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Royal Park Multidiagnostic Instrument for Psychosis: Part I. Rationale and Review

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Abstract

The Royal Park Multidiagnostic Instrument for Psychosis (RPMIP) is a validity-oriented assessment procedure developed for the acute psychotic episode using serial interviews and multiple information sources to construct a data base of clinical information. A number of sets of operational criteria, including 11 definitions of schizophrenia and several concepts of atypical, schizoaffective, and affective psychoses, are simultaneously applied to the data base to produce a diagnostic profile for each patient that can be linked to other variables. This article describes the rationale for the development of the RPMIP and contrasts it with other assessment and diagnostic procedures. A companion article (Part II) presents data on interrater reliability and procedural validity, together with an account of the structure and development of the instrument.

The purpose of this article (Part I) and its companion (Part II) is to describe the origins and development of a comprehensive assessment procedure for the acute psychotic episode and to present initial information about its reliability and procedural validity. This procedure is based upon a particular approach to descriptive psychopathology that is best characterized as "validity-oriented," and has given rise to a series of fundamental principles or strategies which have been outlined in a previous communication (McGorry et al. 1989). In addition, the Royal Park Multidiagnostic Instrument for Psychosis (RPMIP) is an attempt to build upon the renewal of interest and the methodological progress that have occurred in psychiatric nosology during the past two decades.

The catalyst for this revival was increasing dissatisfaction with the unreliability of psychiatric diagnosis (Kreitman 1961), which continued to be based principally upon the clinical syndrome. This problem was gradually solved by the identification of the key sources of unreliability and the development of methodological tools to address them—namely, systems of operationalized diagnostic criteria and structured interview schedules linked to these. Unfortunately, the resolution of the problem of unreliability merely allowed a further problem to emerge—the issue of comparative validity, correctly foreshadowed as a principal focus for nosological research during the 1980's (Fenton et al. 1981). Disillusionment with diagnosis and classification once again became a possibility, arising this time from a confusing situation in which an array of reliable but poorly concordant rival operational definitions were available to the clinician or researcher for the diagnosis of each disorder, particularly within the realm of psychotic and affective disorders. This situation derives from the persistence of syndromal diagnosis and therefore from a failure to identify sources of criterion validity. The clear demonstration of the highly arbitrary nature of our attempted subdivisions of functional psychosis has provoked two kinds of response.

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On the one hand, there has been a nosological hypertrophy reflected in the polydiagnostic approach (Berner et al. 1983), in which several different diagnostic formulations for the same disorder are used simultaneously in a single sample of patients involved in a specific research project. Conversely, a renewed antinosological trend has also emerged. Ironically, on this occasion, its origins lie firmly within biological psychiatry rather than sociology or psychoanalysis. This trend can be discerned in the proposal that psychopathological features be regarded as dependent rather than independent variables in research studies (Buchsbaum and Haier 1978), a suggestion that has been seen as a "new threat" to existing classifications (Kendell 1984). However, if such a reversal of the position of independent and dependent variables were limited initially to the research sphere and could be achieved without the downgrading of the quality of the psychopathological data, then it need not pose a threat to the progress of psychiatric nosology; rather, it might assist it to become more validity-oriented, since the rigidity of current theoretical concepts and assessment methods may well be among the major obstacles to progress (McGorry et al., in press).

Within this broader context, the RPMIP procedure has been developed to provide a high-quality reconstruction of the acute psychotic episode from onset to termination or, alternatively, to the development of a stable clinical plateau or steady state. It is closely modeled after the routine methods of clinicians in using multiple information sources and serial "update" assessments (Brockington and Meltzer 1982), but these methods are strengthened by the incorporation of a number of features based upon recent advances in the assessment of psychopathology, such as glossary definitions, semistructured interview schedules, and explicit ground rules for the blending of the data from different sources. The instrument has been developed within the context of a new research program focusing on the functional psychoses, and it is used as a core assessment tool for a variety of interdependent research projects.

Review of Underlying Principles

The RPMIP is based upon a number of principles derived from an analysis of the limitations of current methods for the assessment of psychopathology. These have been set out in detail elsewhere (McGorry et al. 1989) and will be considered only briefly here, with the exception of the multidiagnostic approach. The latter is discussed in some detail, since it is the cornerstone of the RPMIP procedure and, to date, has not been the subject of a comprehensive review in a major psychiatric journal.

Selection of Point of Rarity. In view of the unresolved problem of the comparative validity of rival operational definitions for any given diagnostic concept, it is clear that the selection of points of rarity for research purposes is extremely problematic. In such a situation, broad samples of patients should be studied and only relatively robust or promising candidates for putative points of rarity chosen, so that premature closure does not occur (Andreasen et al. 1988). One such candidate is the boundary between psychosis and nonpsychosis (Winokur 1984), even though intermediate forms certainly straddle this boundary. We selected this hypothetical natural clinical boundary to guide our evolving research strategy and the development of the RPMIP which, within the larger domain of functional psychosis, provides for the simultaneous delineation of numerous alternative points of rarity or ways of subdividing psychosis. This means that the RPMIP has been designed primarily for the assessment of patients during an acute psychotic episode. In addition to covering a large number of psychotic diagnoses, the instrument also allows borderline and nonpsychotic cases to receive a diagnosis through the use of residual and some pure (nonpsychotic) affective and personality disorder categories.

The Multidiagnostic Approach. The multidiagnostic or polydiagnostic approach has emerged as one response to the problem of rival definitions and has been the major guiding principle in the construction of this assessment tool. It can be defined as the simultaneous application of a set of competing and variably concordant systems of operational diagnostic criteria to a particular sample of patients. Such a strategy has been characterized as a new paradigm in psychiatric research (Berner et al. 1983), yet it has evolved directly from the first generation of studies using operational definitions. As well as turning what had initially seemed to be a weakness of the operational approach—namely, the profusion of competing criteria—into a potential advantage, the multidiagnostic approach possesses a number of other positive features. These relate to improvements in face, content, and descriptive validity—factors that

favor the inclusion of a wide range of operationalized concepts in the procedure.

The belated acceptance of the operational approach to psychiatric diagnosis led to the development during the 1970's of a number of alternative definitions for a range of major psychiatric disorders such as the Feighner Criteria (Feighner et al. 1972); Research Diagnostic Criteria (RDC; Spitzer et al. 1978); and *DSM-III* (American Psychiatric Association 1980). A number of studies subsequently examined the levels of concordance between competing definitions for several of the major psychiatric disorders. They found that while in general most individual definitions could be reliably applied, concordance between definitions was relatively poor. Such concordance was at its worst for definitions of schizoaffective disorder (Brockington and Leff 1979; Vogl and Zaudig 1985), was poor for schizophrenia (Brockington et al. 1978; Stephens et al. 1980, 1982; Endicott et al. 1982), and was somewhat higher for depression (Brockington et al. 1982) and mania (Brockington et al. 1983). The fact that these definitions, which achieved comparable levels of reliability, could vary so widely—as much as eightfold to tenfold in the case of schizophrenia (Brockington et al. 1978; Endicott et al. 1982)—in their rates of diagnosing a particular disorder led to some confusion and disquiet among psychiatrists. Stengel (1959), one of the earliest advocates of the operational approach, foresaw this disquiet when he wrote:

> In fact many of the present nosological concepts are operational definitions; this would not be readily admitted by many psychiatrists because the quest for disease entities has created the idea that our diagnostic concepts stand for biological realities with which it would be wrong to tamper. [p. 612]

Zubin et al. (1985) have recently illustrated how such concepts are built up from the ideas of the time as well as the realities, and also how such concepts and ideas, through their inertia, can obscure and discount current realities.

In any event, the development of operational criteria, promoting separation between theoretical and empirical or observable components, and the demonstration of poor concordance between alternative definitions exposed an arbitrary quality not previously apparent or acknowledged. The lack of concordance obviously stemmed from hitherto implicit conceptual differences within each broad category of disorder, and it led to the more recent focus on the question of the comparative validity of rival definitions (Fenton et al. 1981). While the poor concordance between definitions of schizophrenia seems to support the view that schizophrenia is a heterogeneous group of related disorders, it is also possible that the array of competing definitions might actually be identifying a single latent or "core" diagnostic entity but with varying degrees of accuracy—a view that has recently received some empirical support (Young et al. 1982). The interplay between the "unobservable" or latent theoretical variables and the "observable" variables or operational criteria will be examined further below.

The initial response to the existence of this range of operational definitions was to evaluate them in a comparative way in the hope that, for the disorder in question, one of the definitions would emerge as clearly superior. Measures of internal and external validity have been examined (Bland and Orn 1979; Kendell et al. 1979; Fenton et al. 1981; Maj 1984; McGlashan 1984; McGuffin et al. 1984; Endicott et al. 1986; Philipp et al. 1986), but in the case of schizophrenia, the results have failed to demonstrate the global superiority of any one operational definition (Fenton et al. 1981). The degree of overlap between alternative measures of external validity is variable, although one recent study showed that definitions with good predictive validity such as the Feighner Criteria and *DSM-III* (Helzer et al. 1981) also defined a disorder with higher heritability than that defined by many of their competitors (McGuffin et al. 1984; Farmer et al. 1987*b*). However, the RDC definition has lower predictive validity than the Feighner and *DSM-III* criteria but a comparable level of heritability. The issue of comparative validity is reviewed elsewhere (Fenton et al. 1981), with warnings concerning premature closure. One of the major problems has been that more direct measures of criterion validity, such as pathophysiological markers, have not been identified, and although some of the indirect measures may be partially convergent, they are not syndrome specific (Carroll 1985; Siever and Coursey 1985), and it would be premature to accept single definitions or current nosological boundaries (Farmer et al. 1987*b*) at this stage for use in biological research.

The obvious solution to this problem was initially proposed by Strauss and Gift (1977). Data relevant to several diagnostic systems should be collected so that relationships among biological variables, treatment response, outcome, and heredity could be explored for

a number of diagnostic concepts concurrently. Such an approach was taken by Kendell and his colleagues in the 1970's, and was restated in a lucid and influential article (Kendell 1982) several years later, by which time some of the implications were becoming clearer. While the earlier studies of concordance between diagnostic systems had tended to apply sets of operational criteria retrospectively to research data from previous studies, prospective investigations now began to collect a wider range of data to allow the simultaneous application of several sets of criteria (Overall and Hollister 1979; Landmark 1982; Berner et al. 1983; Boyer et al. 1984; Pichot 1984; Philipp and Maier 1986*b*). Some of these researchers used an established interview schedule supplemented by a list of additional items, and such instruments can be seen as forerunners of, or alternatives to, a "purpose-built" or true multidiagnostic interview schedule. On the other hand, while the Composite Diagnostic Checklist of Overall and Hollister (1979) and the Liste Intégrée de Critères d' Evaluation Taxonomiques pour les Dépressions (LICET-D) and Liste Intégrée de Critères d' Evaluation Taxonomiques pour les Psychosis Non-Affectives (LICET-S) initiatives in France (Boyer et al. 1984; Pichot 1984) which involve the construction of comprehensive lists of integrated criteria to be applied to existing clinical data also belong to this prototypical group, there are potentially important methodological differences between the two procedures (Philipp and Maier 1986*a*).

The Diagnostic Interview Schedule (DIS; Robins et al. 1981) was the first major interview schedule to embody the multidiagnostic principle, permitting diagnoses to be made for many disorders according to the Feighner, RDC, and *DSM-III* systems. However, because these systems are developmentally linked and overlap significantly, the application of the principle is limited. It may be termed oligodiagnostic to contrast it with the previous unidiagnostic strategy on the one hand, and the emerging polydiagnostic or multidiagnostic approach on the other. This oligodiagnostic approach, involving a relatively small number of widely accepted diagnostic systems, has been extended in the development of two new international assessment instruments, the Composite International Diagnostic Instrument (CIDI) and the Schedules for Clinical Assessment in Neuropsychiatry (SCAN) (Robins et al. 1988). The latter may well become standard tools for all but the most specialized research purposes.

Landmark (1982) developed an interview schedule for schizophrenia that used a truly multidiagnostic approach. Although intended for a chronic population and limited to one disorder, schizophrenia, this schedule operationalized a wide variety of diagnostic concepts within this spectrum, including the key historical formulations. It was this monograph that kindled our own interest in the multidiagnostic approach and led to the present project. Concurrently, Berner et al. (1983) had been developing a similar approach to the assessment of the major psychiatric disorders. They identified the two basic requirements of a polydiagnostic approach as a basic data-gathering "core instrument" and a computer program to apply the algorithms of the various systems to the data. These workers based their core instrument on a modification of the Present State Examination (PSE; Wing et al. 1974), while Philipp and Maier (1986*b*), who have developed a German polydiagnostic interview, the Polydiagnostic Interview (PODI), selected the Structured Clinical Interview for *DSM-III* (SCID; Spitzer and Williams 1984) as their core data-gathering tool and enriched it with PSE components and additional material. Although we also began our instrument development with a SCID-PSE blend, we rapidly came to the conclusion that it was necessary to return to first principles and construct a new instrument. The reasons for this included the range of diagnostic concepts we intended to cover and hence the number of new symptoms to be rated, as well as the frequent and important differences in the operational definition of the "same" symptom from system to system, which could produce spurious overlap between systems if not addressed.

In summary, to facilitate the multiple-barreled approach advocated by Strauss and Gift (1977) and Kendell (1982), a refinement in the technology of psychiatric diagnosis was required. This advance involved the development of a single comprehensive assessment instrument to collect psychopathological data of specific relevance to a wide range of operationalized diagnostic concepts, and a set of algorithms that could be applied to this rich, yet highly selective, clinical data base, thus allowing syndromal diagnoses drawn from a range of rival, partially overlapping, and therefore nonmutually exclusive diagnostic concepts and systems to be extracted.

The advantages of a multidiagnostic approach can be usefully discussed using the framework of Skinner (1981), who put forward a paradigm for the evaluation of classification

systems. This framework is composed of three components—theory formulation, internal validation, and external validation.

The interplay between theoretical and empirical aspects in psychiatric classification is complex. Hempel (1961) has been an influential writer in this area, and his views have recently been presented with great clarity by Schwartz and Wiggins (1986). Hempel proposed specific requirements for the development of a scientific classification in psychiatry. These stemmed from his view of the two basic functions of science, (1) that events must be adequately described, and (2) that general laws and theories must be established that allow events to be explained and predicted. Thus, he believed that each diagnostic criterion had to have real or "empirical import"—that is to say it had to be connected through an operational definition to real signs and symptoms. In addition, each criterion had to be related to other criteria through lawlike generalizations, usually referred to by clinicians as "syndromes." Such generalizations were a reflection of his concept of "systematic import," which required diagnostic criteria to be connected to systematic theories that could explain and predict the occurrence of disorders. Since they remained close to the observable features of the illness, such generalizations were pretheoretical, and were called "empirical generalizations" to distinguish them from "theoretical generalizations," which referred to nonobservables.

As a scientific discipline matures, the emphasis shifts from the description of events and empirical generalizations toward higher level explanatory theoretical ones. Indeed, such a process can be seen at work in the evolution of Kraepelin's concept of dementia praecox over the years, as reflected in each new edition of his textbook of psychiatry. The publication of *DSM-III*, however, represents an apparent reversal of this trend since it claims to have purged many of the theoretical generalizations and moved back toward the level of empirical generalizations. This attempted reversal, which has only been partially successful, stemmed from an appropriate recognition of the lack of consensus within psychiatry about theoretical explanations for psychiatric disorder.

What a multidiagnostic approach offers is the opportunity to test a battery of different empirical generalizations, with varying degrees of higher level theoretical generalizations governing the choice of, and relationship between, the observable variables. Of course, such empirical generalizations could also be examined in other, more exploratory ways without a priori relationships specified, and new theoretical generalizations developed. Berner et al. (1983) have argued that classification systems such as *DSM-III*, which have been constructed on the basis of compromise, tend to conceal conflicting viewpoints and are ill-suited for sole use in biological research, where such conflicting theories should give rise to testable hypotheses. The multidiagnostic approach allows several kinds of definitions to be used in parallel. These might include monothetic, polythetic, and prototypical approaches to a particular diagnostic concept, with individual definitions containing a variable mix of empirical and theoretical generalizations. It is important to make these generalizations explicit so that they become accessible to scientific scrutiny, and therefore to modification. In the process, it may be possible to avoid a naive empiricism (Faust and Miner 1986), and move toward a synergism between theory formulation and empirical classification methods (Skinner 1981).

The component of internal validation involves issues such as the reliability and coverage of diagnostic systems. Coverage is an infrequently studied criterion, and refers to the applicability of a classification to the domain of patients for whom it was intended. If 50 percent of such a population of patients are not covered—that is, remain undiagnosed by a given classification—this would markedly limit its utility (Blashfield and Draguns 1976*a*, 1976*b*). Blashfield (1973) has demonstrated an inverse relationship between reliability and coverage, and since both are important criteria in the evaluation of a classification, some method of resolving the apparent conflict is necessary. As a consequence of this reciprocal relationship, some operational definitions such as the Feighner criteria are highly reliable but low in coverage, with the result that many patients remain undiagnosed (Welner et al. 1972). On the other hand, systems characterized by vague or broadly defined classes such as *DSM-II* (American Psychiatric Association 1968) or ICD-9 (World Health Organization 1978) possess excellent coverage but in the process sacrifice reliability. A system like *DSM-III*, however, which uses operational definitions of diagnostic categories that together are mutually exclusive and jointly exhaustive, achieves a spuriously high level of coverage, a "pseudocoverage," through the use of residual or "wastebasket" categories. The conflict between reliability and coverage is not really resolved

by this strategy if the proportion of patients in the residual categories remains high.

The multidiagnostic approach offers a more acceptable solution to this problem. It is possible to step outside the self-contained systems of diagnosis such as *DSM-III*, RDC, and Feighner, and alternative systems or single concepts can be applied to patients in the residual, unclassified, or noncovered domain. Such an approach is not inconsistent with Blashfield and Draguns' (1976*a*) own proposal for resolving the reliability/coverage paradox, which requires each diagnostic category to refer to a homogeneous grouping of patients and all diagnostic categories to map all of the homogeneous groupings of patients. This involves a high level of descriptive validity, a feature which, they suggest, is lacking in classifications where a reciprocal relationship remains between reliability and coverage. A multidiagnostic approach might represent a method of achieving this, by serving as an intermediate strategy or steppingstone, leading ultimately to a superior exhaustive and mutually exclusive classificatory system with good reliability *and* coverage.

The advantages of a multidiagnostic approach in relation to the problem of the external validation of psychiatric syndromes form the most compelling argument for its application. Kendell (1982) has put this point of view most forcefully, pointing out the difficulty in identifying boundaries between syndromes without an understanding of underlying pathophysiological mechanisms unless the clinical boundaries are accurately drawn in the first place. The proposal that alternative definitions of syndromes be used concurrently, thus providing a range of such boundary points, is one logical way to approach this difficult task. While it has received recent reendorsement (Spitzer and Williams 1988), others have expressed caution, suggesting that in psychiatric measurement, fewer carefully selected measures may prove more effective than a comprehensive battery (Kraemer 1981; Kraemer et al. 1987). Nevertheless, researchers are using the approach in studies of biological markers of disorder (Philipp et al. 1986; Farmer et al. 1987*b*).

Similarly, a multidiagnostic approach is required in identifying correlations between syndromes and other less direct indicators of external validity. In this way, the most highly heritable of a number of alternative operational definitions can be identified (McGuffin et al. 1984), and the syndrome that best predicts response to a particular treatment or an unfavorable outcome can also be detected (Kendell et al. 1979; Maj 1984; Endicott et al. 1986). There may be limited convergence between the results of such studies of external validity, emphasizing the need to avoid premature closure and to maintain a multidiagnostic perspective. Measures of external validity may have powerful effects upon the composition and structure of the diagnostic concept and its operational definition. This has been most clearly seen in recent years in the way that the availability of lithium therapy has affected the diagnostic criteria for affective disorders (Parker et al. 1985; Joyce 1987). A further example of the reorganizing effect of new knowledge can be seen following the discovery of the etiology of a disease. A similar redrawing of the clinical boundaries—that is, of the observable components of the disorder—occurs when the underlying etiopathology is clarified, as witnessed in many neuropsychiatric disorders, notably general paresis (Robertson 1923; Hare 1959).

A number of potential problems and disadvantages associated with the multidiagnostic approach must be acknowledged, however. The effects upon procedural validity of applying multiple sets of diagnostic criteria, either as integrated or nonintegrated criteria lists, or via a structured interview procedure, have only been studied in a limited way, but it is likely that the methodology selected will influence the resulting diagnostic profile (Philipp and Maier 1986*a*). The fact that the same diagnostic criteria are being used does not necessarily mean that they are being applied in the same way (Jampala et al. 1988; Winokur et al. 1988; Zimmerman 1988), and the simultaneous use of multiple sets may exert significant and, as yet, ill-understood effects. The increased burdens of training for clinicians in becoming familiar with a comprehensive glossary of symptom definitions, often with subtle shifts of meaning between them, and for subjects and interviewers alike in completing extensive assessments, are important considerations. Another area of difficulty is that instead of one or two diagnostic variables—for example, schizophrenia versus nonschizophrenia—studies of potential biological markers have to deal with a substantial number of diagnostic systems, and correspondingly larger sample sizes are required to detect significant effects, because of the statistical requirement to correct for multiple comparisons. This may not be a major problem, however, because there is a degree of overlap, often substantial, between diagnostic concepts, and conventional methods

of correcting for multiple comparisons would therefore generally be excessively strict.

Multiple Information Sources. The use of multiple information sources is an obvious means of improving validity in psychopathological assessment (Brockington and Meltzer 1982; Spitzer 1983; McGorry et al. 1989). Although few methodological studies have addressed this issue, those that have indicate that the various sources tend to complement each other, and can be successfully integrated without a loss of reliability (Graham and Rutter 1968; Carpenter et al. 1976; Strauss et al. 1978; Downing et al. 1980; Zimmerman et al. 1986, 1988). Patients, informants, interviewers, and observers can contribute valid information about particular aspects of the disturbance, with each source showing distinct weaknesses in other areas. Ground rules for dealing with conflicting information and achieving consensus ratings need to be established on the basis of an understanding of such strengths and weaknesses (Brockington and Meltzer 1982; Zimmerman 1988).

Serial or update assessments during the episode of illness are another important information source not routinely used in psychopathological assessment, yet they are necessary because of the limitations of the single structured psychiatric interview (Brockington and Meltzer 1982). They allow symptoms that emerge during the course of the episode to be recorded, whether or not they have the effect of changing the hierarchically based episode diagnosis (Siris et al. 1984; Simon et al. 1987). In attempts to document or reconstruct the psychotic episode, assessments early and late in the course of the episode allow acute, florid disturbances to be captured as well as late symptomatology. Furthermore, update assessments during recovery often allow the patient to provide a much clearer account of the onset and evolution of the disturbance (Brockington and Meltzer 1982). The longitudinal approach to evaluation and the use of multiple data sources form part of Spitzer's "LEAD" (Longitudinal, Expert, All Data) standard for evaluating the validity of diagnostic assessment instruments (Spitzer 1983).

Time Period Considered. The unit of time focused on by the major diagnostic interview schedules is variable. It might be the past month, the period when symptoms were at their peak, or the subject's entire lifespan. To some extent, the choice of instrument and the time period considered reflect the requirements of individual research projects (Wing 1983), and separate modules or instruments with different but overlapping symptom pools are probably required for different phases of illness. For example, the assessment of the acute psychotic episode would require an item pool enriched with a wide range of florid or productive symptomatology, while in the recovery and intermorbid phases, greater coverage of the subtler residual and affective symptoms would be indicated.

The question of the reliability and validity of lifetime diagnosis in functional psychosis is important but currently unresolved (Andreasen et al. 1981; Keller et al. 1981; Pulver and Carpenter 1983; Bromet et al. 1986; McGuffin et al. 1986; Burvill 1987; Parker 1987; Prusoff et al. 1988). Clinical experience suggests that it is difficult to achieve accurate estimates of lifetime diagnosis in psychotic disorder (Burvill 1987), and this view is supported by at least some research data (Helmes et al. 1983; Pulver and Carpenter 1983). This is directly relevant to the question of what time period ought to be considered by interview schedules in psychotic disorder, and to what extent information about previous episodes should be allowed to influence the assessment and diagnosis of the current episode. There is an independent case for preventing previous diagnoses from exerting hierarchical effects upon the present episode (Boyd et al. 1984), and this is buttressed by doubts about the validity of such earlier diagnoses if ascertained in the context of the current episode (McGorry et al. 1989). Relevant evidence on this point is provided by a recent study by Wittchen et al. (1989), who found that the validity of time-related symptom questions was low if the patients were psychotic at the time of assessment. The validity of detailed psychopathological data from earlier episodes was not examined. A strategy that is conservative in terms of validity and minimizes premature closure would focus upon the "current episode" defined as follows: Onset would date from the earliest perceptible change from the patient's usual premorbid or intermorbid functioning, and termination would be marked either by a return to this level or by the achievement of a new "plateau" at a different level, either higher or lower. Within these boundaries, the pattern, sequence, and prominence of syndromes would be assessed in detail in a way that would make hierarchical decision rules optional but not mandatory. Such a strategy has been invoked in the development of the RPMIP and allows the procedure to

be used in the assessment of multiple-admission cases as well as first admissions, for whom it is especially appropriate.

Comparison With Existing Interview Schedules

A number of existing interview schedules collect psychopathological data relevant to the range of psychotic disorders. Why then was it necessary to develop a new instrument for the assessment of psychotic patients?

From 1984 a new research program focusing on the psychoses was initiated at this center and has since developed into the National Health and Medical Research Council Schizophrenia Research Unit. The need for a core diagnostic instrument for the comprehensive assessment of patients with an acute psychotic episode was recognized, and a number of existing interview schedules were examined as potential candidates. These included the PSE, the Schedule for Affective Disorders and Schizophrenia (SADS; Endicott and Spitzer 1978) the DIS, the CIDI, the SCID, and the Landmark schedule. Each of these, however, was found to be unsatisfactory in relation to the set of guiding principles outlined above. Several were too closely tied to a single diagnostic system or group of related systems to allow the implementation of the multidiagnostic principle. The PSE provided excellent coverage of the symptom domain, including subtle phenomenological differences, but it lacked a historical component and, unless modified, was not easily wedded to the broad range of diagnostic systems. Other instruments were too coarse in the their assessment of psychotic symptomatology. Early attempts were made to modify and merge the SCID and the PSE in accordance with the guiding principles, in a similar way, as we subsequently learned, to that tried by European researchers,[1] but it was soon decided to construct an assessment tool de novo, beginning with the selection of the range of systems to be included, a process which, in turn, largely defined the symptom domain. The other principles described also influenced the structure and mode of administration of the instrument. In this section, other assessment instruments are briefly described and contrasted with the RPMIP (see table 1). A more detailed account of the instrument itself is presented in Part II of this article.

PSE. The PSE was developed as a guide to structuring the clinical interview and was not designed around a specific set of diagnostic criteria. It was substantially developed before the appearance of explicit sets of operational definitions and is intended to provide the user with a method of deriving a comprehensive picture of relevant mental functioning, including psychotic and neurotic aspects, in the previous month. It is essentially a semistructured interview for conducting the mental status examination and scoring the findings. Historical material is covered only in adjunctive schedules. The interviewer is expected to use a cross-examination style to discover whether certain symptoms are present, and a degree of flexibility is permitted. Detailed accounts of the instrument and comparisons with other schedules are readily available (Wing et al. 1974; Hedlund and Vieweg 1981; Luria and Guziec 1981; Helzer 1983; Wing 1983; Farmer et al. 1987*a*).

An important issue to highlight is that the rationale for and the process of development of the PSE differed significantly from those involved in interview schedules that are "criteria-driven." The latter have followed a reverse sequence, beginning with a set or sets of operational criteria for various disorders and constructing probes to elicit material relevant to these. The PSE approach results in a sophisticated coverage of the spectrum of psychotic symptoms, many of which have been included in the RPMIP procedure to enrich the data base, even though they are not required for diagnostic assignments. The PSE's insulation from operational definitions of psychosis, however, meant that it could only form the backbone of a multidiagnostic instrument if major modifications were carried out. Furthermore, in view of its function as an elaborated mental status examination, the incorporation of diagnostically relevant information from other sources would be difficult. Other interview schedules—for example, the SADS—that are modeled on the psychiatric history (Luria and Guziec 1981) contrast with the PSE in their ability to take on board such additional information. In contrast to both approaches, the RPMIP attempts to combine the history of the present illness and mental status methods in one procedure that approximates the traditional clinical approach.

SADS. The SADS was developed specifically to record the information necessary for making RDC diagnoses. The timeframe is quite different in

[1]Philipp, M., personal communication 1987.

Table 1. Comparison of the RPMIP with existing assessment procedures

	PSE	SADS	DIS	CIDI	SCID	Landmark	PODI	RPMIP	CASH
Epidemiological (E) vs. clinical (C)	C	C	E	E	C	C	C	C	C
Number of interviews	1	1	1	1	1	1	1	2+	2+
Time period considered	Previous month	1 wk (most severe) + lifetime	Lifetime	Previous month + lifetime	Previous month + lifetime	Total period of illness	Current episode only	Current episode only	Previous month + lifetime
Degree of structure	+	+	+++	+++	+	+	++	+	+++
Overview	–	+/–	–	–	+	–	+	+	+
Multiple information sources	–	+	–	–	+	–	+	+	+
Multiple diagnostic systems	–	–	+	+	–	+++	+++	+++	+++
Coverage of disorder (psychotic + neurotic)	+++	+	+++	+++	+++	+	++	+	+
Coverage of psychotic + affective features	+++	++	+	+	+	+++	++++	++++	++++
Experienced raters required	+	+	–	–	+	+	+	+	+
Glossary	+	+/–	–	+	+/–	+	–	+	+
Linkage to operational definitions	–	+	+	+	+	++	++	++	++
Historical (H) vs. mental (M) status method	M	H	H	HM	H	HM	HM	HM	HM
Computer algorithm	+	–	+	+	–	+	+	+	–

Note.—RPMIP = Royal Park Multidiagnostic Instrument for Psychosis. PSE = Present State Examination. SADS = Schedule for Affective Disorders and Schizophrenia. DIS = Diagnostic Interview Schedule. CIDI = Composite International Diagnostic Instrument. SCID = Structured Clinical Interview for *DSM-III*. Landmark = Landmark Manual for the Assessment of Schizophrenia. PODI = Polydiagnostic Interview. CASH = Comprehensive Assessment of Symptoms and History. ++++ (vs. +++) reflects a further increment on this scale.

that the SADS focuses on the 1-week period during the current episode when the particular feature under consideration was at its most severe. The disadvantage of this approach is that the time period evaluated for each symptom is thus defined independently of other symptoms, so that the SADS profile could conceivably amount to a composite of temporally unrelated symptoms instead of a syndrome. This is a critical nosological issue for obvious reasons. Advantages of the SADS include its history of the present illness method (Luria and Guziec 1981), which takes advantage of information from multiple sources, and its current state or change version, which allows repeat or update interviews to influence the ultimate diagnosis (Siris et al. 1984). Its principal disadvantages, from our perspective, were its unidiagnostic basis with consequent poor coverage of the range of psychotic symptomatology and the temporal uncoupling of individual symptoms from one another.

SCID. This interview schedule, intended for use by relatively experienced clinicians to elicit *DSM-III* diagnoses across a broad range of psychopathology, was developed at the New York State Psychiatric Institute (Spitzer and Williams 1984). The structure of the interview is such that a flexible overview is conducted, followed by a structured interview with multiple skip points. Depending upon the subject's responses, very different paths through the interview are followed, with variable areas of psychopathology being covered and, conversely, omitted, resulting in a data base with multiple lacunae at the symptom level. For this reason, the SCID is purely a diagnostic schedule, eliciting the minimum information for *DSM-III* diagnoses to be made. Because of its structure, the SCID was felt to be especially inappropriate as a framework for a multidiagnostic assessment, although Philipp and Maier (1986*b*) have since managed to adapt it for this purpose. In summary, the SCID is a reliable (Copolov et al. 1986), efficient, and probably more valid method for experienced clinicians to elicit *DSM-III* diagnoses in a relatively standardized way without excessive rigidity.

DIS. The DIS is a fully structured interview developed for the Epidemiologic Catchment Area (ECA) program (Robins et al. 1981). It provides fixed phrasing for questions about symptoms, and standard probes to determine whether a symptom is severe enough to meet criteria. The format is designed to reduce the amount of clinical experience required to conduct the interview and make ratings, and the DIS thereby attempts to make diagnostic interviews accessible to lay interviewers. Despite advantages in economy and feasibility, the lay-interview approach involves a potential sacrifice of validity—an issue that has been examined in several studies (Hesselbrock et al. 1982; Anthony et al. 1985; Robins 1985). A computer algorithm is applied to the interview data and enables diagnoses to be made according to three related diagnostic systems (Feighner, RDC, and *DSM-III*).

Despite its embryonic multidiagnostic structure, the DIS was felt to be unsuitable as a framework for expansion into a core assessment schedule for acute psychosis for several reasons. The instrument is fully structured and is therefore incompatible with the more flexible cross-examination technique that is especially useful in highly disturbed patients with complex psychopathology. Similarly, the absence of a semistructured overview section is a disadvantage, since, when combined with a subsequent series of structured modules focusing on specific areas, such an overview section produces the greatest chance of accurately eliciting psychopathology. When used by clinicians, the DIS constrains and wastes expertise. The multidiagnostic feature of the DIS is rather spurious in view of the interrelationship of the systems covered, yet expansion of this covereage would be difficult given the rigidity of the internal structure of the schedule. The coverage of psychotic symptoms in the DIS is somewhat coarse and limited, which is quite appropriate in the context of a large epidemiological survey, but not in inpatient studies of severe psychiatric disorder. The end product is certainly not comparable with that, for example, of a PSE interview in the comprehensiveness of the mental status information elicited. The use of informants is not routine with the DIS, which further reduces the validity of the data obtained.

Landmark Manual for the Assessment of Schizophrenia. This truly multidiagnostic schedule provided the idea and the model for the development of the RPMIP. The manual was developed in Canada by a Norwegian psychiatrist, Johan Landmark (1982), for the purpose of reassessing the diagnoses of a sample of chronic schizophrenic patients attending an outpatient clinic. Thirteen concepts of schizophrenia and related nonaffective psychoses were assembled, some of which already existed in an operationalized form. The remainder, mainly historical

concepts, such as Bleulerian schizophrenia, were operationalized by Landmark himself, wherever possible in close consultation with the originator of the concept or their descendants (e.g., Manfred Bleuler and Gabriel Langfeldt).

The RPMIP differs from the Landmark schedule in the population for whom it is intended (namely, *actively* psychotic inpatients rather than relatively stable outpatients), the wider spectrum of psychotic and affective diagnoses it includes, and its explicit use of multiple information sources. The selection of operational definitions has also been brought up to date for the RPMIP, and the historical concepts have been carefully reviewed and modified where appropriate. The structure of the RPMIP, as well as the phrasing and sequence of its probes for the various items, is also quite different, although the principle of a single data sheet from which a large number of diagnoses can be extracted is common to both. In this respect, the Landmark manual is a close relative in evolutionary terms to the RPMIP.

PODI. Closer still and with similar antecedents and paths of development is the PODI, developed in West Germany by Philipp and Maier (1986*b*) to facilitate the emergent polydiagnostic approach in Europe. This schedule is the only published polydiagnostic interview to date. The SCID was used as a basis for constructing the PODI, but it was richly supplemented by additional questions and new sections, where required, to allow a very broad range of diagnoses from the psychotic and affective spectra to be ascertained. The mental status section was modeled on the PSE. Complex criteria have been broken down into their component parts to improve precision, and questions are generally short and clearly formulated. The interview is only administered once and concentrates on the most severe phase of the current episode. It does allow all available information to be considered by the rater and is intended for use by expert clinicians, a feature that is used to justify the lack of a detailed glossary (Philipp and Maier 1986*b*). A computer program has been developed to apply the diagnostic algorithms for the various systems, which now include the research criteria of ICD-10, which is scheduled for publication in 1992 by the World Health Organization, and the *DSM-III-R* (American Psychiatric Association 1987) criteria.[2]

CASH. The Comprehensive Assessment of Symptoms and History or CASH (Andreasen 1985) is based on a similar rationale to that underlying the RPMIP.[3] At present, few published details are available concerning this schedule or its reliability and validity, but Andreasen has provided an outline of its characteristics according to the parameters that we selected to contrast the various instruments (see table 1).

Conclusion

This article has reviewed the background and underlying rationale for the development of a new method of psychopathological assessment for patients presenting with an acute psychotic episode. The following article (Part II) builds upon this material in describing how the instrument was constructed and is administered, and presents initial data about its reliability and procedural validity.

[2]Philipp, M., personal communication 1987.

[3]Andreasen, N.C., personal communication, 1989.

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