DEMENTIA PRÆCOX

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DEMENTIA PRAECOX

A MONOGRAPH

BY

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THE NATURE AND CONCEPTION OF DEMENTIA PRÆCOX*

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FROM time immemorial medicine has arranged its facts under as small a number of names designating that which struck the teachers of the day as essentials. These names or diseases had remained descriptive and traditional till Kahlbaum tried to get more definite nosological principles into them in 1863, without attaining success, on account of his heavy terminology. At the same time the old Græco-Roman names were liberally readjusted by others,—Wahnsinn, paranoia, amentia, had been added by German and Austrian writers, and when Kræpelin started on his great nosological revolution, he found a much richer and far more accurately subdivided material in German psychiatry than was found in the Anglo-American contemporaries. Indeed Kræplin found the new types too many, too one-sidedly symptomatic, or too exclusively etiological. His aim still was the formulation of *types*, but types representing real diseases.

Kræpelin bends the facts of psychiatric observation to the concept of disease processes. His psychiatry works with the postulate that each case presents one of a relatively small number of disease entities with definite cause, course, and outcome. According to him, the assumption of transition forms is merely an admission of nosological cowardice. Each disease has its specific lesion; and a true clinical entity has its unity of cause, course, and outcome, and is necessarily the clinical picture of a unitary and specific histological process or condition (Nissl), with general paralysis as the paradigma.

This is the bald expression of the dogma, impressive and simple, but not altogether convincing or satisfying, especially when we come to his large group of dementia præcox.

The various lesions found in *dementia præcox* are not clearly understood and reduced to a definite intelligible

mechanism, except they are essentially degenerative or simple reactive processes. With *general paralysis* we have a definite initial factor, the syphilis, and a very specific histological reaction. In *dementia præcox* the cause is left hopelessly vague by Kræpelin; the course is decidedly less fixed than that of general paralysis, and the symptomatology in its first formulation in 1895, and later, emphasized too many things which prevail also in other conditions, so that altogether too many errors occurred. In four hundred and sixty-eight of Kræpelin's Munich diagnoses even between 1904 and 1906, 28.8 per cent were cases subsequently considered to be manic-depressive (Zendig) — altogether too broad a margin of uncertainty. Since the pendulum has swung towards the diagnosis of manic-depressive insanity, we see again, even according to Alzeheimer, cases of manic-depressive insanity which do not wholly escape a certain kind of deterioration, and we stand in this respect about where the vanguard of European psychiatry stood just before the great proclamation of Kræpelin's nosology. The manias and melancholias in the very narrow sense of Meynert and Ziehen and Wernicke and Mendel, recovered from the individual attack in about ninety per cent of the cases, some remained chronic, a few became paranoic, and a few deteriorated. The German writers had considered it possible to single out these favorable types not only from the chronic manias and circular cases, but also from the less simple disease forms called Wahnsinn and amentia, which had a larger percentage that was apt to do badly, and thus included far more deteriorative disorders. Kræpelin's inspiration was the introduction of prognostic principles, and the recognition that if you wanted to speak of a *disease entity* you had to make much broader units — large enough, by the way, to make the refractory cases amount to a lesser percentage. The greatest gain among the manic-depressive psychoses, optimistically called recoverable, or at least non-deteriorating, was the recognition of "mixed forms." His other gain was the insistence on the fact that the bulk of the cases with deterioration in the so-called functional psychoses had a common stamp and course and evolution, an assurance which was perhaps too readily accepted, as happens with

cases whom one does not study eagerly because they seem doomed to permanent custodial care. That deteriorations and even cases which might, *or* might *not* deteriorate, were all one disease and the deterioration not merely the possibly *inevitable* feature of human makeup and mental decline under special constellations, was but a short step further.

What is or was Kræpelin's dementia præcox? The rare dementia paranoides of Kræpelin's Fourth Edition had suddenly been enormously enlarged by the absorption of almost all those paranoic states which showed evidence of dissociations (hallucinations, etc.); Kahlbaum's catatonia was liberally extended so as to include everything that showed catalepsy, negativism, automatism, stereotypy, and verbigeration, and the cases of silliness, mannerisms, and scattering were the enlarged hebephrenic group. The whole group was transferred from the degenerative psychose to a semi-exogenous group. Enumeration of physical symptoms led to the captivating comparisons with general paralysis, which become less and less impressive, since the ingenious vagueness of the concept of general paralysis of Kræpelin's Fifth Edition has been swept away through the method of Wassermann, Plaut, and others. The claim that manic-depressive insanity occurs *only* on degenerative basis, and that this degenerative character was lacking in dementia præcox was based on the claim that heredity figured in only seventy per cent of the dementia præcox, and in eighty per cent of the manic-depressive cases, and it was often said that any one can develop dementia præcox, as well as any one can develop myxœdema. The anatomical lesions, too, failed to give a leading clue. In short, there was beside the most admirable assertion of a live and fruitful standpoint, too much wandering in uncontrollable domains, undoubtedly at the expense of an undesirable suppression of very valuable psycho-biological facts. Wilmans's paper was a first and most valuable note of warning from the Kræpelinian camp, showing diagnostic pitfalls, but quite recently Alzheimer re-emphasized the adherence to nosological orthodoxy, by grouping dementia præcox with the *essentially* organic diseases, and not merely as what I would call an incidentally organic disease.

With all these strictures, few of us would deny to-day the great value of the generalization which underlies the entity dementia præcox. Yet, while others searched for pathognomic signs in the handshake, the reaction to pin-pricks and the like, we made efforts to penetrate into the factors at work, into a dynamic interpretation. My main assertion has, however, been the fundamental importance of the psychogenic material, and a refusal of hard and fast nosological doctrines. In the Psych. Bulletin, 1908, Vol. 5, p. 257, I briefly characterized the group as presenting essentially *substitutive reactions*, the types of defect and deterioration of which show: "Existence or development of fundamental discrepancies between thought and reaction, defects of interest and affectivity with oddities; dreamy fantastic (crazy), or hysteroid or psychasthenoid reaction, with a feeling of being forced, of peculiar unnatural interference with thought, etc., frequently with paranoid, catatonic, or scattered tantrums or episodes." I further advocated that it was possible to formulate the main facts of most cases in terms of a natural chain of cause and effect, utilizing the psychobiological material at hand, better than a dogmatic assumption of a specific but hypothetical unitary toxic principle.

To assure common ground for a general pathological and nosological discussion we should be agreed as to the sense in which a psycho-dynamic school speaks of mental activities, and how it correlates them with the *non-mental* data, the non-mental neurological issues, and those of the non-nervous organs. Suffice it to say that by *mental activities* we do not mean an expurgated happening in an abstract "mind," but rather those activities and reactions, those functions of our body in which phenomena of more or less conscious association are a *necessary* feature. The *non-mental nervous functions* are that which can be produced by electric stimulation or reflex irritability with *or* without conscious processes. The *non-nervous functions* would be the circulation, respiration, nutrition, etc. Psychogenic disorders are those which depend on conditions or events which can only be described satisfactorily in terms of psycho-biology; actions, emotional reactions and attitudes, and intellectual

or "thought" constellations,— and their conflicts and abnormal combinations or atavistic or fundamentally or directly abnormal reactions, with their effect on the general mental balance. Every mental activity or reaction leaves its engram and has a certain dynamic value in the after-life of the individual and his general economy (which we call organic rather than "physical," in order to avoid the contrast of mind and body). But certain functions are much more determining and dominating (such as the instincts and fundamental longings); and the bulk of functional psychopathology consists of the sometimes simple and sometimes complex tangles of the conflicting dynamic elements. The ways in which they show may be special mental states or reactions, disorders of sleep and dream-life, hysterical and other amnesias, psychasthenic ruminations, and other substitutive activities, and under special breaks of compensation the classical psychotic reactions. They will also entail disorders in the *submental* functions, such as tremors, nervous dyspepsia, fits, contractures, vasomotor disorders, and disorders of nutrition and anabolism, etc.; or they may even simulate focal diseases of the nervous system (hemiplegia, etc.). The essential point is that the mechanism and its function would not be established without more or less conscious "mental" association.

In contrast with these psychogenic disorders we find the more or less definitely exogenous disorders (toxic or metabolic), and the focal disorders of the nervous system hardly requiring special discussion here, since their mental symptoms or syndromes essentially determined by non-mental disorders implicating the nervous system.

Any psychopathological consideration must to-day give unbiassed consideration to these *three aspects:* (1) collisions of functions as such, with possible incidental disorders of the organic balance of these functions (hysteria psychasthenia, nervous dyspepsia, and other conflicts of function); (2) the plainly and essentially submental toxic or metabolic ill-adjustments (alcoholic, metasyphilitic processes, hyper- and hypothyroidism, etc.); (3) the role of factors attacking more or less localized mechanisms of neurological balance, such as the hypothetical frontal lobe mechanisms of Kleist

(symptom-complexes produced by focal lesions, tumors, etc.).

Pathology of to-day must work with all these types of integration without favoritism, and show just how far any one of the individual components can do justice to the explanation of any experiment of nature.

Let us now return to the data in dementia præcox. Economy of time forces me to suppress the details of the actual mechanisms in the original constellation and evolution of dementia præcox, as they are assigned to Dr. Jelliffe and to Dr. Hoch. I should really give them the floor and then give my review of the additional issues: first, consider the factors in the prediagnostic stage, i.e., the material out of which the disorder grows, which Dr. Jelliffe is expected to treat, and the mechanisms to be described by Dr. Hoch, which show how the process is started and more or less established, and then the wider aspects with a summing up of the net result.

Whatever the material furnished would be, I have to discuss the three lines of interpretations, the special metabolism and toxic states of the initial period and the established dementia præcox, any autonomous neurological data, and the scope of psychogenic events with their submental implications.

Of the metabolism and toxic states the best investigators have so far least to say. The claims differ and certainly do *not* show anything specific or decisive so far. Hyperthyroidism, the sex glands, peculiar blood states, and other conditions have been accused with the most fragmentary evidence. They form interesting issues of general pathology, but no adequate material for a causal reconstruction of the facts in our cases so far.

The neurological data are meager. The most systematic consideration in this direction is that by Kleist, brilliantly speculative and referring only to the motility psychoses, and that not in a nosological sense. The isolated facts, the fronto-cerebellar disorders, tremors, reflex alterations, dermatographia, seborrhœa, the eye symptoms (including Dodge's and Diefendorf's interesting observation on the eye movements), appear like elements in the gen-

eral procession, but not like helps for an explanation. We simply have to try and respect them as material on which to bring our hypotheses to a test. The histological data are not unequivocal, but mainly of a character which might as well be merely *incidental* to the functional disorders, and Koch's interpretation of the chemical findings culminates mainly in defective oxydation. The differentiation of various disease forms according to special localization of the maximum disorder might as well be the consequence as the cause of special symptom-complexes. From a practical viewpoint, it certainly is more important to make the most of the initial weakness and to see whether it can be determined and followed in the functional constellation.

The data of conduct and behavior and of reactive material of the patients have certainly proved most directly helpful in the understanding of the developments.

We find here two tendencies,— the one of Freud and Jung, which emphasizes *concrete* experiences and reactive complexes thereto, and the less specific attempt to formulate the loss of balance attempted by me, on ground of habit deterioration and tantrums or more lasting reactions biologically unfavorable to restitution to a normal attitude, sometimes with evidence of short-circuits, but always with more or less characteristic mechanisms which may ultimately deserve differentiating instead of our having to bring the after all heterogeneous mass into too large a disease unit. The two viewpoints form no contrast; the concept of complexes really furnishes most fruitful material and issues of research, while in other cases the habit conflicts offer a better formulation of the broad lines and possibly the only material accessible.

As in almost *all* disease forms with which we deal, including the plainly exogenous ones, we are far from dealing with simple etiological constellations in the mental disorders of the deterioration group. The main contrasts or extremes are the cases with strong constitutional bias requiring but little extraneous cause,— and those with at least superficially more normal makeup and a preponderance of overt more or less extraneous or circumstantial etiological factors. The essential in both extremes and in the intermediary cases

is the break of compensation of adjustment with more or less deficit and, in most cases, with the peculiar attempts at balance and reconstruction which constitute the glaring surface picture of the clinical description and the special mechanisms of the analytical consideration.

While undoubtedly a large number of cases are beyond complete analysis and understanding, there is a growing number of cases in which definite types of breakdown are being demonstrated, which Dr. Hoch will discuss more specifically. The general form of the breakdown is perhaps superficially much like that of other types, for up to this day "mania" and "melancholia" and "confusional insanity" and "paranoia" embrace in the vulgar psychiatry the recoverable cases *and* also those tending to deterioration. But beneath this superficial coating the extremes of non-deteriorating or deteriorating processes show clearly different constellations and a different working out of the events, so that even the ordinary routine man knows the contrasts. There are, as far as I can see, a few general features in evidence that mark the dementia præcox course: The oddity, unnaturalness, and incongruity of the entire picture, in the face of relative clearness, and the tendency to turn on definite complexes, and these especially in spheres which are difficult to reach for an adjustment. The more the odd and unaccountable features prevail and involve the fundamental instincts and longings, the greater the chance for an unfavorable course; further, the more clearly we have evidence of not otherwise justified dissociation processes and of paranoid developments, the more likely is the fate of the patient sealed.

There is a striking narrowing of the resources of adequate reaction and then either a scattering or a prevalence of tension, and from the intellectual point of view, varying degrees of more or less distinctly morbid reconstruction of a suitable personality, with more or less paranoid results. The fixation of the disorders and of the defect is an inevitable consequence or correlate of the extent of recuperability of the psychobiological material and mechanisms.

The condition undoubtedly goes in some cases with a decided breakdown of cerebral material, marking an acute

delirium or perhaps an acute stupor suggesting submental factors. In other cases the phenomena of such wholesale and elementary breakdown are decidedly in the background and covered by the pseudo-adaptations of the catatonic or paranoid or hebephrenic character, and characteristic forms of dissociative mechanisms to be discussed by Dr. Hoch.

The crucial problem is *whether* it is well to consider such a large group of cases as a unitary and necessarily deteriorative disease process, giving up the possibility of individual prognosis, or whether we cannot single out some special factors at work, out of which we can construct a sufficiently accurate formula of nature's experiment? Some of us decide in the latter direction, for reasons to be shown on well-studied cases, such as would be too long to introduce in a symposium.

The *two main arguments* which are raised *against the dynamic importance of the psychogenic material* are the production of an actual deterioration and the existence of actual alterations in the brain and the undoubted fact that the release or start of the downward run is occasionally the outcome of an initial exogenous damage, such as an acute infection, typhoid fever, etc. The first two points, deterioration and the existence of lesions, might, I think, be dealt with as one issue: How can we account for the stabilization on a lower mental level, and what is the relation of the degenerative histological processes observed in many acute cases? The other point I dismiss because it is too much the exception and holds for too few cases; the majority starting without any clear somatic disease.

The available somatic facts in most cases are by far in favor of an endogenous break of compensation of anabolism and metabolism rather than in favor of a distinct exogenous disorder.

I am *not* a priori opposed to the favorite explanation of all and every lesion of the nervous system on ground of the action of special toxines. Considering the liberal interpretation of the concept toxine and the inclusion under it of all disorders of enzymes and anti-enzymes and hormones, it *may* become possible to demonstrate some specific

short circuits or chemical principles beside mere deficient oxydation (Koch) in such processes as are grouped under dementia præcox. The point is that to-day this simple formula is *not* available and therefore a mere postulate, and not of a character to cause us to cast aside the *practically valuable formulations of the facts in terms of defective balance of anabolism and catabolism and in terms of disastrous constellations of activities and reactions*, which can actually be weighed and used for an estimate of the disorder, its cause, course, and outcome. An unreserved objection would, however turn against the *original* Kræpelinian theory of disorders of metabolism, which puts myxœdema, general paralysis, and dementia præcox on the same principle of disorder of some as yet undetermined organ or mechanism, which in turn affects the metabolism so as to involve the brain, to produce with merely submental *poisons* special symptom complexes and to constitute a danger of permanent damage. For this the constitutional mental bias is too distinctive to be neglected. The possibility of alterations of the nervous system as a necessary occurrence incidental to normal and abnormal psychobiological reaction may, of course, appear very small to those who consider nervous function chiefly a physical process along nerve paths which show little chemical alteration in function. But on this question the last word is not spoken, at least not in the light of the recent work of the Cleveland school, which may well revive the interest in the studies of Hodge on fatigue, overstimulation, and the like.

The practical issue in the dementia præcox problem today is in the main this: Are we helpless in our estimate of the nature, depth, and prognosis of the disease as we see it clinically in the available data of psychobiological reactions? To decide that question I ought to show you the exact amount of accuracy with which the development of deterioration and general course of the condition could be foretold with a good anamnesis and careful observation of the reaction type. In the New York state hospitals an effort is made to distinguish dementia præcox and conditions akin to the dementia præcox reactions. Psychobiological estimates make it possible to distinguish differences of risks,

and that to a sufficient extent that the validity of a psychogenic theory and the incidental character of the lesions appears reasonably supported.

For didactic purposes the simple insistance on earmarks and signs of a "disease" have many advantages; but it is a dangerous method leading to too many blunders and not enough reserve.

That the interpretation of the disease group along psychobiological lines leaves the facts in the form in which they are experienced and gives us valuable helps in the handling of the cases, is obvious to all those who work with the method. That, of course, the therapeutic net results are usually *negative* and rarely clearly positive, is so much a necessary or inevitable fact that our conception should not give rise to false therapeutic hopes.

Without encroaching on the concrete material of makeup, etiological constellations and mechanisms, it is *not* possible to discuss adequately the question *what constitutes the actual establishment of a process*, which deserves the term dementia præcox, a point of great importance for a clear conception of the disorders and for the differential diagnosis.

My own conception is an attempt to make the most of the facts available to-day, and among these are specially prominent those of makeup and of psychobiological adjustments. If it should lead to obstruction, I should be the first to assign it its place. So far, evidence seems to favor the view that dementia præcox is essentially *unlike* general paralysis, and more likely the usually inevitable outcome of (1) conflicts of instincts, and more concretely put, conflicts of complexes of experience, and (2) incapacity for a harmless constructive adjustment. The mechanism is to quite an extent intelligible in psychobiological terms. The histological alterations are to quite an extent a problem akin to processes of anabolism and catabolism. A quest for further short-cuts for organic processes is in no way discouraged. There are those who go so far as to expect that the physician's task should be to find ways to make even the most undesirable and pernicious performances harmless and that anything short of direct remedy is equal to complete igno-

rance. Let us not forget that the pre-eminently psychogenic conception of dementia præcox formulates the clinical problem so that in some cases at least dangerous constellations can be pointed out in time. At the same time it formulates problems of investigations, and would not seem to be as likely to block necessary investigations as the exclusive faith in merely hypothetical poisons and as yet unexplained, but after all most probably incidental lesions, wholly sacrificing the fruitful field of psychobiology.

PREDEMENTIA PRÆCOX; THE HEREDITARY AND CONSTITUTIONAL FEATURES OF THE DEMENTIA PRÆCOX MAKEUP

PREDEMENTIA PRÆCOX; THE HEREDITARY AND CONSTITUTIONAL FEATURES OF THE DEMENTIA PRÆCOX MAKEUP

BY SMITH ELY JELLIFFE, M.D., PH.D.

PUT in the shortest manner and in the most definite language, the problem which I bring to your attention as a part of this general discussion on dementia præcox is as follows: Granting for the time being that we are justified in assuming that there is a group of individuals who, for reasons as yet but little understood, have a tendency to develop a progressive dementing process, of a fairly definite and specific character, showing itself in its end phases in a typical disturbance of conduct based on the destruction or deterioration of certain fundamental mental mechanisms, is it logical to assume that what we recognize as the disease process proper, which from its inception travels a well-beaten track, is preceded by, or better is made possible by, the occurrence of a fairly definite constitutional makeup, or character, in the candidates who finally develop the disease? If so, what are the mental and physical features of this makeup; from whence and by what processes does it come to be, and finally, can we, by recognizing its features, in its predemential stages, avoid, abort, or mitigate the after-coming catastrophe?

Are we permitted, from the studies available, to assume a predementia præcox character — a term used by me in 1907, and used by Mingazinni in a modified form later in the same year as dementia præcocosissima, to express a slightly different concept, namely a juvenile præcox? Are its characters sufficiently definite to warrant the utilization of the concept as a therapeutic point of departure?

Kraepelin himself has never done anything more than claim that the dementia præcox generalization is a working hypothesis. He alludes to the group as a whole, as a "topf"— a basket into which, for practical reasons, a

number of apparently similar things have been thrown, although many of them probably do not belong there. Historical retrospection, however, shows that the general paresis concept has developed along quite similar lines, and yet no one would throw over the paresis concept because of the exceptions and the mistakes in diagnosis. Surely no one cares to exclude general paresis from nosology because ten per cent of cases resembling it may be shown to be due to some other disease on last analysis.

It must be admitted that in the præcox basket the percentage of things that are quite dissimilar is probably much larger, but the question of much more import still remains, that there does exist a certain nucleus of cases, and that a very large one, that run an essentially similar course, and that probably have an extremely close etiological and hereditary relationship.

It is not within the province of this discussion to enter into the pathological problem, yet the evidence is accumulating that tends to substantiate the view that a fairly definite pathology will be found underlying a large number of the præcox cases.

There is a marked tendency for the process to become diffused, and to invade the entire cerebrum, so that to the more striking mental signs are added physical signs of almost as definite a character as those met with in paresis.

It also is becoming apparent that the interpretation of dementia præcox must be made much wider — in the clinico-anatomical sense — and that the evolution of its interpretation must follow much the same broad general lines that have been traveled in the paresis domains. The clinical pictures are bound to begin in a slightly different manner, according to the anatomical localization of the process. The course will vary by reason of the same factors of variability in attack of the pathological alteration, and the general end level will be reached largely as in paresis by the more or less general diffusion of the process in the areas of special predilection.

At the same time we must recognize that the alterations go on much more slowly, that the localized processes affecting fundamental mechanisms are less constant, and the end

results less uniform than in the great prototype paresis. In one general trend in particular, i. e., the katatonic syndromes, it is highly probable that anatomical and clinical correlations will be found to be impossible in a great number of cases, by which I mean more particularly, that like the epilepsies, quite dissimilar pathological alterations will be found responsible for the katatonic reactions.

Already there are numerous autopsied cases on record which show a multiplicity of essentially different types of lesions, associated with the katatonic syndrome. This is not a new problem to the psychiatrist, however, who has to bear in mind as analogous the pseudo-paretic syndromes of brain tumor, of alcoholism, of arteriosclerosis, or of tertiary cerebro-spinal syphilis, etc. That our pathological analyses some day will encompass the unravelling of the disturbed functionally active paths seems undoubted, but the dreams of Meynert and of Wernicke, more particularly, not to mention their later followers, are still far from being realized. Others who will follow me may deal more thoroughly with this aspect of the question.

I am quite well aware that I have expressed myself somewhat more didactically in the matter of pathology than those who incline to a more functional view of dementia præcox are prepared to accept. I freely admit that we are still much at sea in this matter, and am fully prepared to follow Meyer in part in a more functional interpretation of certain of the dementia præcox reactions. Any attempt to recognize a fundamental personality is directly opposed to a too dogmatic pathological interpretation. After all, our pathological findings may represent atrophies of unused association tracts which have resulted from the so to speak petrification of bad habits of mental adjustment.

If we are to gain any light, then, on the typical præcox cases, using the phrase here in a manner quite similar to the conception of typical paresis, it becomes incumbent upon us to gain a better insight into the etiology.

This concerns itself, so far as I can see it, with at least two factors. One is the intangible intoxication process, of as yet unknown origin, which has been advanced by Kraepelin himself, and partly supported by many students

of the problem, largely on grounds of analogy. This feature of the subject I cannot take up here, and can only refer to the excellent and comparatively recent contribution by Saiz,[1] on the presence of physical anomalies in dementia præcox and their bearing on the etiology. Here may be found a complete discussion of the question of organic changes, autointoxication and the like. Weber's[1a] recent summary may also be consulted to advantage.

The second is the problem we have set ourselves to state, namely, is there a particular makeup which lends itself *per se* to an abiatrophy, a habit deterioration or to a special invulnerability to unknown toxic factors.

In the nearer consideration of the makeup one looks for help to heredity and to environment, to the ancestral features, and to educative factors, taken in the broadest sense.

Up to the present time, all of our efforts at estimating the hereditary factors are purely retrospective. After the thing has happened, we try to go back and see why.

In my first paper on predementia præcox,[2] I pointed out some of the difficulties met with in attempting to analyze these factors which we group loosely together, and call heredity. The great bane of psychiatry seen from this vantage point has been the hopeless confusion of statistical studies due to a lack of fundamental nosological conceptions. Unlikes are continually being swallowed in the numerical mean, and further, no cognizance is taken of the numerous intercurrent factors which produce results independent of constitutional qualities. Whether we are to escape such loose interpretations, even with the apparently firmer foundations of Kraepelin's generalizations is highly doubtful, since there is little question that the dementia præcox group, as at present delimited, is much too large, and shows at least three somewhat dissimilar trends. Should these prove to present more dissimilarities it will become idle to discuss the heredity of dementia præcox, just as it has become senseless to speak of the heredity of insanity. Coincidence is not causality, and we are in need of much better standards of logic and accuracy in gathering facts to prevent the hazy, lazy generalizations regarding heredity to pass muster.[3]

The high standard that has been set up by the labors of Pearson, Welden, Brachet, and their co-workers in the field of general heredity; the special work of Jennie Koller,[4] Diem,[5] Strohmayer,[6] Tigges,[7] and Mayet,[8] shows us that practically all of the work that has been done in the study of heredity in the psychoses is extremely primitive. We include the work of the biometricians themselves within this criticism. These working in a strange field have been unduly influenced by a term — insanity — and have approached the nonsensical in their attempt at analyzing so many diverse conditions grouped under a legal rather than a medical concept. As Wagner v. Jauregg has termed it, hereditary statistics has become a narcotic that leads to deceptive conclusions.

Frankly admitting, however, that with the present outlook our data concerning hereditary factors in dementia præcox itself must be accepted with great critical reserve, it may still be worth while to briefly recapitulate what inferences have been drawn by previous workers for the sake of seeing the shortcomings and offering some suggestions as to how they may, perhaps, be improved. Until unit characters can be ascertained for dementia præcox; until it can be shown that it is not an exogenous or even an endogenous toxemia; until we know that a uniform fundamental disease process is operative, only when these underlying factors are more clearly perceived shall we be in a position to correctly estimate the influence of hereditary factors if there are any.

In my previous paper I collected the so-called data available to that time, 1907. Therein appeared most general statements. Thus Kraepelin's[9] figures that at least seventy per cent of the præcox cases show the presence of hereditary factors, of which only seventeen or eighteen per cent is found in direct ancestry. Illberg[10] speaks of a twenty per cent heredity, Clauston[11] says heredity is always present, but he is speaking of his much broader and more loosely defined group of adolescent insanities: Mendel,[12] Strohmayer,[13] Kalmus,[14] Pickett,[15] all give general statements which are of little definite value. Certain more specific studies, however, are available. Krauss,[16] working

with very few cases, showed a high percentage of similar heredity in the ascendants, thirteen cases of dementia præcox in ascendants showing as many as fourteen in the descendants. One raises a query as to the diagnosis in his manic depressive cases. Vorster's work also bears directly upon the question. His is practically the first satisfactory and painstaking general survey of the problem.[17] He shows that all of the families with dementia præcox in the ascendants showed dementia præcox in the descendants, and that in cases of inbreeding of cousins dementia præcox was frequent. The præcox cases showed the variable trends of modern standards. Hebephrenic, catatonic, and paranoid cases were intermingled in the heredity, an indirect evidence of the close relationship of these types. Sioli's[18] study points in the same direction.

"My own observations[2] on well-authenticated cases of dementia præcox which I have been able to follow for many years, and whose parents have been well known to me, have shown that three elements have been most emphasized in the ancestry; dementia præcox itself, alcohol, and abnormal personality. Alcoholic parents have, in my experience, been most responsible for the hebephrenics; in many instances the alcoholism has been a symptom of profound neurasthenia or even a dementia præcox at a more advanced age, to which it in turn has contributed, and established a vicious circle which has left its impress in heredity. Pathological characters have constituted another most striking feature in my series of cases. Marital incompatibility, due to the inability of one or both parents to adapt themselves to common-sense relations, has been a significant factor in the parentage of many of the paranoid dements that I have been able to know well in the predementia stages. *Very often this incompatibility is only an index of a mind already with its paranoid trend.* This has had a marked influence on the education as well, which point properly belongs to the subject of our inquiry. One other class may be termed the "derelicts," themselves in all probability suffering in some slight degree from dementia præcox coming on later in life, or incomplete dilapidations due to an early attack of præcox with partial recovery.

Many of these group themselves in the alcoholic class, since with the advent of manhood they sink back in the struggle for subsistence and are unable to compass more than small clerical positions. Many of these are the semifailures of life, those pushed aside in the struggle, and forced to be content with small returns. In my experience this class has contributed the greater number of all classes of precocious dements to the population." Many of these are the dementia tardivas of Stransky.

In the three years that have passed we have had several more contributions to the subject. Pilcz[19] has given a careful study of two thousand cases in which it would appear that in the ascendants of dementia præcox cases (plus katatonics which are given a separate nosological position) abnormal characters appear in a very striking high percentage — thirty-three, neuropathics as high as fifty-nine per cent. Pilcz also finds that tabes and general paresis are not infrequent in the ascendants. Hebephrenia is the commonest types seen with tabes in the ancestors. Pilcz here offers some food for thought relative to the general subject of the relationship of syphilis to abiatrophy. Paranoid trends of the præcox type were frequent in both parents and children. Katatonics showed alcoholic parents in high percentage. The studies of Pilcz confirm the general standpoint of similar hereditary transmission maintained by many. This is naturally in accord with Mendelian concepts and its apparent confirmation lends added weight to the value of the Kræpelian nosological conceptions. Incidentally the thought may be expressed that we have almost advanced to the point when knowledge of the psychosis in the parents may clear up a difficult diagnosis in the child. This is particularly valuable in the differentiation of manic depressive from dementia præcox cases.

The subject of heredity in dementia præcox is handled specifically by Wolfsohn from material in Burghölzi in Zurich.[20] In all six hundred and forty-seven cases were studied, for ninety-seven of which no history could be obtained; five hundred and fifty cases, therefore, came up for consideration. Of these no hereditary history could be obtained in fifty-six patients. Thus ninety per cent

showed heredity of some sort, and the author includes mental disease, nervous disease, alcoholism, abnormal characters in both direct and indirect lines. The admission of so many factors tends to reduce the value of the study, and gives us only general conclusions. Thus in fifty per cent of the katatonics, forty-seven per cent of the hebephrenics, and forty-five per cent of the paranoid cases, mental disease was present in the ascendants. In twenty per cent of the katatonics, twenty-two per cent of the hebephrenics, and twenty per cent of the paranoids nervous disease (including nervousness) was present, in seventeen per cent katatonics, eighteen per cent hebephrenics, and twenty per cent paranoids alcoholism was present, while for thirteen per cent of the hebephrenics, thirteen per cent of the katatonics, and fifteen per cent paranoids peculiar characters were present in the ascendants. The author does not believe in the principle of similar heredity, and it would be difficult to understand just how a close mathematical study, such as this is, could throw much light on this aspect of the subject.

In a short discussion before the Psychiatric Societyof the Rhine Provinces, Förster[21] speaks in favor of there being direct similar heredity in dementia præcox. The study of Rosa Kreichgauer[22] points very definitely in the same direction, and is of special interest because she has approached the problem in an unusual manner. She has shown that among members of the same family that there is a marked tendency for similar heredity in brothers and sisters, and that both dementia præcox and manic depressive insanity in the parents show as similar psychoses in the descendants. Bischoff 22[a] Jahrb. f. Psy. u. Neur. 1905, 26, p. 109, has made contribution along this same line.

While revising this proof I have received the very interesting and thorough study of Berze.(29)

This author utilizing practically the same material as Pilcz, already noted, has made a number of detailed family studies, and has brought out a great mass of material tending to prove similar heredity for dementia præcox. It is gratifying to the writer to note that Berze lays identical stress upon practically the same factors that I spoke of in

my 1907 paper; namely dementia præcox itself, abnormal characters, which I interpreted as probably mild paranoidal types themselves, and alcoholism. My own suggestions regarding these factors, drawn from a much smaller amount of material than that of Berze, and confessedly much less thoroughly studied, have been most amply corroborated and elaborated in Berze's study.

His results, even a short summary of which can hardly do justice to his study, offers such a striking confirmation of my own opinions that I desire to reproduce them here.

In his summary he says:

1. Even if I cannot bring any figures of my own which speak for the frequency of cases of dementia præcox, showing the action of similar heredity, still I can state on the basis of my own observations that all statistical studies concerning this factor must give too small figures, since they are not taken in a manner to include under the definite rubric of similar heredity not only dementia præcox cases, but other psychoses and psychopathic conditions in the ascendents which are certainly to be recognized as an expression of the præcox constitution.

2. Further, the so-called abnormal character is often nothing more than an ensemble of developed psychopathic appearances of a mild grade, which is to be taken as the expression of the præcox constitution.

3. Further, many cases of chronic alcoholism and of alcoholic psychoses should be included for similar heredity; since the alcoholism is often secondary, on the basis of the disposition to dementia præcox, and not infrequently the expression of a distinct dementia præcox, namely a hebephrenia. But the so-called alcoholic psychoses on closer investigation reveal themselves to be nothing more than demented processes belonging to the dementia præcox group, but with alcoholic complications.

4. Many late dementia forms, namely the dementia tardiva of Stransky, certain cases of presenile delusions of influence, probably also a large number of the so-called melancholias of involution, possibly also many cases of presbyophrenia, falsely diagnosed as dementia senilis, belong to the dementia præcox group when one takes the fundamental constitution into consideration.

5. Further, then, there are also "Degenerative Psychoses," which develop on the basis of the præcox anlage, as well as upon other psychopathic constitutions.

6. General paresis positively stands in close hereditary relationship to dementia præcox, but not so close as Pilcz maintains, so that similar heredity should occupy a position secondary to that of the taint of paresis from the parents. Even if it cannot be maintained that the predisposition to paresis may be identical with the præcox anlage, yet nevertheless there is no necessary antagonism between the two constitutions.

A second factor that remains to be examined is that of tire and fatigue. It would be unnatural to find a concordance of opinion with reference to the influence of fatigue on the nervous system of adolescents. The vehemence, and one might say, almost violence, of those who advocate reduced educational schedules on the ground of their inducing excessive fatigue in children and young adults, with consequent nervous and mental reactions, has its counterpart in the extreme position of the sceptics who claim never to have seen any results of intellectual fatigue. It is more than probable that the natural adjustments of the abnormally formed adolescent to the influences of fatigue (laziness, distraction, etc.) will prove sufficiently protective, yet for the adolescent with some of the hereditary factors already outlined, it is a fact the significance of which cannot be controverted that fatigue is a highly important element in their mental breakdown. So that while some may fail to be impressed by some of the many carefully conducted psychological studies into the influences of fatigue, these studies nevertheless show in a graphic manner that which clinical experience has amply demonstrated. School work is not the only cause of fatigue, by any means, but it plays a role in the genesis of the neurasthenoid background which is so prominent a feature in many of the predementia præcox signs, and one cannot fail to be impressed by the unnatural fatigability of these undividuals.

Kahlbaum, in his celebrated monograph, wrote that he had been struck with the fact that so many teachers,

sons of teachers, theological scholars, have been affected by the katatonic process. He believes that intellectual strain is one of the foremost of the contributory causes to this type of breakdown, abnormalities in the sexual life also aiding.

Illberg, in a recent monograph, says that the great majority of his patients were hard working and industrious. One half were well endowed, the others less so. In those of less marked ability a protracted mental overstraining in the years of development is not without etiological significance. Hecker had called particular attention to the backward ones who were unable to keep up in their development, and Heller[23] has dwelt particularly on the psychoses of these inferiors. But the more striking instances are those who have been precocious, and attention should be carefully focused on the precocious children, a great many of whom have suffered from dementia præcox.

The symptoms that develop in these children as a result of overwork, plus other factors, concerning which we are unable accurately to estimate, are very striking. Certain forms of excitability and restlessness should be distinguished from the ordinary restlessness and general tire states that are normal in all adolescent schoolrooms. The pathological tire is one that does not recover as a result of the usual resting period, and these children are often the ones who do not get the resting period because of a certain intensity of their application to their work or to reading.[24] The adept teacher recognizes the period of oncoming fatigue by the marked increase in mistakes and the flagging of attention. School anxiety, particularly in starting new work, is to be carefully studied, either as a sign of fatigue or as a physiological negativism to which fatigue has given birth as its corrective. Changes in the mood are of much moment. Sudden rudeness, excessive selfishness, irritability and peevishness, lowery quarrelsomeness, often indicate more than the normal amount of fatigue, and are often the precursors of frank mental tire.[25]

What constitutes this mental surmenage does not permit of clear cut definition. It shows more in its results than in the making, and the integer of most importance

and least conspicuousness is that subtle constitutional background. The amount of mental work seems to play less role than the method of its acquirement. Children well trained from infancy seem to stand increasing strains without serious embarrassment, while those who have had little or no training, and are suddenly called on for prolonged cerebral work show tendency to break down out of proportion of what might be expected.[26] Christian and others in France have made the observation that when an ill-directed ambition has stimulated children of psychically poor rural stock to take up intellectual pursuits in the urban centers, dementia præcox is not an infrequent result.

As a possible illustration of this latter type, the strain of a city life imposed upon country stock, I wish to detail the history of a case in which I have been able for more than twenty years to observe the patient as well as to know her family and surroundings. It may serve, also, as a casuistic contribution to the predementia præcox personality.

History.— The patient was the daughter of ambitious, well-read people, who for generations had lived upon a comfortable farm. The mother, a merry, clever, witty, capable little woman, the father an earnest, sentimental, religious man of mediocre business abilities. To gain money for the desired education for the family of five, the father went to New York, living apart from his family for years, while the mother strained every nerve to clothe and bring up the children well. All of these children were talented, ambitious, and keen for enlarged opportunities. Finally the family moved to the city. The youngest child, who was then perhaps eleven years of age, remembers the leaving of the farm home as a day of tragedy for herself, her elder sister, and her mother, but a day of emancipation for her ambitious brothers, and the sister, who afterwards became my patient.

The change to city life threw an undreamed of burden upon the whole family. The mother learning for the first time the price of butter, eggs, vegetables, and chickens and milk, grew worried and nervous at the cost of mere existence, let alone neighborly hospitality. Doing one's own work in the city was an infinitely greater strain than in the country.

The elder sister, patient, religious, self-denying almost to the point of martyrdom, toiled for the others to keep the home up to the social standard of what they wished their position to be, and finally succumbed to tuberculosis.

One son became a journalist and wrote successful verses. He married a talented neurotic woman, who when he broke down nervously went on with his work, in spite of their children, until she herself broke down and died. His nervous collapse then became very serious, but fortunately he was advised to return to farm life, where he regained his health, and was able in some measure to resume his literary work.

Another son, who began his career as an artist, and who had a roving year or two on sea and land, that built up his general health, entered journalistic work, and is now a successful editor, though always obliged to guard against neurasthenia.

The younger daughter, who was more shielded from the actual burden of the home, and whose tuition through college was provided for, was able to bear the strain of later years, and gained a professorship in a woman's college.

The strain upon the parents culminated when, at a change of administration, the father lost his government position, and was unable to earn more than a very small salary at uncongenial employment. The death of the helpful and lovable daughter smote the mother, and she rapidly declined, having nervous, depressed, and apathetic attacks, and finally became demented at sixty-five. The father lived, a nervous wreck, for many years, becoming senile about seventy-five.

My patient was the second daughter of the family. At the time of the breakdown, which finally brought her to me, she was about thirty years of age. Her wide reading, a knowledge of special languages and literary training had won her a position at a high salary in a college, to catalogue a foreign philosophical library. She was under no daily supervision as to the hours or the quality of her work or her social life. She attended a great many lectures, especially those on psychology, and enjoyed the friendship of many families of the faculty, and was considered a clever

and very intellectual girl. Therefore, her apparently sudden mental collapse came as a shock to every one.

She had, during the two years previous to my seeing her, fallen in love with a young instructor in psychology, whom she made legitimate excuses to see often. She interpreted every word he spoke with a double meaning; so that while he was conscious only of being formally polite, she was building up an elaborate delusion. She believed the college had chosen her particularly alert and sensitive mind to work out a psychological test to see whether she would read his love through signs. Everything worked into the grand scheme, the signs on the bulletin board, the hymns in chapel, the choice of the subject of conversation at a faculty party, the order of appearance of people in a room. She had a key, a sort of cryptogramic arrangement of letters, by which she re-read all communications. Finally, she confided to this young instructor that she had long comprehended that her work in the library was a mere subterfuge to provide her a position while the college experimented on their psychological unity, and to his bewilderment, she assured him that she returned the love he had been so uniquely expressing.

Investigation by the faculty as to her previous mental state revealed that although occupying her desk in the library she had been irregular in hours, and had done very little consecutive work for some months; her time had been spent in supposed self-improvement, attending lectures and making out this key. Comparison of conversations with different intimate friends showed that she held unreasoning enmity against certain individuals who had been unsympathetic to her interests, that she had said and done many peculiar things, and that she was given to fits of abstraction from which she would emerge with remarks totally irrelevant to the subject of conversation.

The loss of her position started a violent train of suspicions, which gradually assumed more definite paranoid ideas of persecution, in which all those she held as enemies, as well as her family, were involved.

Her family, at great sacrifice, sent her abroad, but she cherished all the while the idea that the young man had

induced the college to put up the money to send her, in order to continue the psychological experiment; and she saw especial adjustments in the railroad time tables, and in signs on the English landscape, that indicated that the experiment was going on, and her anger was unbounded when she found it was her family's money which had been used.

It was at this stage that I began to see her professionally. She was suffering from insomnia, very nervous and irritable, super-sensitive, seeking a sympathetic ear for her delusional ideas and great aims in life, but became white with anger when they were criticized. She persisted in attending courses in psychology, socialist and philanthropic meetings whenever she could, and made herself a nuisance in the classes by urging practical reforms and criticizing existing evils, scoring those who were content with talk and theories.

She was so intolerant of everything in her family life, from the time meals were served, to the number of children in her brother's family, that she would harangue all her friends on these subjects, advancing high ethical reasons for all her vagaries.

She endeavored to get a light library position, but was incapable of any systematic or sustained work. The presence of a typewriter machine in the room was a subject for long, high-flown dissertations on silence as necessary for concentration. The high buildings then being erected near Columbia so occupied her that she tried to get audience with President Low and public officials to remonstrate with them on the subject. She lost all sense of time, would make a call, refuse to stay to dinner, but would stay on, then, after dining abstractedly, would refuse to spend the night, but would nevertheless remain until finally induced to go to bed. She lost all sense of money obligation, would borrow and use money needed for special purposes. She lost all reticence and became so distractible that she could not remember where any of her possessions were, or carry out a simple consecutive plan. Through all, she was, however, pathetically gentle, lovable, and trusting with friends, except with her family or those who aroused her antagonism.

She was always borrowing or buying deep works, in which she was going to begin a course of reading or take up a new language.

As her letters and visits to public men, concerning vague reforms, became more frequent, and her inability to live with her family greater, it became necessary to commit her. During the last ten years she has steadily deteriorated.

For about thirteen years previous to my professional care of her, I had known the patient socially, and had noticed traits of character even during her school days which, in the light of my present knowledge, take on a significant meaning. These, with facts carefully ascertained from her family and intimate friends, show the early presence of self-delusions and egoism, and lack of forceful action, which rendered her unable to bear severe strain when it came. She was an unusually precocious child, and evidently saw herself as one who would some day be famous, for she used to relate how at the age of eight she would creep under the table to read Shakespeare undisturbed, and instead of laughing at the list of grown-up books she had read at twelve years of age, she professed to be pained at the juvenile literature offered to children. She was very slight and frail and languid in her movements. She was classically beautiful, and had a wealth of hair of which she was vain. She was very fond of dainty and exquisite things, but so little able to satisfy her desires that her vanity became a suppressed affect, and she would criticize as a barbarian any girl who dressed with mere money instead of taste. She spent an hour each morning dressing her hair and making her simple toilet. She dropped the remark once that she hoped she would marry while her hair was still beautiful. At home she demanded that no household cares should interfere with her studies, and so insistent was her will, that her family found it easier not to cross her. She was caustically bitter about the narrow means, inefficient service, and let the unselfish sister cook, sew, and mend without help.

At school she was gentle, dreamy in manner, and recited in a lofty, superior way, as though her knowledge of the subject went far beyond the text-books. Some thought

her conceited and disdainful, some haughty and exclusive; others thought her remarkable, for she was fond of talking with the professors on topics beyond the ken of her classmates, perhaps more or less consciously to impress them with her wider knowledge. Sometimes she calmly stated that she was unprepared in some date or detail of history, as she had not opened the prescribed text-book, but had spent the time reading a more profound history on the subject.

When others received better marks than she, she affected to despise working for marks; but secretly she fed on admiration of her character, and found some cause for contempt in any one who excelled her.

At seventeen she said that her dearest wish was to be a great author like George Eliot, and casual remarks indicated that she lived in a day-dream in which her future was filled with homage and glory. She was easily the best writer in the school, doing occasional clever verses and delicate charming little essays; but she despised the means to attain her desires. Rules of rhetoric she held were self-evident, but it stultified the intellect to be obliged to commit them to memory. She refused to send in preliminary outlines of her essays or poems, as demanded by the professor, or else prepared caricatures, with elaborate subtopics. She once delivered an eloquent tirade on the heinousness of using quotations from Shakespeare for the class to analyze. She seldom wrote essays that required careful reading for facts; and if such were imperative they were long overdue. Her writing showed only introspection, and never the result of objective observation. When her period of deterioration came, she confessed that in her school days she was guilty of plagiarism, which accentuated the hidden desire for admiration which she always cherished.

She was satirical, keen in pointing out people's failings, and bitter to any one who did not take her at her own valuation. She once attempted to organize the girls of the class to systematically cut a certain boy who, she held, had been rude to them. They were to get up and leave the classroom when he came in. Most of the girls didn't see any use in making a fuss, and the snub fell through, to her open vexation. Very occasionally the temper which she

frequently showed at home flashed out at school, and she once actually shook her best friend, for suggesting that they should both finish preparing a lesson before going out in the woods with a book of poems. "Have you no feeling for the beauty and inspiration of the woods, that you must sit indoors and commit those stupid Anglo-Saxon declensions," she said, and she snatched the book away and never prepared the lesson.

Her school intercourse was full of such sophisms, all bearing on the value of originality over the acquisition of facts, and showing her precociousness in book lore, but her lack of observation. It might also have been owing to her lack of attention to external impressions that while she could read several languages, and was a good Latin scholar, she could not speak or understand a foreign language with ease. (This, however, is such a common result of school education as hardly to reflect on her personal weakness in auditory impressions.)

She was frequently lost in abstraction, often would not answer when spoken to, as, for instance, when a friend told her with great enthusiasm that she was going to Europe, she received the news in silence, walked on for some blocks without speaking, and then apologized contritely and said, "Excuse me, but did you say something about Europe — I was thinking of something for the moment."

Until the time she left school her egoism and day-dreaming meant no more than they would in the average girl; and had her family been well to do, and her envied social position surely established, her ambitions possibly would not have developed such strong emotional complexes.

Her father's loss of position occurred shortly after she graduated; and the family troubles began.

She heroically threw herself into the breach, getting some journalistic work to do, and soon entered upon library work; always with the idea that she was literary and going to write.

She helped to contribute to her sister's college course, and was subject to all the anxieties of the home for some years. Here, imperceptibly, the break must have begun. She began to attribute her not writing to her lack of a

college education, and was constantly taking up some outside course, on which she worked in an inefficient manner, always finding fault with what she considered the unnecessary drudgery of it. She resigned a good position for no reason but that she *felt* the superior did not like her; and uttered one of the remarks that she often made in the next years, "He never *said* anything, but if you had noticed all the trifling things that happened you would have been able to put two and two together and understand." When her superior expressed his surprise at her resignation, she quoted with contempt his questions as to her reasons, and his hope that she would reconsider it, leaving her friends to infer that he knew perfectly well the reason, and was only affecting surprise.

So many of these unexplained moves occurred, for which she could give no common-sense reason, that it is probable her introspection was becoming far stronger than external influences, and that she was living in a world of dreams in which she was fitting her own interpretation to the most commonplace facts.

As far as I could learn her sexual tendencies were psychic in their nature rather than physical. She desired the admiration and intellectual sympathy of men, although she showed such marked contempt for the crude youth of her own age, that she received but little attention. I am led to think this lack became an affect, for she pretended to despise all attentions, while nevertheless cherishing the remarks of older and cultivated men.

A little later, between the years perhaps of twenty-five and twenty-six, there occurred the first love affair in which her delusional ideas became somewhat systematized.

She met, at a library convention, an interesting man, with a marked physical infirmity, who paid her some attention and to whom, in order to put him at ease, she showed herself more cordial than was her wont. He was clever, and she exerted herself to be entertaining, with the result that in parting they began a correspondence, and he called to see her at rare intervals, when in New York. By the time they met again, at a second convention, she read a meaning in all he did. He was on the committee of arrangements,

and the selections of music, the colors of the bunting in decoration, and even the menu of the reception supper were all carried out, she felt, in response to subtle suggestions of her own; or to please her formerly expressed tastes. Her sister and the intimate friends to whom the confided the details of this wonderful journey, confessed that they could see no symbolism in olives, nor in popular band music, and she would answer, with almost fiery impatience, "Of course it doesn't seem the same when you express it, but if you had been there, and heard his tone, or seen the way he looked." She felt that he understood that his infirmity glorified him in her eyes, and that they were extremely sympathetic.

After this, she suffered at his long silences, inquiring of her confidants what they could mean. To all outward evidences, it was a purely casual acquaintance, and yet her feeling of sympathetic communication was so strong that when in a chance note he remarked that his business would take him to Chicago frequently, she took it as a desire that she should go to Chicago to live. She accordingly obtained an excellent position in one of the large libraries, and prepared a little home and social circle to receive him. The time was, however, very long between visits, and her acquaintance with mutual friends showed her that he did not always come to see her when in town. Finally, one day, without warning, she received his wedding announcements. Her state of mind was then plainly revealed. She felt he had been deceiving her, or else was the victim of a plot. She wrote to him at once, returning a package of his few treasured notes, and demanded that he should return hers. He replied that he regretted that he had never kept any of her notes, and said if he had in any way caused her pain he regretted and apologized. She believed, however, that he had the notes, and that there was a tangled plot to unravel. It was impossible for her to accept the fact as her friends had seen it, that he was merely a polite acquaintance, and for a time she was greatly chagrined, but kept matters pretty well to herself.

Losing all interest, however, in Chicago, where she had been sustained by this slender hope, she accepted the posi-

tion of expert cataloguer in the psychological library I first spoke of, and in the stimulus of new faces forgot her first affair, and began the second one-sided romance. It naturally was but a continuation of the same mental habit of ignoring realities and building pictures, but with a different hero.

It is interesting to note that her three strong affects have continued through her hospital confinemant, viz., her desire to pursue advanced, chiefly psychological studies, her belief that she has a secret affinity with some man, and her belief that she has literary power.

I believe that at any time through her school years, and up to twenty years of age, there were sufficient signs to warn the modern psychiatrist of danger, and also sufficient time to have saved her, could she have been relieved of the overstrain, and could have had a life plan made out that would deal with objective interests.

I have no time in this discussion to attempt to present an analysis of the many features that this bare recital has suggested, but throughout we find the day dreaming without efficient activity, an accentuated ego complex with its maladjusted attempts at compensation, and particularly prominent, especially in the two love affairs, there appears the emotionally accentuated love complex[27] which later seemed to play so important a part in the expressed symptomatology (complex expression). Viewed in the light of perverse adjustments to constantly recurring difficulties, much of her conduct is explicable. An extensive psychoanalysis by the Zurich School methods would undoubtedly fill in most of the gaps, but my observations were made at a time when these methods had not arisen. The patient is still accessible, and would undoubtedly repay psychoanalysis.

I am unprepared to accept the Freudian hypothesis that the complex — or group of complexes — of themselves are sufficient to develop the disease in all of its phases. The present case may be regarded as a type wherein, if there be truth in this general view, a good illustration may be looked for, for the entire development of the disease has followed along the line of a few accentuated complexes. It strikes

me that Bleuler's position in this matter, however, is well taken, that the complex does not cause the disease, but may determine its symptomatology. In this respect he rejects the ultra-Freudian views of which it would appear A. Meyer is an advocate.

To posit certain character anomalies and varieties of personality, as fundamental for certain psychoses, is no new standpoint, rather one can say on viewing the history of human endeavor, that it is a very old idea, and one that instead of receiving even the warmth of approval has gone through, in recent years, the cold shoulder period, and has been almost tabooed as a charlatanistic catch penny. In the very early days mental disturbances were all referred to the personality and thought of in terms of exaggerated distorted characteristics. Even so late as the time of Morel one sees this feature magnified, and with him one finds practically but one psychosis with the different colorations and variations due to personal character peculiarities. A corresponding moral therapy one can see in its most classical form in Heinroth and his immediate predecessors. Naturally with the anatomical era of Bayle, of Falret, of Griesinger, of Meynert, and of Alzheimer, the personal character anlage conception has been retired to the background, and our interpretations of the psychoses have become more and more interwoven with conceptions of organic alterations. Perhaps the time has come to strike a balance and to consider the question whether at least certain psychoses may not be interpreted more from the functional side. Certainly the masterly studies of individual psychology and their application to the problems of psychiatry as evidenced in the work of Freud and his followers, Bleuler, Jung, Maeder, Meyer, and others, are offering much suggestive light upon this aspect of the question. Our enthusiasm in having a new viewpoint should not, however, lead us to an uncritical acceptance of these ultra-Freudian studies. Certainly the views of Gross relative to manic depressive psychoses are far from the mark. The criticisms of E. Meyer, Weygandt, Isserlin, Friedländer, Kraepelin, and others, deserve careful weighing before we are swept from our feet by the attractive generalizations of the Freudian School.

In any attempt to analyze the dementia præcox character it seems advisable at the outset to limit ourselves somewhat within the nosological conception of the group. In making such a limitation, the broad question of constitutional defect first obtrudes itself, and we must eliminate at once those in whom congenital defects, usually termed "the high-grade imbecile group," exists. Naturally only the minor grades of feeble-mindedness will attain any diagnostic significance, so far as differentiation is concerned.

Further, due attention must be paid to the aberrancies of the katatonic group. Whether we are as yet prepared to accept a special cerebellar katatonic type, as posited by L'Hermitte, by Claude, and by a number of other workers, it seems positive that defective or diseased cerebellar mechanisms can give rise to a very marked degree of katatonic coloring, and it may be advisable to eliminate those cases which, from a clinical standpoint, may be shortly correlated with the special pathological features of certain cerebellar function defects. I would not argue the abolition of all of the cases with strong katatonic coloring. Many no doubt represent purely functional cleavages, and are properly included in our special group, still the fact that many call for organic interpretation should sharpen our diagnostic criteria.

In the time at my disposal, further indications of types that may be eliminated must be passed over — suffice it to say that there are a number of others, and that numerous studies have appeared which tend to give foundation to the rationale of definite subgroups within the katatonic syndrome, more particularly which would eliminate those particular cases from consideration, so far as our present viewpoint is concerned.

It is furthermore certain, that many cases, which in the earlier days of Kræpelin's teachings were regarded by him and by his students as "schoolroom" cases of katatonia have turned out quite different from what was expected. They have either later showed typical manic attacks or have recovered and remained well for many years. A tendency to lay too much stress upon a single prominent feature has involuntarily produced a one-sided estimation of these so-called katatonics.

Many paranoid cases also must be eliminated from the præcox group and relegated to other domains. The boundaries are still very fluctuating and hazy, but in the group of the so-called prison or detention paranoid præcox cases, new criteria must be employed. Certain paranoid cases certainly have close alliances with the constitutional excitements and hence, with Specht and others, we must group them with the general manic depressive series.

Admitting that this paring process will take place precisely as it has taken place in all other branches of medicine, and that we may ultimately arrive at the comparatively pure præcox cases, we are then in a position where casuistic contributions to the subject of a predementia præcox personality will be of service to us. It is admitted that we have not yet arrived at such a point, but this does not prevent us from attempting a summary of what striking features do appear in the histories of those who later have broken down in a manner broadly indicative of the group, not as it needs to be limited, but as it has been generally understood.

But few have busied themselves with this problem within the specified lines of our inquiry. What facts and conjectures we have come from Kahlbaum, Hecker, from Kræpelin himself, from Paulhan, Hall, Meyer, Mingazinni, Hoch, and Kirby. My own contribution did hardly more than raise the question which had already been well handled from another viewpoint by Meyer.

In Meyer's paper published in the Journal of American Psychology, Vol. XIV, entitled, "An attempt at Analysis of the Neurotic Constitution," he describes the deteriorating type as follows:

"In cases of dementia præcox we find over and over, an account of frequently exemplary childhood, but a gradual change in the period of emancipation. Close investigation shows, however, often that the exemplary child was exemplary under a rather inadequate ideal, an example of goodness and meekness, rather than of strength and determination, with a tendency to keep to the good in order to avoid fights and struggles. Later, religious interest may become very vivid, but also largely in form; a certain disconnection of

thought, unaccountable whims make their appearance, and deficient control in matters of ethics and judgment. At home irritability shows itself, often wrapped up in moralizing about the easygoing life of brothers and sisters. Sensitiveness to allusions to pleasures, health, etc., drive the patient into seclusion. Headaches, freaky appetite, general malaise, hypochondriacal complaints about the heart, etc., unsteadiness of occupation and inefficiency, day dreaming, and utterly immature philosophizing, and above all loss of directive energy and initiative without obvious cause, such as well-founded preoccupations, except the inefficient application to actuality. All these traits may be transient, but are usually not mere 'neurasthenia,' but the beginning of a deterioration, more and more marked by indifference to the emotional life and ambitions, and a peculiar fragmentary type of attention, with all the transitions to the apathetic state of terminal dementia."

This same author in the Psychological Clinic (Vol. II, No. 4), in an article entitled "What do Histories of Cases of Insanity Teach us Concerning Mental Hygiene During the Years of School Life?" makes the following observations:

"Looking over the records of sufficiently studied cases, I find that the children who later developed abnormal reaction of the type of dementia præcox were *peculiar* rather than *defective* in the senses which we have in mind when speaking of those who are backward or retarded. Furthermore, I find that as a rule we are concerned less with aggressive mischief than with repressive, and what is at times characterized as 'depth of thought.' The children affected are the very ones whom a former generation might have looked upon as 'model children.'" He continues: "A consideration of carefully studied cases of dementia præcox convinces me that in reality we have to do with a perfectly natural, though perhaps unconsciously persistent development of tendencies difficult to balance." The common tendencies of adolescence, such as a reading craze in some children, day dreaming in others, or abnormal sexual practices, are usually offset in one way or another by the more natural and sociable children. To others, however, the very habits of the patient, the loss of sense for the real and the abnormal

satisfaction in dreaming and good resolutions, encourage a mere dodging of the consequences rather than giving up the harmful instincts. Those who fail are irritated by their disadvantage with others, and try to cover up rather than correct their harmful yearnings. "There develops an insidious tendency to substitute for an efficient way of meeting the difficulties, a superficial moralizing and self-deception, and an uncanny tendency to drift into so many varieties of shallow mysticism and metaphysical ponderings, or into fantastic ideas which cannot possibly be put to the test of action.

"All this is at the expense of really fruitful activity, which tends to appear as insignificant to the patient in comparison with what he regards as far loftier achievements. Thus there is an ever-widening cleavage between the mere thought life, and the life of actual application, such as would bring with it the corrections found in concrete experience. Then under some strain which a normal person would be prepared for, a sufficiently weakened and sensitive individual will react with manifestations which constitute the mental disorders constituting the 'deterioration process,' or dementia præcox. Unfinished, or chronically subefficient action, a life lived apart from the wholesome influence of companionship, and concrete test, and finally a progressive incongruity in meeting the inevitably complex demand of the higher instincts, this is practically the formula of the deterioration process."

This very admirable outline of the progressive steps by which natural and almost normal tendencies become abnormal emphasizes the necessity for getting full and circumstantial *early* histories in all these cases of dementia præcox; for I hold that much can be done to lift the burden of failure, to relieve the brooding over incapacity, at a moment in the life of a youth, by giving the prospective patient something to do which he can do well, and by making interesting concrete work, often manual work to cut short the pernicious day dreaming that mere bookwork permits, and also by selecting a walk of life more suited to the patient's real capacities than that to which he vaguely aspires.

In collecting histories of the predementia præcox state,

one of the chief points to be noted is, Was the patient able to adequately fill small demands, and did he fail under the heavier strain. If so, under what strain? Was he helped to meet the greater demands, or did he suffer shame and brood over his failure? Again note, Did the patient find difficulty in translating thought into action?

In his dynamic interpretations of dementia præcox, Meyer[28] reiterates his functional view, giving it even greater precision than heretofore. He regards the Kraepelian standpoint as formal, empirical, and dogmatic. His factors are dynamic and stand out in certain activities and states of disturbed balance and regulation which have far-reaching effects upon the mental adjustments themselves, and incidentally upon the organic understructure of the personality.

Specific defects or disorders of balance, with special tendencies and habitual ways of bungling and substitutions, and a special makeup liable to break down in a specific manner — these are all assumed by Meyer, and opposed by him to the various toxic factors postulated in the organic hypotheses of other observers. Starting with his Toronto address as the first formulation of views, Meyer elaborates his idea of the gradual maladjustments that come about through the ever-increasing intricacies of at first harmless substitutions and subterfuges until they become harmful and uncontrollable.

The katatonic syndrome, Meyer is inclined to believe, may yield to a psycho-biological interpretation and to psycho-analysis. No discussion of the makeup in these individuals, beyond a short reference to Hoch's term "shut in personality"[30] already utilized in part by Hecker, is found in this extremely interesting paper, but the therapeutic mode of attack assumes much more, and should be emphasized. He says: "Where a break or morbid reaction has once set in it is very difficult to bring relief directly. The fundamental shutting in of the whole mechanism enables the pre-occupations to live themselves out and to exclude interference. Automatic resistance against the most natural impulses frustrate even the occasional pathetic spontaneous appeals of the patient for help. The best

procedure is to tide over the acute tangle with as much tact and ease as possible, to promote relaxation, and to relieve the situation wherever that can be done, bearing in mind the facts obtained referring to the upsetting factors, the probable complex-constellations and prevailing physical disorders. As soon as the patients feel that they meet with help instead of an argumentative and corrective attitude, they can be led considerably when the time comes or where the difficulty has not led to complete blocking. Then a positive re-education in the form of habit-training and of readjustment has to set in. It is obvious that experience brings a certain divination and that individual capacity plays a decided role in the straightening out of the difficulties, both during the tangles and in ultimately marshalling the forces to a more practical unity and level again; it is also obvious that we cannot be very optimistic in most cases, as little as when we try to win over our less unbalanced neighbors to a better mode of thought, belief, conduct, and behavior.

My own observations of patients whom I have known intimately since childhood have shown that the paranoid dement in particular has been rather abnormally brilliant, but with the lights turned inward rather than outward. They were extremely unpractical in the use of their hands, or in any adaptation to material ends. They were utterly unable to observe with accuracy anything physical or material, for their minds were constantly turned in upon their own meditations. They were all unready to adapt themselves to uncongenial environment. I do not mean the environment of personal discomfort. This they often ignored, but they revolted against the environment of other minds, of imposed regulations, or of standards of requirements. They were subject to fits of abstraction, when they would not hear or see what would attract a normal youth. They were usually irritable to their families, but most desirous of being thought either amiable or brilliant by strangers. They were abnormally sensitive and suspicious, and most were prone to discuss deep, unsolvable questions.

No one of these traits alone, or even in small groups, causes a danger signal, but when any or all are combined

with the inability to bring oneself in touch with the physical world, with a constitutional aversion to deeds, and a glorification of vague abstractions, it is justifiable to regard the child or youth as a patient, and to so adjust his level, and to train him to be interested in his small demands so that he may be saved the necessity of meeting greater demands than his capacity can bear.

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ON SOME OF THE MENTAL MECHANISMS IN DEMENTIA PRÆCOX

ON SOME OF THE MENTAL MECHANISMS IN DEMENTIA PRÆCOX

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IN this symposium I have been asked to take up the symptomatology of dementia præcox from the point of view of the content of the psychosis. It is, therefore, not within my province to dwell either on the general principles of the disorder, or the constitutional factors which play such an important part in these cases.† My task is rather to state briefly what a study of the content of the psychosis seems to indicate.

In certain simple paranoic states, or in a certain type of psychoses of degenerates to which Birnbaum‡ has recently devoted a monograph, it can scarcely be questioned that the content of the psychosis represents conflicts and reactions to conflicts which the individual, owing to an inherent constitutional deficiency, has been incapable of handling adequately. In cases in which we are able to analyze the symptom picture of dementia præcox we find a similar situation. While an outside view of dementia præcox reveals an arbitrary array of manifestations: of delusions, hallucinations, queer notions, or autochthonous ideas, an emotional condition often out of harmony with what the patient says, peculiar incoherent utterances which impress one merely as a scattered ideation, bizarre acts often executed with an impulsiveness which appears strikingly forced and elementary — an analysis often shows us that instead of there being a lack of connection or significance in this array of manifestations, all these expressions mean something to the patient, that definite principles of depen-

† See Hoch, A. Constitutional Factors in the Dementia Præcox Group. Review of Neurology and Psychiatry, August, 1910.

‡ Birnbaum. Psychosen mit Wahnbildung und wahnhafte Einbildungen bei Degenerativen. Carl Marhold, Halle, 1908.

dence of the individual symptoms upon each other can be made out, that certain mechanisms are at work, and that instead of an arbitrary diffusion there is in these manifestations a certain limitation to definite trends. There are cases, therefore, in which the same principles exist as in some paranoic states and in some degenerative psychoses. The question is only how general an application may we claim for this. It is not easy to analyze cases of dementia præcox, and a satisfactory demonstration has been possible in a limited number of instances only, yet aside from those we have many examples in which more or less clear indications point in the same direction, to say nothing of the support which such a view receives from other sources, namely from the general principles as claimed by Dr. Meyer, and from the recognition of constitutional deficiencies which forms an integral part of these principles. On the other hand, it must be frankly admitted that there are still many gaps, and that a growing knowledge of the clinical pictures, with perhaps a clearer separation of cases into smaller groups, may also demonstrate that mechanisms of another sort are at work. The reason the situation is clearer in some paranoic and degenerative psychoses, and why, therefore, in them the psychogenic origin is not doubted, is because there the conflicts are on the surface, they often lie essentially in an external situation, whereas in dementia præcox the external factors are insignificant compared with the internal conflicts. We are, therefore, in dementia præcox dealing with undercurrents, which, however, as our experience shows, seem to give rise to the same sort of attempts at adjustment as those conflicts which are more on the surface, but they are often less transparent, the conflicts less obvious, partly because the normal person cannot understand the opposing forces of the conflicts and the real desires, partly because they refer to very personal matters, and therefore are under the influence of distorting and repressing forces which make the analysis more difficult. Any one who has analyzed cases of dementia præcox must have been impressed with the fact that the content often unmistakably refers to disharmonies in the sexual sphere, and this is, as we have reason to believe, not accidental,

but due to a fundamental defect of sexual adaptation in its widest sense.

I need hardly say in this audience that it is essentially Freud and Jung to whom we owe our insight into these principles, which are at times more clearly in evidence in dementia præcox than in hysteria, though not fundamentally different from those of the neuroses and of every-day life. I propose to take up the subject by giving: (1) the analysis of a case who evidentally, owing to the comparatively good mental makeup, was particularly accessible, and who, probably for the same reason, eventually recovered; (2) the analysis of another case who did not recover; and (3) a brief general description of some of the more obvious mechanisms with which we are as yet acquainted, without any claim to completeness, even so far as our present knowledge goes.

The first case is that of a young girl of seventeen, who when seen presented a certain amount of excitement; yet without real distress, she tried the doors, made peculiar statements. She said that some one was in distress, that the country was in trouble, that she was "the center of a good deal." She spoke of explosions and automobile accidents, of fires, and the like,— events of which she had learned from headlines in the newspapers which were lying about; but she did not blame herself for it, as melancholics would. She spoke of electricity being applied to her, said that she felt connected in some way; she heard voices which said, "Stand still," "Get up," "Look out," "Danger." She suddenly saw "a fog" and in it a railroad train and a face. She often would not go to bed, and, without being able to explain it, would violently oppose any attempt at putting her to bed. At other times she would not eat, would not pass her urine, was very insistent that some special patients in the ward should not be there. She often asked what things meant, in fact to anything which was at all obtrusive a feeling of self-reference was attached. She slept poorly and ate insufficiently. She was always oriented as to her surroundings. The patient presented, therefore, a peculiar impulsive behavior, which was never accounted for by the situation, nor by any obvious ideas;

a markedly negativistic attitude at times, hallucinations in the form of voices, electricity, and occasionally visions; ideas of reference, odd acts, the whole characterized by a peculiar lack of transparency and want of connection.

The anamnesis told us that the patient had been self-willed, pedantic, with a great desire for consistency and justice; she was ashamed of her menstruation, but withal fairly natural. At six a boy had intercourse with her, and threatened her if she told about it. She claims she did not think much of it. At about the age of ten she began to masturbate and worried much about this. When eleven, she one morning woke up frightened and saw Christ on the cross. The night before she had sat at the window listening to men who went by, wondering who they were and whether she would ever meet them. She does not remember any other fancies at the time. In the morning after the vision she worried about her masturbation, and then the episode at the age of six came to her mind and she confessed it to her grandmother. When thirteen and fourteen she used to sit more often at the window at night, losing much sleep thereby, dreaming in the same way as when she was eleven. It is probable — but we can only infer it — that sexual fancies occurred at that time. She worked normally until fifteen, when she became absorbed, could not do her work, and half a year later dropped it all. She was sent to a relative, the place where she had lived when six; she became worse, surprised her people by saying that she was in love with a man whom she scarcely knew; she kept watching the house of a physician whom she also knew but superficially, thought of him a good deal, as she confessed later; she claimed she saw another man, whom she had seen at her own home, pass daily on a train, saying she recognized him only by his hat. When again at home, near the sea, she saw searchlights, and thought the doctor above mentioned was "in distress," saw a vapor with his face in it. When taken to her family doctor there were two men in his waiting room; she thought they were there to tell the doctor of her masturbation, or about her love for the other physician; she also felt that one of the men was exerting electrical influences upon her. In a shoe store she thought she re-

cognized the man who passed on the train, and the shoes she bought she never could wear because they were "charged with electricity." Finally, when she was again sent to the same relatives, she at once became more markedly abnormal, spoke of wires being through the house, of being surrounded by electricity, she refused food, hesitated to pass her urine, wanted things "straightened out," was undecided, and suddenly claimed she was married.

This patient could be analyzed even during the active stage of her condition, as it was found that she always quieted down when this was done. In the analysis many of the facts which have been embodied in the history were obtained, as well as the following:

It became clear that the idea of electricity represented a very important part of the picture and furnished the key to the situation. She said that electricity was tried in a way that it should not be tried, and said in the same connection that some one was trying to be near her, and finally that different people were trying to marry her, or were trying something which she did not wish to have tried. At last it was found that the electricity was localized in her sexual organs, and that the sensations were quite unlike electricity, but like the feeling which she had perceived during the sexual traumatism in the sixth year. This explained, then, the meaning of these sensations. And then the idea that she felt the electricity in the shoe store, and that the shoes were later charged with electricity, also became comprehensible. Moreover, it was found that these sexual sensations increased when she remained in certain positions for any length of time; hence she heard warning voices, saying "Stand up," "Look out"; they were most pronounced in bed; hence she frequently refused to go to bed, fought desperately when put there. The reason why she objected to the presence of certain patients became clear when it was found that all these were patients who wet their bed; that this, as she said, suggested to her kidney disease; the latter in turn suggested a vaginal examination, which her family physician had made, and this led, therefore, directly to the main trend. The refusal of food found its explanation partly in the fact that the sensations increased after

eating, partly in that she had heard her family physician say at one time that meat increased the sexual desire. The voices, the idea that some one was in distress, etc., were invariably traced to one of the men mentioned in the history, and were probably also determined by a projection of her own distress.

I think, therefore, that the case resolves itself into this: we have here a girl who had an early concrete sexual experience. This very probably led her thoughts into the direction of sexual matters to a degree which evidently went beyond the normal tendencies of this sort — and more important to note is the fact that certain reactions all along showed that these fancies were evidently disturbing factors. She lost sleep sitting at the window wondering who the men were who went by, whether she would meet them, etc.; in this connection it is interesting that immediately after the first episode of this kind she woke up with fright and had a religious vision, and then worried about her masturbation and her earlier experience with the boy. Then the fact that she was ashamed of her menstruation is of interest, and her growing pedantry, her desire to have things right, may have been, as it often is, a reaction to the feeling of guilt about sexual ruminations.

Finally, there came an absorbed period which was so marked that any objective interest and activity became impossible. And then came that peculiar diffuse rather than specific application of her love to real persons, as is the case so frequently in dementia præcox, and which in itself points to the marked lack of sexual adaptation. She said she was in love with several men whom she merely knew from a distance, and thought she saw them in various places.

Now it is very natural that the original and only sexual experience played a part in her fancies, and when these became dominant the sensations connected with it were represented by hallucinations; this was then a wish-fulfilment; but with it came something like a compensation, something like a feeling of guilt arose and she became stirred up, substituted electricity for sexual sensations, and the whole picture was then made up of these sensations,— of a

certain excitement, a feeling of danger with warning voices, the ideas of reference, the shunning of anything which recalled the main trend. In other words, the symptoms were largely grouped around the electrical sensations, while others, such as the hallucinations, "I love you," the seeing of the men, the appearance of the fog with the railroad train, the face, and the like, were phenomena parallel to the sexual sensations, but probably because they were not of such a disturbing character they remained comparatively in the background.

The second case is a woman thirty-six years of age, who even as a child was sensitive and stubborn; she often left the table on slight provocation, was hard to guide and influence, and was not inclined to confide in any one. She had a certain tendency to romanticism; liked literature and music, without, however, having any knowledge of either sufficient to give her a deep interest in them. Before her marriage her brother took her into his business as an assistant in the office, but she was inefficient, and yet constantly objected that she was not given better work to do. When twenty she married a cousin who was disliked by the family, and whom, it is thought, she herself really did not love. As a matter of fact she never got along well with him, and as marked evidence of this there stand out the following prominent features. In the first place she always made demands upon him which she knew he could not fulfill with his means; thus she wanted him to get a horse and carriage, and matters of that sort. It was not long after the marriage that another trait appeared which we also have reason to regard as a serious lack of adaptation, namely, her jealousy of him. This came out for the first time plainly during her first childbirth, when she suspected her husband of being in love with her nurse. Four years after her marriage she met a dentist who called her Miss instead of Mrs.; she did not correct him. He made a deep impression upon her, she felt that he was different from her husband, more sympathetic, that she could talk better to him; she became infatuated with him at the time, as she herself said later. She had another child, and the same nurse took care of her. She again got the idea that her husband was in love with this

nurse. Nine years after marriage, five years after she met the dentist, she was pregnant with the third child, Mary. In the mean time the lack of adaptation to her husband had increased, and her affection for the dentist had become more marked, so much so that at that time, as was discovered later, she had various longings which were to play an important part in her psychosis. Her relations towards her husband did not improve, there were frequent scenes, and she continued to be suspicious of him, in regard not only to the nurse, but also to some other woman. For some years before the onset of the psychosis they had very little sexual relation with each other, and for three years it had been given up entirely.

In the fall of 1906 she suspected her husband of intimacy with an Italian girl who occasionally visited his shop, and when, in January, 1907, she saw this girl deposit some money in a bank she took this as a confirmatory evidence that her husband was intimate with her.

In June, 1907, she was invited to stay at her sister's house, while the latter was absent. There she read two books which made a considerable impression on her, because they seemed to her to fit her case; one was about a woman whose husband was unkind to her and gave her no money, who consequently thought of leaving him, but who, as the patient put it, remained at her post and died; she had a devoted friend who was true to her to the end. In another story she read of a man who lived a life of self-denial to serve the woman he loved, but whom he could not marry. She thought of herself as the heroine and of the dentist as the hero. Towards the end of June, and probably not by accident, she one Thursday went to see the dentist, and then while sitting in his chair a feeling of love came over her. It returned again at night, and then for a while every night, after she had gone to bed, and she masturbated repeatedly. Then it returned with special force, chiefly every Thursday night, and then the more marked symptoms of the psychosis arose. She began to feel the dentist's presence near her, and a feeling came over her as if she were again looking into his eyes, "a feeling of love and longing, a sensuous feeling," as she herself expressed it. She used to

sit on the porch at night and sing all the love songs she knew. They came without effort. As this went on she could not put her mind on her work. In regard to this period the husband says that he noticed nothing except that she lay down a good deal, was somewhat absorbed, and once he heard her talk to herself. By the end of August paranoic ideas regarding her husband again appeared; she found a stopcock on the gas stove turned on, and suspected that her husband wanted to kill her and the children; she also believed he had put something into the oatmeal for the same purpose; she was not sure whether her husband had done this himself or whether an Italian had done it for him. Nothing further was noticed by her friends until September 10, when she suddenly proposed to go to California to visit her sister. In talking of this during the analysis she said that she thought getting away would help her to overcome the feeling for the dentist which had taken such a hold of her. This plan was refused, but she repeated the same proposal a few days later, and at the same time made an attempt to again straighten out her relationship to her husband. She confessed to him that she had been in love with the dentist for thirteen years, and asked him for forgiveness. He rebuked her, and he, as well as the other members of the family, said it was too expensive to go to California. Next day the condition changed. She said that she was "in a muddle"; began to talk in a disconnected manner of things which were not understood by those about her. What is remembered of it is the following: she spoke of having kissed the old family doctor, of white pills which he had given her; she thought somehow some harm was done; she spoke of a murder committed by an Italian years before. She became religious, said she wanted to do what was right, wanted to bring all together and take them to church; she spoke, in this connection quite irrelevantly, of gauze shirts, thought the dentist was one Alexander, a former friend of the family; again thought she saw the dentist in various other persons.

When first observed the patient appeared oriented, but later said for a time she thought she was among the Blue Alsatian Mountains. She was nervous, uneasy, anxious to talk. She said at once, quite irrelevantly, that her family

physician had given her large white pills during her childbirth; she made other remarks about the subject of childbirth, not only of her own, but also of that of her sister, and when asked why she said all these things, she answered, "It seems to be in my mind as though there was some connection." When questioned what this connection was, she said that the doctor also took care of her husband while he had appendicitis, that he told her he could not say what the outcome would be, and, after the husband was saved, he asked her to kiss him; she added: "The thought comes to me that the baby resembled the nurse who took care of him — is such a thing possible?" When told that this was nonsense, she said, "But why does the thought come to me?" During the rest of the day she became more excited, kept breathing very deeply, would not keep on any clothes, slapped herself vigorously, and became very forced in her attempts at breathing.

Next day she said that she felt forced to breathe deeper and deeper, that she could not stop, that a feeling came over her as if she were paralyzed, and that she had to slap herself; again she said that she could not move her hands from her side and felt like a post. She also spoke of having heard people talk about a court, said she was afraid Mary was dead, "Perhaps some one might have given her something wrong." In answer to the question why she was so uneasy, she said that she ought to have told her husband about her sensations which she had at the dentist's, yet when asked what sensations, she mentioned a toothache.

On the third day she became more quiet and rational, and remained so for two weeks; various symptoms were present, certain ideas of reference, a certain uneasiness about the court. The latter she associated with the dentist. Perhaps he might have given her child something which harmed her and he might now be prosecuted by the law; she spoke of the dentist testing her in some way. Above all there was present a constant desire to see her children, especially Mary. She repeatedly thought the children were in the next house and tried to get to them; she often tried to run away and could in no way be reasoned with regarding this desire to see her children. The idea came to her that

perhaps in some way she might have harmed the old family doctor. Then another excitement appeared, but without such markedly forced or odd actions. It seemed merely to be a constant senseless desire to get away to her children, with violent attacks upon the nurses when they would not open the doors, and, associated with this, was a constant insistence on following the examiner whom she finally half identified with the dentist, or called by the name of her husband. After six or seven days she again quieted down, but was no longer accessible for further analysis. One could not get beyond such statements as that she was nervous because she wanted to see her children and the like. She was then taken home by her family, having, so far as could be ascertained, no definite delusions at that time. At home she took, quite contrary to her usual habit, exceptionally good care of the household, but at the same time dressed with great care, bought clothes beyond her means, surprised the family by denying that she had been in a hospital and by denying that the house had been sold to her brother. The latter had been done in order to raise some money, and the patient herself had attached her signature to the deed. After a month at home the patient was sent on a trip to California to visit a sister, accompanied by her brother. While she did fairly well at first, her condition soon became worse and she had to be sent to a hospital in California, where she still is a patient, nearly three years after the onset.

While we have thus far become acquainted with the superficial facts of the psychosis, we shall now have to add the results of the analysis and the interpretations derived therefrom. Here again, as in the last case, a special set of symptoms gave the key to the situation. As there it was the electrical sensations, so it was here the peculiar breathing and slapping, etc., the analysis of which led us back to an occurrence nine years before, namely, to the time when she was pregnant and when the birth of her daughter Mary occurred. Her husband was ill with appendicitis towards the latter part of her pregnancy, and as the relationship between the two at the time was strained and her longing for the dentist again had swept over her, she wished that he might not recover, when the family physician told her that

he was in danger. She felt that then her chances for marrying the dentist would be better; that the dentist was already married throws an interesting light upon her personality, upon the lack of adaptation of her desires to reality, or perhaps upon that peculiar inadequate way in which dementia præcox personalities apply their libido. The husband got well, and when he was out of danger the old family physician asked her to kiss him for having saved him. Then the childbirth came and a similar train of thought occurred. She hoped the child would not be born alive, because her chances for marrying the dentist would be less with three than with two children. The physician told her that there was some danger and that her pains were inadequate, and that it was necessary for her to exert herself, to bear down, to breathe deeply, and he gave her white quinine pills to increase her labor pains. She did not follow his directions adequately, as they did not meet with her own desire, but the child was born and grew up a healthy girl.

The elements of this episode which are here put together in a connected story we find again in a disconnected manner in her psychosis. This episode may well have stood in her mind as the symbol of her desire to get away from the husband and to marry the dentist.

After she had for several years virtually broken off her relationship with her husband and was beginning again to apply her love to some one else, it was this older part of the same trend which again came up; she was now compensating for her lack of exertion at the time, with the forced straining, slapping, beating herself, etc.; yet the opposite was not lacking, she feared that Mary might be dead. We know now that such fears represent very often repressed wishes. So that again there was on the one hand the assertion of her desire to have the child dead, and on the other hand a compensation for this desire. It is not improbable that the feeling which at times came over her, namely, that in spite of the slapping and breathing there was something like a paralysis, may have stood as a symbol for the child's death, just as at the time of the birth the lack of exertion stood for it. Of a similar nature is possibly her thought that Mary looked like the nurse, in other words, was not her

child. Her speaking irrelevantly about an actual murder in the neighborhood by an Italian some years ago probably had some connection with her husband, whom she suspected of being in love with an Italian girl. It must be remembered that later she suspected her husband of wishing to kill her and doing it through an Italian; we know that such suspicions are often projected wishes. The feeling of guilt in regard to the child liberated as another compensation the idea about the court, which was quite prominent at times, and the general idea that some wrong had been done. It is certainly interesting that she projected her guilt on the dentist, thought that perhaps he had done something to Mary, and that there was going to be a court proceeding about him. Then the general uneasiness was attributed, not to the real source, but to such trivial substitutive matters as her kissing the old family physician, or her not having told her husband about her toothache. The idea that the dentist was testing her in some way may have been a part of that peculiar paranoic tendency which we often find in such cases where some sort of a relationship is imagined, instead of the desired one, often of a persecutory nature. Quite clear as a form of compensation or atonement is the patient's constant desire to see her children, especially Mary, which became at times very insistent and impulsive and dominated the clinical picture for a while. Of interest is also the delusion about Alexander. This Alexander was a childhood love of the patient. She said that she had often connected the two, the dentist and Alexander, because their eyes were so much alike, and it is possible that she fell in love with the dentist because of this fact. When asked what satisfaction it could possibly give to her to identify the dentist with Alexander, she said, with that insight which we find at times in our analyses, that then the dentist would not be married, because Alexander was not married; that she later connected the examiner with the dentist and with her husband was an instance of that typical diffuse application of the libido which we see in dementia præcox so often.

The religiousness which was present in the early part of the psychosis is a frequent form of compensation. She wanted to go to church; she said again and again that she

wanted to do what was right; she wanted to take others to church, spoke of wishing to unite every one, all of which is along the line of the same desire for a moral readjustment. It was at this time that a peculiarly irrelevant utterance about a gauze shirt frequently appeared. When the patient was probed about the significance of gauze shirts it was found that in June when she went to the dentist it was very hot and she did not change her clothes, more especially her gauze shirt, and she felt that the dentist might perceive an odor. Why this came out at the time I do not know, but it is clear that it belongs to the same general trend.

If we now summarize this case we find that we have a woman who was somewhat of a shut-in personality, inasmuch as she was not easily influenced by her environment and was unable to adjust herself well. Throughout her married life there was a marked lack of adaptation to her husband, showing itself in demands which she made upon him and which she knew he could not fulfil, but also in her jealousy of him. This lack of adaptation finally found its expression in the cessation of intercourse. Long before this her longing for another man manifested itself, and when the husband was ill she wished he would die, and when her childbirth occurred, that the child would not be born, so that her chances to marry the other man would be greater, and consequently she refused to help in the birth; all this, in face of the fact that the other man was married. Later there followed some years of a virtual separation from her husband, during which there was no other outlet for her interest, for she was not specially fond of her children, and had not much social intercourse with any one else; and preceding the outbreak of the disease there was a period of inactivity and day-dreaming. During this period she went to see the dentist often, fell in love with him, her day-dreaming about him increased, and then more marked symptoms appeared, namely, the semi-automatic singing of love songs, the feeling of his presence, and a greater absorption. This was followed by renewed suspicions of her husband, she thought he wanted to kill her. After this we find an interesting effort towards a frank readjustment, her confessing to her husband, an attempt at making up with him, and a desire

to get away from the dentist. When she was repulsed in both these directions there was almost at once a change, and the more acute breakdown came on, in which the picture was no longer clear, but in which the same trend prevailed, namely, that of her relationship to her husband, her desire to get away from him, to have fewer children, to marry the dentist, but in the foreground were the compensatory elements, as we have described in the analysis. The individual symptoms were: disconnected talk and incomprehensible actions, her speaking of white pills, of childbirth, of the family doctor, of having hurt him by kissing him, of the court, of her feeling guilty for not having spoken to her husband about the toothache, her fear about Mary's life, her constant desire to see her children, her peculiar actions of breathing and slapping herself, as well as her feeling paralyzed, her ideas that the dentist was testing her, that he was really Alexander, the idea that the dentist may have given something to Mary to hurt her, then her irrelevant talk of gauze shirts. All of these acts and ideas which appeared wholly disconnected and fragmentary, and entirely unaccounted for by anything which we could at first observe, belong to the same trend of ideas, directly connected with the sexual life in which there had existed conflicts for years prior to the onset of the psychosis. It is rather interesting that the patient herself said that she did not know what her ideas meant, but had a feeling, as she expressed it in the analysis, that there was some connection.

We may now supplement the report of these cases by a description and summing up of the most obvious mental mechanisms found in this disorder.

In the first place we find always the mechanism of wish fulfilment. In Case I this existed in the idea of the patient that she was married, in the hallucination of sexual sensations, and in the voice which said, "I love you," etc.; in Case II, in the presence of the dentist which the patient felt, in the identification of the dentist with Alexander, and in the idea that the child looked like the nurse. In some instances coitus is represented in hallucinations. One patient had a vision of her own marriage; another constantly heard her lover call "come"; a third patient heard that

the wife of the man towards whom her longings went was to be killed.

Akin to this mechanism is the fact that many patients see the object of their longings in all sorts of persons, although this may have a somewhat different significance as well. A very excellent example of a complicated, delirium-like wish fulfilment is given in Jung's article on the content of the psychosis.

On the other hand, Case I also covered up her *wish fulfilment*, that is to say she called that which we ultimately found to be plain sexual sensations "electrical influences," and she not only used that term metaphorically, but she dealt with them as such and believed them to be electrical. Here we see at work a force different from the wish fulfilment, something akin to a feeling of guilt and a desire to compensate for it. It is this compensation which represents another very important and very frequent type of mechanism. Quite often the compensation is in the direction in which the normal person compensates when the feeling of guilt is present, namely, in the direction of religion. In milder or early cases we find then greater interest in religion, in more advanced ones persistent praying, or, as I saw in one instance, the constant stereotyped repetition of a part of the Creed. Definite delusions which have this origin also frequently exist, the patient is "the only one free from original sin," is the "Virgin Mary," "St. Ann"; hears God say, "You are my beloved child," and sees herself go to heaven. One patient, who had fallen in love with a priest, had the idea of a peculiar mystical union of the priest, her husband, and Christ. Such vague ideas are not rare. It is quite possible that a conception of compensation which involves the idea of guilt is not always the correct formulation, but that somehow the undoing of that which a part of the personality desires may have its origin in an opposing force which cannot be thus expressed, and which has its root in the lack of sexual adaptation and the peculiar personality in general. This seems to be the view of Jung and Abraham. In hysteria similar opposing forces are found, but there it seems the feeling of guilt is more often a definite link or determining factor.

Something akin to compensation is to be found in the

anxiety or uneasiness which we sometimes find associated with wish fulfilment, as in Case I, or in the case who suddenly got much frightened when she thought her husband had been killed by a priest after she had fallen in love with a priest. Or in Case II, who was stirred up by the idea that her child might be dead.

This leads us over to a type of compensation which we may call *paranoid*, inasmuch as it manifests itself in ideas of persecution. Here it represents the direct undoing, as it were, of the fulfilment of the wish. This is the case where we have the belief in the love of a certain person, and at the same time the persecution by that person. A girl hears a man say that he wants to marry her, but also that he wants to shoot her; or another patient. who believes that a man is in love with her, also insists that he is persecuting her. In such instances the patients are apt to push the ideas of persecution to the foreground, and we only find later that the opposite is peculiarly intermingled with it. All this shows how closely delusions of persecution may be related to wish fulfilments, and may explain some purely persecutory ideas.

We might speak of mechanism of *atonement* as another type of compensating mechanisms; as, for example, in the patient who had been sexually excited by seeing certain things, and who later had a persistent impulse to dig out her eyes; or in the more complicated instance furnished by Case II, where the patient made up for her lack of exertion during childbirth by vigorously breathing and slapping herself.

An interesting mechanism which leads us from these compensations to that which is called the negativistic mechanism is to be found in the shunning of anything which tends to bring up the main trend, the sort of thing which Freud has illustrated in his psychopathology of every-day life. This is the case, for example, where the patient refuses to pass her urine, to sit down, to eat, or go to bed, because all this associated in her mind with her special difficulties; here may also be mentioned the substitution of trivial things for the important ones, as is the case when our second patient blamed herself for kissing the family physician, or for not having spoken to her husband about her toothache.

We must further mention that peculiar rather gross tendency to shut out the environment by warding off any interference,— that which is called negativism, which we may see in a more active form when the pat ent may entirely refuse to have anything to do with the examiner; or which accounts for the persistent closing of the eyes, the shutting out of the outside world, and probably to a considerable extent for the marked so-called negativistic stupor.

We must finally mention in this connection that frequently symbols are used very much as in dreams. Much of that which is incomprehensible, particularly in some of the advanced cases, is due to the fact that we do not understand the symbols, as has been so well illustrated by Jung and Maeder.

If we now glance over the entire field of these data and attempt to see their significance and their laws, we find that these laws are not essentially different from those of normal, mental life.

From a general psychological point of view we may say that all our memories are grouped, as it were, in more or less extensive and more or less circumscribed complexes, in the formation and cohesion of which special interests take an important part. We might, perhaps, more correctly call the complexes centers of attraction. We can conceive of the mind, therefore, as made up essentially of trends of interest. In the course of individual development certain main tendencies of the personality develop, which then take the lead, while other tendencies become repressed. These repressed trends exert, nevertheless, a marked influence on the conscious thought and activity, as Freud has shown, but in normal life they do so mainly through the fact that the energy they supply is led into profitable channels. Every trend naturally pushes towards a realization in the direction of its feelings. If this is in harmony with the main tendencies of the personality this is useful and represents the dynamic force behind our thinking, and our pursu ts adapted to the environment and the given situation. If, however, trends which are not in harmony with the main tendencies of the personality, and which are, therefore, under the influence of repression, no longer find an outlet in profitable

channels, but assume a more or less independent dominating role, it is not to be supposed that the laws which govern normal mental activity should be suspended; on the contrary, we shall expect to find the same principle of the trend pushing towards its realization, while at the same time the other tendencies of the personality assert themselves in repressing influences as well as in adjustment reactions, but owing to the disturbance of balance between the usurping trend and the main tendencies of the personality, the thinking and acting is then no longer adapted to the actual situation, but appears as something strikingly out of contact with it, and is of a simpler and cruder type.

This, in so far as the mental side is concerned, is what seems to take place in the cases of dementia præcox, which can be analyzed; the overgrowth of certain trends at the expense of the main, well-adapted interests of the personality.