order. It is a world in which psychopharmacological interventions will potentially change that order. Whether you should think this is good or bad is not for me to say. I happen to think there may be many benefits.

This returns us to the picture of Delay and his colleagues (Slide 28). You remember I said that Pichot and Deniker might be left standing behind Delay for an hour while he entertained someone like me. This was not an experience that Deniker or Pichot, however, experienced as some exquisite form of torture or as a humiliation. It was a different time. It was a time when honour and loyalty were more important than they are

now. They counted for more than the search for individual authenticity we now have. The hierarchy was something that these men believed in. In the same way, a fear of God was once seen as a good thing that held the social order in place. This fear became anxiety and then anxiety disorders – something to be treated.

What this shows is that there are forces at play, that can change not only the kinds of drugs we give, not only the conditions we think we are treating, but our very selves who are doing the giving. Forces that can change us more profoundly than we can be changed by a handful of LSD containing dust.

For these reasons, you may think these changes deserve scrutiny. The alternative is to slide gently into the future. This seemed a viable alternative until recently when arguably the emergence of managed care has made it clear that sliding into the future may not be as gentle and painless as we might once have expected.

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