It was most commonly due to increased lumbar lordosis, and sometimes to spondylolisthesis or disc derangement. Surgical removal of prolapsed disc was rarely necessary. If it developed during early pregnancy a surgical corset might be useful, whereas in late pregnancy bed rest until delivery might be preferable. Patients who had previously been troubled by disc lesions often went through pregnancy without incident.

Hiatus Hernia

In a spirited discussion on the relative merits of the abdominal and thoracic route of approach for correction of hiatus hernia, Mr. DICKSON WRIGHT eloquently advocated the abdominal approach. Although perhaps technically more difficult, it provided a better repair. He always did a vagotomy to control reflux. Mr. G. FLAVELL (London) preferred to repair the hernia through the chest. The case for surgical repair of all hernias causing symptoms was strong. 30% of hiatal hernias gave rise to symptoms, and 10% resulted in stricture. The gravity of the condition in childhood was illustrated by Sir DOUGLAS ROBB (Auckland). In a series of 37 patients the trouble was found to be present at birth or soon afterwards, though a few cases presented in adolescence or early adult life. 10 of these patients required major operations in which the stricture was removed and replaced by intestine, as a plastic repair.

HALLUCINOGENIC DRUGS

FROM A CORRESPONDENT

INTEREST in the substances which induce psychotic symptoms has intensified for two main reasons: firstly, study of their action may shed light on the mechanism of psychosis, especially of schizophrenia; and secondly, there is the question of treatment, for it is concerning those disorders most resistant to ordinary methods (obsessional states, phobias, depersonalisation syndromes, and personality disorders) that claims have been made. The conference organised in London on Feb. 15–17 by the Royal Medico-Psychological Association was therefore timely, and such a meeting was, furthermore, a new departure for the Association. The term " psycholytic " was much used in preference to " hallucinogenic ", and is more appropriate in the therapeutic context, signifying the loosening of the ego boundaries.

Psychopharmacology

Hallucinogenic mushrooms have been known for hundreds of years and played an important role in Aztec culture. As Dr. A. CERLETTI (Basle) pointed out, mescaline was isolated in crystalline form as long ago as 1896, its chemical structure was known by 1918, and its clinical effects noted not long after. Within the past 3 or 4 weeks his laboratory had isolated two forms of lysergic acid amide from the Ololiŭqui plant—the first known naturally occurring forms of this celebrated and highly active drug. The hallucinogens so far known suggested the importance of substitution in position 4 of the indole nucleus and supported the view that the effects were related to tryptophane metabolism.

From his studies with indwelling electrodes, Dr. P. BRADLEY (Birmingham) found that while both lysergic acid diethylamide (L.S.D.) and amphetamine caused electrocortical alerting, the L.S.D. effect depended much more on environmental stimulation. Experiments using conditioning techniques seemed to show that while amphetamine acted directly on the midbrain centres, L.S.D. acted via those collaterals from the sensory pathways which provided the affective link with the reticular activating system—and this would account for the sensory distortions of L.S.D. Such work did not exclude effects elsewhere in the central nervous system (for example, Baldwin had shown links between L.S.D. and the temporal lobes).

From the psychological standpoint, Dr. P. MCKELLAR (Sheffield) regarded the effects of mescaline on thought processes as amplifying and " caricaturing " normal deviations. Thinking became loose and slipshod with loss of controls, and irrelevant associations intruded. This, and loss of ability to abstract (" concrete " thinking), called to mind schizophrenic thought, as did the occasional persecutory delusion, although the " half-belief " or misinterpretation was commoner. Such parallels between the thought of schizophrenics and " model " psychoses, however, lacked reliable objective evaluation in both cases.

Describing the mode of action of mescaline, Dr. J. R. SMYTHIES (London) admitted that almost nothing was known. Radioiodine studies had shown that most was stored in the liver and very little reached the brain, but whether some detoxication product caused the symptoms could not yet be said. It was surprising that so little had been done on the structure/activity relationship of parts of the mescaline molecule, in relation, for example, to cell permeability and site of action: more compounds needed to be synthesised and examined. Conflicting views as to whether mescaline inhibited or facilitated cerebral activity had been reconciled by his studies of rabbit occipital cortex, which showed phases of both inhibition *and* facilitation following light flashes, the inhibition coming first.

New Drugs

Psilocybin, one of the hallucinogenic principles of the Mexican mushroom, *Psilocybin mexicana*, had been studied in 137 subjects (normal and psychiatric) by Prof. PIERRE PICHOT (Paris) and his colleagues. Molecular structure and cross-tolerance showed similarities to L.S.D$_{25}$., but psilocybin was far less active and briefer (4 hours) in effect. Central automatic stimulation was noted, mainly sympathetic, and always caused mydriasis, but other changes varied. Mood change was followed by distortions, illusions, hallucinations, and alterations in body image—often of a gross nature. Addiction could be a risk. Though the emotions were of uncontrollable intensity, environmental stimuli much influenced the picture. Its future applications might be diagnostic, by unmasking or augmenting the outline of the underlying disorder, and therapeutic, by catharsis of unconscious material with full recall.

Sernyl was another drug of brief effect with similar therapeutic possibilities but, as Dr. BRIAN DAVIES (London) pointed out, it was a synthetic substance rather like pethidine, unrelated to the other hallucinogens, and it had been designed for intravenous anæsthesia. It was, in fact, the most potent analgesic known and gastrectomy had been carried out in clear consciousness with sernyl alone. Intravenous action was immediate, with numbness of the extremities, giving way to euphoria, depersonalisation, loss of empathy, and a two-dimensional impression of the surroundings. Orientation was clear and the subjects in touch, but he found it hard to describe his experiences. Symptoms were most acute within an hour, and the only neurological features were ataxia and nystagmus, though one of Dr. Davies's 12 normal volunteers had gone into a catatonic state for 20 minutes. Tests had suggested that the sernyl-state was closer to schizophrenia than that due to L.S.D., and might provide a link with sensory deprivation. Sernyl had proved useful in 6 of 8 difficult obsessionals, of whom 1 was on outpatient oral maintenance dosage.

Therapeutic Applications

Drawing on 8 years' experience at Powick Hospital, Worcester, Dr. R. A. SANDISON described the treatment process as a therapeutic relationship between physician and patient during which L.S.D. was given. Using it once or twice weekly for 4–8 hours, emotional tone deepened, thinking changed, regression (often painful) occurred, and unconscious material was abreactively released, often with intense illusions and hallucinations. Below the personal unconscious, archetypal material could be detected—this being the most important level of all. A therapeutic environment was required which permitted acting-out, yet was secure enough to prevent suicide and psychosis—the two dangers inherent in the method, though of some 500 cases treated he only knew of 1 in which subsequent long-standing psychosis could be related to the drug. But L.S.D. in the absence of a psychotherapeutic environment could be disastrous, and " working

out " of the material released might take up to 3 years, requiring the occasional intervention of the therapist.

A douche of cold water was poured over the therapeutic hopes by Dr. J. T. ROBINSON (Roffey Park), who was completing a controlled study of L.S.D., ordinary abreaction, and standard methods, in 87 patients treated in the same therapeutic environments. So far the standard methods seemed more effective than either abreactive technique at 10% level of significance, but his clinical material was not described.

Specific Problems

Cases with depersonalisation were usually thought to have a poor prognosis and, in general, Dr. M. H. DE GROOT (London) had confirmed this in a small series of cases, despite the use of psycholytic drugs. Subjective improvement did occur with cases of recent origin but where the symptom was but one feature of longstanding personality disorder, little benefit could be expected and hallucinogens must always be accompanied by other treatment.

A new approach to group therapy was offered by Dr. A. M. SPENCER (Worcester) in which 10 chronically neurotic women were encouraged to regress and act-out under L.S.D. in the presence of loving parental figures and in a child-guidance setting.

Criminal psychopathy is an even more obstinate (and dangerous) condition, and the work of Dr. G. W. ARENDSEN-HEIN (Holland) was of particular importance. A modern therapeutic regimen had helped many of his cases, but systemic L.S.D. treatment had been started for those who, being physically fit, non-psychotic, averagely intelligent, and anxious for recovery, were of longstanding severe psychopathic criminality and quite untouched by ordinary therapeutic contact. Under this regimen, abreaction took place, conflicts were revealed, resistance fell, and introspection and insight increased: a new capacity for human relationships was formed. The subjects showed less fear of L.S.D. than of other treatments and cooperated well. 14 of 21 cases were clinically improved though a longer follow-up was awaited. Dr. Arendsen-Hein was sure we should re-think our belief in the intractability of psychopaths: this method enabled us to penetrate deeply and bring about changes in personality formerly thought impossible.

L.S.D. had enabled similar contact to be gained by Dr. KENNETH CAMERON (London) with 10 severely obsessional adolescent boys resistant to milieu and psychotherapy, of whom 4 had materially benefited and one been made rather worse. L.S.D. was but one technique in a total situation—a point made more firmly by Dr. ISMOND ROSEN (London), who found that cases with mixed depressives and obsessional symptoms could respond to the drug, but the prognosis depended on the psychoanalytic treatment of the transference situation and of the material produced: there could never be a " psychoanalytic drug ".

Dr. MICHAEL FORDHAM (London) had even greater doubts about the long-term usefulness of L.S.D. which could lead to defensive splitting of the ego with increase in resistance: awareness of the unconscious was not necessarily therapeutic.

Dr. T. F. MAIN cast doubt on the validity of very early memories, which appeared as though a child of several months had that fully developed ego which all studies showed it had not. Dr. H. J. SHORVON (London) thought all regressive phenomena to be implanted by the therapist to support preconceived ideas on the origins of neurosis; and Dr. STEPHEN BLACK (London) recalled that spontaneous hallucinations occurred in perhaps 20% of hypnotic subjects.

Philosophical Aspects

It has long been wondered whether hallucinatory content derives entirely from the consciousness and experience of the subject, or whether some sources quite outside the individual might play a part: Mr. GORDON RATTRAY TAYLOR suggested that material should be catalogued from many places and many cultures, now that hallucinations could be induced at will. He was impressed by the similarity between drug hallucinosis and religious ecstasy and said that we should not ignore disturbing possibilities outside the framework of scientific theory: for example, he had been one of a number of people some years before who had " seen " a certain non-material cat under different circumstances, none of whom could possibly have influenced the others. Again, though much mystical experience could be accounted for by ego-splitting and depersonalisation, the sense of " inward meaning " was less easily explained. There seemed current possibilities that racial or other memories might be sorted in the glial cells of the C.N.S., and an interesting report from Russia told of hypnotically-induced memories being abolished by exposure to a very large magnet.

Mr. CHRISTOPHER MAYHEW, among others, shared personal experiences of psychosis and drug-taking—his own on behalf of B.B.C. television. 400 mg. of mescaline had given him the visual phenomena so well described by Aldous Huxley, but, more impressively, had altered his time-sense so that events lost their sequence and he drifted off into episodes of " timeless " ecstasy. He believed that the dreamlike state removed a filter, as it were, and enabled him to exist " outside " time—with the implication, of course, that the human personality could also exist outside time. Mr. RAYMOND MORTIMER, however, though he shared Mr. Mayhew's view of the value of the experience (each had found lasting æsthetic benefit from it, and become better able to grasp modern abstract painting) did not believe that any drug was likely to give us better understanding of the universe.

The Future

People who have had a certain experience may too readily assume that everyone else will benefit as much as they, and enthusiasts (as most of the latter speakers in the conference were) are not always the first to point out the dangers. Though a cult of " lysergic analysis " may be unlikely to spring up, it must be emphasised that these drugs are potent and carry risks of addiction, psychosis, and suicide—nor is it at all certain that only " prepsychotic " persons are at risk. Much more knowledge of good (and ill) effect is needed before L.S.D. can be introduced into the mental welfare curriculum. It remains a talking-point whether drug psychosis has most in common with schizophrenia, affective disorder, toxic delirious state, or extended temporal-lobe aura, and it is even more doubtful how far it is therapeutically effective. Though some papers were impressive and offered hope for the formerly hopeless, it is manifestly wrong to suggest that this treatment cannot be submitted to controlled scrutiny—and the sooner the better.

Public Health

Diphtheria in London and Birmingham

IN London, 3 children in all have died in the outbreak originating in Kensington; 16 are affected, of whom 7 are carriers.

In Birmingham, no further deaths have been reported since the 6-year-old boy died last week. 6 potential carriers are under observation.

The organisms isolated in both outbreaks have been *Corynebacterium diphtheriæ mitis*, and not the *gravis* type as we reported last week.

Respiratory Infections

Deaths from influenza in England and Wales numbered only 174 more in the week ended Feb. 11 than in the previous week—they totalled 1393—and the epidemic appears to be declining in most regions of the Midlands and the North. But the southern parts of the country have been more widely affected than previously. Further isolations of virus of variety A2 have been made.

Deaths from pneumonia totalled 2058 (2060 the previous week, and 657 in the corresponding week last year). Deaths from bronchitis (1719) were 170 less than in the previous week, but above the level in 1960 (705).

In the administrative county of London, 51 died of influenza, 140 of pneumonia, and 185 of bronchitis.