1. Psychiatric Diagnostics

In this section I will present the core procedures of clinical psychiatric diagnostics. To provide this overview at the outset of my inquiry serves the purpose of gaining a picture of the epistemic practices whose methods I have to account for in order to answer the Methodological Question. To find out what method is at work in psychiatric diagnostic reasoning, getting an idea of how it works as a basis for my inquiry, seems a natural way to begin.

To structure the presentation of psychiatric diagnostics, I will start from the standard boxology model for the general medical diagnostics that scientist and philosophers alike have long supported as the basic framework for thinking about the diagnostic process (e.g., Feinstein, 1964; Elstein, Shulman, and Sprafka, 1978; Sober, 1979). This model carves up the diagnostic process into a three-step input–processing–output format consisting of diagnostic information-gathering, diagnostic information-processing, and, finally, the output of a diagnostic proposal (Figure 1).

Figure 1: The steps of the diagnostic process from beginning to end. Order of progressing steps indicated by arrows.

In my presentation I will work though this chart and "unpack" each of these boxes for the case of psychiatry in more detail. For this I will first (1.1) focus on the core practices of diagnostic information-gathering, then (1.2) discuss the diagnostic proposal, before (1.3) discussing diagnostic information-processing, before (1.4) I make a link to the next chapter by introducing the topic of modelling.

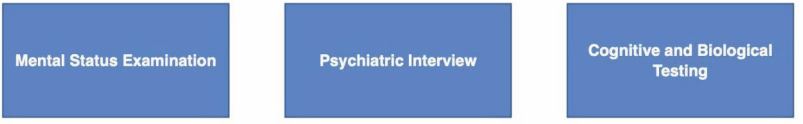
Note that the order of my discussion differs from that presented in the flow chart in Figure 1. While it is possible to present the central procedures of diagnostic infor-

mation-gathering and the format of results from diagnostic efforts, what happens during diagnostic information-processing is more elusive and often only vaguely discussed in the literature. To arrive at an informative picture of this step, inferences based on the more easily explicated input and output steps will be important. Therefore, I will spell out instances of diagnostic information-processing last.

1.1 Diagnostic Information-Gathering

To present the process of diagnostic information-gathering I will concentrate on practices commonly required to be employed in a comprehensive psychiatric assessment. These commonly required components are the *mental status examination*, the *psychiatric interview,* and *cognitive and biological testing*.[1]

Figure 2: Core practices of diagnostic information-gathering.



The mental status examination (MSE) and the psychiatric interview are both necessary components of a comprehensive psychiatric assessment, which in combination are often sufficient to gather the diagnostic information necessary to support a psychiatric diagnosis. In some cases, however, additional cognitive and/or biological tests will be considered necessary to include in a corpus of diagnostic information permitting diagnostic conclusion. As implied, none of these three components alone is considered sufficient to gather the information to provide a diagnosis; a combination is always needed.[2]

1 Note that every psychiatric patient also goes through an initial physical examination, which I do not discuss here since it is not specifically a part of psychiatric diagnostics, rather something that is done with any patient who seeks specialist medical treatment. The purpose of this examination is to prevent nonpsychiatric medical problems from going untreated because they do not surface in patients' complaints, and/or to prevent physical complaints from being wrongly attributed to mental disorder (for example, a complaint about pain might wrongly be considered to be part of a psychosomatic disorder). For more on this latter problem, called "diagnostic overshadowing", see Garden, 2005; Jones, Howard, and Thornicroft, 2008.

2 There are hopes that in wake of "the third wave of biological psychiatry" (Walter, 2013), new methods – such as in genetics and neuroimaging (e.g., Kapur, Phillips, and Insel, 2012) – might soon allow for stand-alone biological tests to diagnose mental disorders. Currently,

Let us look at the basic intention behind each core practice and their implementation in more detail. On the one hand, we have two methods of diagnostic information-gathering that are carried out in a face-to-face examination of the patient: the MSE and the psychiatric interview. The purpose of the MSE is to evaluate the different domains of cognitive functioning such as perception, memory, thinking, affect, time orientation, and thought order, looking for psychopathologically relevant anomalies. This is done by the psychiatrist by observing the patient's behaviour as well as listening to the patient's self-reports in response to specific questions (Trzepacz and Baker, 1993; Casey and Kelly, 2019). The general idea behind the psychiatric interview, by contrast, is that the psychiatrist seeks a broader scope of self-report-based information about the current and past psychological and social functioning of the patient, including factors such as their employment situation, friends and relationships, housing situation, forensic history, substance abuse, sex drive, eating behaviour, and sleeping habits, as well as more systematic background information, for instance about the patient's family history, education, and previous medical problems (Poole and Higgo, 2017; Boland, Verdiun, and Ruiz, 2021).

On the other hand, we have cognitive and biological testing. The first is employed by the psychiatrist to evaluate the cognitive performance of patients in a standardised manner; the second employs biological measures to evaluate the presence or absence of markers that suggest the presence or absence of disorders. The cognitive testing is done by structured examinations consisting of questions to be answered by the patients (e.g., "what day is it today?") and cognitive-behavioural tasks to be executed (e.g., "please remember and repeat the following words"; "pick up the pen with your right hand and draw this clock") whose outcomes are scored and compared to cut-off criteria to decide whether anomalies are present. The *Cambridge Cognitive Examination Revised* (Roth et al., 1998) and the *Alzheimer Disease Assessment Scale* (ADAS) (Hodges, 2017) are examples of such tests relevant to supporting the diagnosis of dementia or other neurodegenerative disorders.[3] Biological testing, meanwhile, uses specific biological markers to indicate the presence or absence of specific conditions

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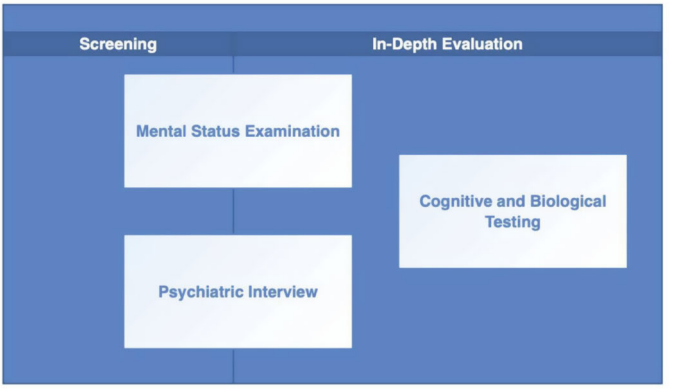
however, psychiatry has not yet established biomarkers for clinical use allowing us to arrive at unambiguous diagnostic conclusions about the presence of disorders, let alone of specific symptoms (Martins-de-Souza, 2013; First et al., 2018; García-Gutiérrez et al., 2020).

3 By talking about neurodegenerative disease as psychiatric disorders I do not want to take a stance in the ongoing ontological debate whether mental disorders are brain disorders (e.g., Boorse, 1977; Papineau, 1994; Insel and Quirion, 2005; Miller, 2010; Graham, 2013; Schramme, 2013; Insel and Cuthbert, 2015; Olbert and Gala, 2015; Jefferson, 2020), or the related debate in the medical community as to whether we should distinguish between neuropsychiatric or psychiatric disorders in the clinical context (e.g., Price, Adams, Coyle, 2000; Baker, Kale, Menken, 2002; David and Nicholson, 2015). Instead, I simply adopt the current standard of psychiatry itself, whose current boundaries encompass neurodegenerative disorders, making these diseases part of the current responsibility of psychiatry.

that can inform (differential) diagnostics of disorders responsible for behavioural and mental alterations in patients. Relevant for this are serological testing, genetic testing, and radiological examinations. To offer a few examples: Liquor analysis can reveal levels of β-amyloid, total tau, and phospho-tau-181 that indicate the presence of irreversible forms of dementia (Reitz and Mayeux, 2014). Genetic testing can show whether patients are carriers of ultra-high-risk genes for developing Huntington's disease (Myers, 2004). Neuroimaging data can be important in identifying strokes or major structural alterations of brain substance that may be responsible for cognitive and behavioural alterations (Power et al., 2016; First et al., 2018). Neuroimaging data also allow us to distinguish between the subtypes of prefrontal lobe dementia versus Alzheimer's (Rohren et al., 2013).[4] Again, such testing mainly supports the diagnosis of neurodegenerative disease, but it can, in addition, be especially relevant to enabling differential diagnostic conclusions that reveal a psycho-behavioural condition to be a nonpsychiatric case – for example, if the patient is found to have a brain tumour that can be assumed to cause their condition.

Figure 3: Core practices of diagnostic information-gathering mapped onto their categorisation as contributing to diagnostic screening and in-depth evaluation.



4 I am aware that success in this domain of diagnostics is still limited insofar as this method does not yet yield good results in differentiating between Alzheimer's disease and forms of dementia other than the prefrontal type, such as Lewy body, frontotemporal, and vascular dementias (Maclin, Wang, Xiao 2019). This innovation is also an outlier in the field of research on neurodegenerative disease, where so far nothing similar has been achieved for Parkinson's (Miller and O'Callaghan, 2015; He et al., 2018), Huntington's (Silajdžić and Björkqvist, 2018), or amyotrophic lateral sclerosis (Verber and Shaw, 2020).

In addition to breaking down the information-gathering procedures of psychiatric diagnostics into its component parts, we can further specify the process they are employed in as consisting of two functionally different stages cutting across these components: the *screening* and the *in-depth evaluation*. While the MSE and the psychiatric interview contribute to both screening and in-depth evaluation, cognitive and biological testing is solely a method of in-depth evaluation.

The purpose of screening is to arrive at a list of the patient's *complaints*, which can subsequently, via a more in-depth evaluation, be judged to be psychiatric symptoms/signs or not. By "complaints" we should not only understand things that the patients themselves complain about; these would be *subjective* complaints. The category of complaints also encompasses the *objective* type – that is, psychobehavioural obstructions that are recognised by the psychiatrist but may go unrecognised by the patient. The list of complaints is formed by paying attention to *prima facie* obstructed aspects of the patient's psychology and behaviour that in light of psychopathological background knowledge appear to be similar enough to psychopathological phenomena to justify a more careful examination to determine whether they are indeed psychopathologically relevant symptoms and signs. As this suggests, complaints in themselves are not automatically considered psychopathologically relevant signs and symptoms; they are mental or behavioural features of the patient noted by the psychiatrist as deserving a more in-depth evaluation in the context of the assessment. This in-depth evaluation is then conducted in the same face-to-face setting and possibly supported by additional cognitive and biological tests. In this in-depth assessment, further information allows the psychiatrist to decide whether the complaints under consideration should be assessed as psychopathological symptoms/signs; psychological or behavioural problems resulting from medical non-psychopathological problems; or psychological or behavioural complications of no medical relevance at all.[5]

Let us look more closely at what a screening procedure followed by in-depth evaluation will usually look like. The first thing to point out is that in clinical practice the

5 Why should two hypothetically similar instances, behaviours, or mental states be classified as a psychiatric symptom/sign on one occasion and a non-psychiatric one on another? There is no strong metaphysical reason, but in the special place that psychiatric symptoms and signs currently have in medical semiology (Altable, 2012). In medicine, symptoms are traditionally considered manifestations of a disease, or to put it more philosophically, they are representations of the presence of these diseases, and therefore of physiological alterations considered causally responsible for their presence. If a symptom or sign is caused by a disease condition that is not considered a mental disorder, then for the clinical purpose of providing diagnosis of psychiatric disorders it is not considered to be psychiatric sign or symptom. This does not mean that research might not ultimately show that part of the causal pathways responsible for the occurrence of the symptoms is shared by a psychiatric disorder and a disease with similar psychological or behavioural symptoms.

MSE psychiatric interview (as the two components of screening) are often conducted in the same face-to-face encounter, as are their in-depth evaluation elements, while the in-depth evaluation by means of cognitive and biological testing is often conducted on another occasion. This order of things has pragmatic reasons that, though not imperative,[6] come to bear often enough to consider a default. The pragmatic reasons for this are that much of the initial screening information considered relevant to the domains covered by the MSE can also be covered within the face to-face interview situation of a psychiatric interview, so that it is economical to conduct them together. By contrast, conducting biological tests or preparing and administering cognitive tests takes time, so that a special appointment is usually needed.

To get a better grasp on this combination of the MSE and psychiatric interview assessment, let us consider an instance in which both are combined. The assessment begins in the moment when the patient and the psychiatrist meet. From the first moment onwards, the psychiatrist observes the patient in light of his/her psychopathological background knowledge and clinical experiences, seeking a first impression of the patient's psycho-behavioural setup in order to recognise conditions that *prima facie* may be potentially psychopathological relevant. The focus hereby lies on aspects of the patient relevant for the MSE: body posture, facial expressions, movements, and gaze behaviour are some of the earliest parameters relevant to recognise in order to glean an idea of things like the patient's mood, psychomotor-activity, and wakefulness.

As the conversation begins, the psychiatrist will typically open the interview with an open question like, "what is the reason for your visit?", to invite the patient to report on what brought them to psychiatric services. The content of the answer to this question will then be the main source of information about subjective complaints that may turn out to be symptoms. If this initial question is answered, the psychiatrist usually addresses further domains of psychological and social functioning to make sure that there are no complaints that might not have been mentioned so far by the patient, which may be the case if patients themselves do not considered complaints to be relevant or have forgotten to mention them. Some people, for example,

6 Note, however, that there is some variety in style and preference among clinicians. Some preferer to first conduct a full MSE and then a full Interview, while others combine them. Some like to do the screening and in-depth evaluation in one encounter; others like to or have to split the evaluation into multiple sessions because of time limits or because the patient has difficulty focusing on the process. Some like to first get a full overview of present complains in patients and then come back to each to each noted complaint for an in-depth evaluation; others like to interrupt the screening if a complaint is noted and go into greater depth right away. I take these differences in style to be accidental differences leave untouched the essential distinction between the functions of screening and in-depth evaluation that are served by different aspects of the assessment, however one may prefer to carry it out.

do not consider it noteworthy that they have sleeping problems because they have had such problems on and off their whole life.

While the patient is questioned by the psychiatrist, observation carries on, now also picking up potential abnormalities in the form and content of the patient's language production. Here the psychiatrist may recognise various forms of linguistic alterations that fall within the scope of phenomena whose recognition is part of the MSE's purpose. For example, the psychiatrist may recognise increased rates of speech: an objective complaint that can turn out to have symptom value as "pressured speech".

Finally, once all screening questions relevant to the psychiatric interview have been asked, the MSE-relevant observations that have been made will be complemented by the psychiatrist asking questions and giving tasks to the patient to cover remaining aspects of the MSE that so far have not been dealt with. This is often done at the end so as not to interrupt the flow of conversation during the interview. Asking and tasking will target specific domains of cognitive or behavioural functioning that could not be observed sufficiently during the interview. Often the psychiatrist will, for example, explicitly screen for semantic memory deficits by tasking the patient to name objects in the room or will evaluate their orientation in time by asking "what day and month is it today?".

Once the screening is done, the psychiatrist, equipped with a list of the patient's subjective and objective complaints, will turn to the in-depth evaluation, as far as it can be carried out in a conversational setting. In the in-depth evaluation, noted complaints will be targeted in more detail, based on the psychiatrist's hypothesis as to which symptoms and signs might be present in the patient and which alternative non-psychopathological state of affairs might have led to their occurrence given the psychiatrist's background knowledge (a form of differential diagnostics). If cognitive and biological tests are thought to be relevant, they will also be conducted with the patient. Within the face-to-face evaluation, the psychiatrist will be interested in generating a more detailed description of self-reported experiences and behaviours that lead to the initial assumption of the complaints. This will include information such as how long the complaints have been present, or when they appear and whether they are always the same or change under certain circumstances. The psychiatrist will also try to attain information that the patient themselves might not connect to their condition – for example, the presence or absence of typical aetiological factors, or a typical consequence of a psychopathological condition that would match with the present complaint. Information from potentially conducted cognitive and biological testing, such as test scores from formal memory assessments or neuroimaging or serological data that might inform inferences about brain lesions or non-psychopathological causes of psycho-behavioural alterations, will be waited for and taken into account. These complementary forms of evidence allow the psy-

chiatrist to draw conclusions about which of the complaints should be assigned psychiatric symptom/sign status.

So far, I have presented a general description of the content and purpose of the three core aspects of diagnostic information-gathering, and I have offered a bird's-eye view on how they are conducted in order to establish the distinction between screening and in-depth evaluation. While this may suffice to gain a general idea of this step in psychiatric diagnostics, I will now introduce a set of more detailed showcases for the recognition and evaluation of complaints, for each of the three lines of in-depth evaluation. These more detailed examples will be used later to support my ideas about how to best interpret this step of the diagnostic process in terms of a theory of diagnostic reasoning, a task for which a bird's-eye description alone is too abstract. Please note that in my examples I will also indicate what conclusions the psychiatrist may draw regarding what symptoms and signs are present in patients based on the in-depth evaluation. I do so to provide a more organic picture of the process of diagnostic information-gathering and the role of the in-depth evaluation. Strictly speaking, information-gathering ends with in-depth evaluation, but to break off in the detailed description at that point makes it hard for us to grasp what is really going on. How exactly the psychiatrist moves from the end of the in-depth evaluation to their conclusions regarding present symptoms and signs will be something I will come back to in detail when I discuss diagnostic information-processing and the generation of diagnostic proposals.

Let me begin with an example of the screening and in-depth evaluation that would formally be considered part of the MSE. Imagine that over the course of the interview, the psychiatrist's attention to the patient's language production suggests a formal anomaly. The patient shows a significant deficit in amount of spontaneous speech, manifested in the form of very brief, concrete, and unelaborated answers to questions. The following table offers an example of the evidence that might be taken to suggest this type of anomaly.

Table 1: Example conversation illustrating the difference between the speech pattern of a patient who is likely to be suspected of suffering from a psychiatric complaint ("Anomalous") versus a non-noticeable example ("Normal").

Anomalous speech pattern	**Normal speech pattern**
Psychiatrist: Good Morning, Mr X. What can I do for you?	**Psychiatrist:** Good Morning, Mr. X. What can I do for you?
Patient: You can help me.	**Patient:** I came to you because I have some problems that I think I need help with. (…)

Psychiatrist: And I will try my best to do so. Can you tell me something about the reason why you reached out for help?	**Psychiatrist:** And I will try my best to do so. Can you tell me something about the reason why you reached out for help?
Patient: Yes	**Patient:** Well, thanks. I feel sad and empty, and I don't know what I should do about it. It started (…)

Such unusual verbal response patterns will make the psychiatrist consider the patient from the perspective of a complaint of reluctant speech that on closer examination may turn out to be "poverty of speech", a form of alogia. Alogia is a psychiatric symptom that can involve impoverishment regarding the quantity of speech – *prima facie* matching the presentation of the described case – or regarding content of speech and thought, such that the number of topics the patient is able to cover is seriously limited. Alogia is considered to be present in various mental and neuro-psychiatric disorders such as dementia, schizophrenia, severe depression, or schizotypal personality disorders (APA, 2013, p. 817).

Whether the psychiatrist concludes that the patient indeed suffers from this condition will again depend on a closer evaluation. For example, this sort of behaviour may be evaluated as forming part of her usual premorbid behaviour, as is sometimes the case in people who are unusually pedantic in their speech – a habit that may evoke the impression of poverty of speech. This is a problem that has been observed in administrators, politicians, scientists, and of course philosophers (Andreasen, 2016). If this appears to be the case, the complaint would *prima facie* not qualify to be evaluated as a case of alogia. The same would be the case if the patient felt discomfort or anxiety in the interview situation that seemed to lead her to choose his words carefully and use them sparely. On the other hand, if the psychiatrist finds these two options to be ruled out by a more in-depth evaluation of the patient's emotional attitudes towards the interview situation, as well as her premorbid use of language, the psychiatrist may proceed to conduct a cognitive assessment of the patient's cognitive capacity to produce certain patterns of language use, and perhaps to test for specific cognitive processing capacities whose impairment is associated with alogia. This should allow the psychiatrist to decide whether the conclusion that the patient's complaint indeed is a form of alogia may plausibly be drawn.

The chief cognitive impairment underlying presentations of alogia in psychiatric cases seems to be an impairment of *control retrieval* – an aspect of the executive function allowing the individual to retrieve information from memory when the information is not automatically retrieved and when there is more than one potential unit of information that would match the search profile that could be activated (Wagner

et al., 2001; Doughty and Done, 2009; Docherty, Berenbaum, and Kerns, 2011). If a test of speech production carried out with a cooperative patient shows patterns indicating the corresponding kind of cognitive impairment, the conclusion that the patient suffers from alogia seems warranted. This can, however, be tested using *verbal fluency tasks* in which subjects are given a production rule for producing words that, for example, begin with a certain letter (testing word letter fluency) or fall into a category such as animals (testing word fluency). In our case, subjects would be asked to produce items for a certain span of time. A deficit in this task shown by individuals who suffer from cognitive impairment of control retrieval is an increased mean response latency between each reported word if asked to produce words in a given category, but in absence of deficits suggesting the impairment of other language-related cognitive functions that in principle could also lead to the clinical presentation. These might include disorganised semantic memory, which would lead to poorer performance on category fluency relative to letter fluency, and context processing, which leads to a decrease in the proportion of correctly reported semantically related words (Docherty, Berenbaum, and Kerns, 2011). If verbal fluency testing of the patients meets this prediction, a conclusion that the patient's complaint is an instance of the symptom of alogia may be drawn.

Next, let me consider an example that might come up in the context of the psychiatric interview. Consider a patient reporting sleeping problems, either in response to the opening question, or following superficial checking of domains of psychological and social functioning in which context the psychiatrist will also ask whether the patient sleeps well. Psychiatrists ask this question because sleeping problems are of diagnostic importance, on the one hand since they occur in the context of various mental disorders such as depression, PTSD, and anxiety, which can be related to different patterns of sleeping behaviour (Krystal, 2012), but also because specific types of sleep disturbance can even be relevant to subtypes of major mental disorders. For example, hypersomnia is associated with atypical depression and terminal insomnia is related to melancholic depression (Murphy and Peterson, 2015), making it important to have a proper grasp of a patient's sleep-related symptoms in the interests of accurate differential diagnostics.

To determine whether a patient's complaint of sleeping problems qualifies as a psychiatric symptom requires a detailed evaluation, however. The psychiatrist will ask about specific features of sleeping behaviour, such as whether the problem is with falling asleep, getting up, or sleeping through the night and whether this leads to unusually short or long periods of sleep or an atypical sleep rhythm, as well as how long the patient has had these problems and whether they occur only occasionally or on a regular basis. To find out how this problem might relate to other behaviours and experiences, the psychiatrist will ask how the patient feels before he goes to bed, and whether there is something the patient does only on the occasions when he does not sleep well. Based on this information, the psychiatrist will then decide

whether the complaint should be considered a psychopathological symptom or non-psychopathologically relevant, or maybe even a non-psychiatric medical problem. If, for example, the patient reports drinking half a gallon of cola and watching Netflix in bed before they try to sleep, in the evaluation their complaint will *prima facie* not be considered a psychiatric one, and if the patient ends up reporting that their problems with falling asleep began around the time when they started to take beta-blockers to treat their high blood pressure, again the psychiatrist will consider the sleeping problems a drug side-effect rather than a psychopathological relevant symptom. If, however, none of these scenarios applies, but instead the patient reports increasing agitation and worry in the evening hours that cannot be stopped intentionally, leading him to feel unable to sleep so that he begins to drink to calm himself down and then finally be able to fall asleep, the psychiatrist will tend to judge the complaint to qualify as a psychiatric symptom, due to its apparent relation to other cognitive and behavioural complaints prototypically associated with psychopathological cases of insomnia (see e.g. Krystal 2012).

To consider a case in which cognitive or biological testing makes a significant contribution to the outcome of an in-depth evaluation, let us look at a patient who has reported often feeling very tense and who is experiencing anger and has outbursts of aggression in response to minor stressors, such as not finding her keys or being asked to repeat something because she spoke too quietly. This initial description of the complaint encourages the idea that the patient might present psychiatric symptoms/signs of *irritability*, which is diagnostically relevant for 15 disorders of the DSM-5, including mood disorders, addictive disorders, and personality disorders (APA, 2013). Irritability itself may be understood as a "partial physiological agitation characterized by an increased sensitivity to sensory stimuli and a non-cognitively mediated lowered threshold for responding with anger and/or aggression to typically less vexing stimuli […]" (Toohey and DiGiuseppe, 2017, p. 31). Sometimes psychological research considers irritability as a *state* of mind (e.g., *irritable mood*; Toohey and DiGiuseppe, 2017), whereas on other occasions, for example in developmental pathological research, it is mostly discussed as a *trait*, e.g. *irritable personality* (Leibenluft and Stoddard, 2013).

However, not all instances of irritability appear to be clinically relevant or to qualify as a psychiatric symptom. Indeed, irritability itself is a well-known psychological phenomenon. All of us will at some point have felt tense because we were hungry, in pain, or exhausted, and we have probably all lashed out, in that state, at someone who did nothing particularly wrong, but no psychiatrist would be keen to attribute the symptom of irritability to us based on such instances. Rather, it seems that from a clinical perspective, the symptom value of irritability has to be excessive in its rate of occurrence and the degree to which it interferes with psychosocial functioning and impairs the individual's capacity to effectively and quickly handle tasks. A clinically irritable person will also typically be expected to show increased biases to

attribute hostile and bad intentions to other neutral or even friendly individuals, as well as a tendency to develop anticipatory frustration for future events, often leading to feedback loops increasing the level of negative expectations (Yager, 2020). To see whether this matches the current case, let us come back to our example patient.

The psychiatrist will ask the patient when the irritability first appeared, how often it occurs, and how it influences the patient's daily life and her interactions with others. The psychiatrist will also ask about the patients' social relationships and how she is doing at work (if these areas have not already been covered) and will try to find out whether the patient shows patterns of negative attributes that are hard to explain with reference to particular experiences the patient is able to cite. Imagine that the psychiatrist hears from the patient that the irritability surfaces every other day and persists for a few hours, thereby seriously impeding progress in work tasks and also making it hard for her to deal with her coworkers or be at home with her young children. However, the patient does not seem to be very negative in her orientation to others, but rather thinks that the problem is in herself. Often the irritability is accompanied by sweating, and sometimes by blurred vision, and there is no evidence that the patient has any obvious other condition such as problematic eating patterns or chronic pain that could account for the irritable mood.

While some parts fit the previously introduced psychiatric clinical understanding of irritability, others obviously do not, so the overall picture appears inconclusive. However, the report of the phenomenon of blurred vision fits with another potential explanation for irritability the psychiatrist is aware of: Irritability can also be a sign of badly managed diabetes, which would also fit with the sweating reaction and usually does not lead to more wide-reaching psychological changes regarding others; it also does not require abnormal eating patterns to arise on a regular basis. Torn between the option of assuming that the patient irritability does not qualify as any symptom (neither a psychiatric symptom, nor a symptom of a non-psychiatric medical problem) and the option that the patient's irritability is symptomatic not as psychopathological symptom, but could rather be the psychological consequence of processes caused by irregularities in her blood sugar levels, the psychiatrist orders tests for diabetes. In case of a positive result, the psychiatrist would not consider the patient's irritability a psychiatric symptom that he would make reference to if he were to match the patient's overall psychopathological condition with DSM symptom requirements. If the test were negative, the psychiatrist would have to consider the question undecided and would be able to conclude only that there is a possible presence of irritability as a psychiatric symptom. After all, there might still be other conditions in the patient whose evaluation may lead to the conclusion that something other than diabetes caused the irritability. Or, indeed, irritability may not be possible to ascribe with certainty, and the patient may suffer from other psychiatric symptoms or signs that might be confirmed after further evaluation. With this re-

mark I close my presentation of cases exemplifying the screening and in-depth evaluation for all three discussed procedures of diagnostic information-gathering.

Having completed the presentation of the information-gathering procedure, two more things are left to do before I turn to unpacking the diagnostic proposal output box. First, I shall briefly respond to an immediate worry that clinicians and scientists may have regarding the adequacy of my presentation,. Then, to keep track of the outcomes of my presentation, I will present an updated version of the initial flowchart (Figure 1) integrating what unpacking the box of diagnostic information-gathering has revealed.

Let me begin with the worry one may have. While I consider that most clinicians will agree that the means of diagnostic information-gathering I have discussed are central to psychiatric diagnostics, some might wonder why other methods, especially questionnaires and structured diagnostic interviews, have been neglected. I have not discussed these methods here because they are not among the *constitutive* core practices of psychiatric diagnostics, but are only of secondary relevance compared to those core practices. By this I mean that employing them (opposed to the core diagnostic methods I have discussed) is not necessary for comprehensive psychiatric assessment, nor are they sufficient to gather the diagnostic information required for a comprehensive diagnostic process.[7] Rather than being part of core diagnostic practices, questionnaires and structured diagnostic interviews are useful complements to them. As questionnaires or structured interviews are complements, including them in my presentation would be redundant, given the explicitly stated aim to focus solely on core procedures of psychiatric diagnostics.[8]

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7 My understanding of *constitution conditions* thereby draws on the work of Tyler Burge, who argues that pursuing and explicating a phenomenon concerns its constituents if it focuses on the necessary and/or sufficient conditions for something to be what it is: "A constitutive question concerns conditions on something's being what it is, in the most basic way. Something cannot fail to be what it is, in this way, and be that something. Constitutive conditions are necessary or sufficient conditions for something's being what it is in this basic way. To be constitutive, the conditions must be capable of grounding ideal explanations of something's nature, or basic way of being" (Burge, 2010, p. xv).

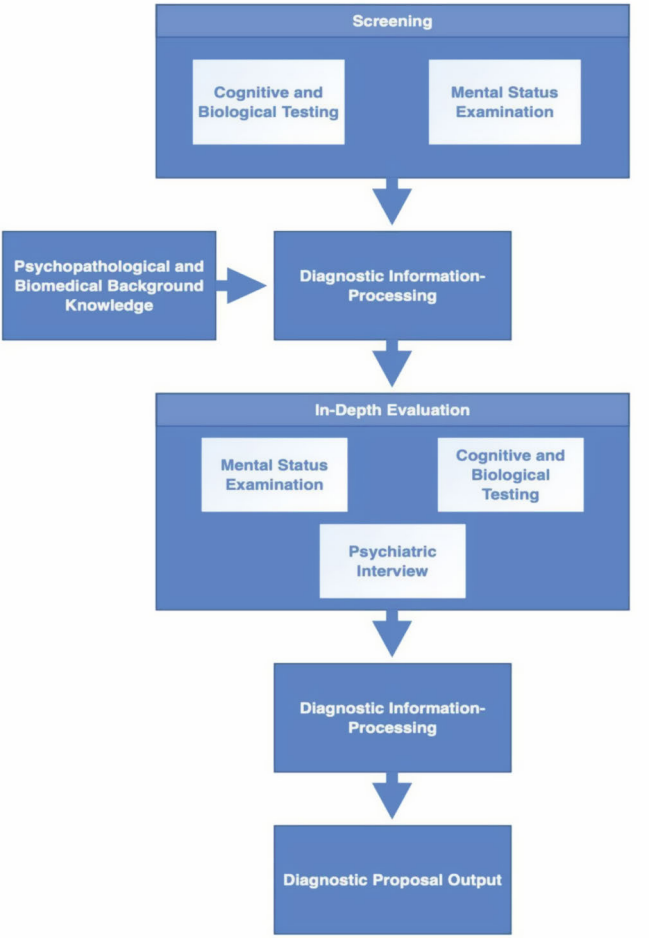
8 If this claim strikes you as strange or unintuitive, this footnote is for you. To avoid misunderstanding: I do not claim that questionnaires or structured interviews are useless or irrelevant. Questionnaires such as the Beck Depression Inventory (Beck et al., 1961) can be useful for screening, and structured interviews such the Structured Clinical Interview for the DSM-5 (SCID) (First et al., 2016) can help acquire much important diagnostic information. All I want to say is that by looking at in a structured way at psychiatric practice we note that diagnostic information-gathering by questionnaires and structured interviews plays a subordinate in clinical diagnostics, something that is done in the context of psychiatric diagnostics but does not individuate it. Think of questionnaires. A responsible clinician would not make a categorical disorder diagnosis based solely on the answers to a questionnaire, nor can a diagnostic case formulation be provided based on them. However, drawing diagnostic conclusions with-

Now to the modifications of the flowchart. The process of psychiatric diagnostics described above is complex enough to warrant a graphical illustration. Let me briefly recap which aspects of the process the flowchart must do justice to. As I indicated through my presentation, the "diagnostic information-gathering" box contains three procedures: the MSE, the psychiatric interview, and cognitive and biological testing. These three procedures serve two functional distinct roles: screening and in-depth evaluation. The first aspect of screening provides information about the present complaint. In both identifying these complaints and determining how to carry out the in-depth evaluation, the psychiatrist's psychopathological and biomedical background knowledge plays an important role. It therefore seems that some diagnostic information-processing is already taking place between the screening and the in depth-evaluation – an additional stage of "diagnostic information-processing" in the midst of diagnostic information-gathering that did not appear in the initial flow-chart (Figure 1). I therefore propose the following flowchart (Figure 4), as graphical presentation of the overall process I have described in this section and summed up in this paragraph. Next, I will turn

out using questionnaires is not an improper diagnostic practice in psychiatry. Questionnaires can contribute to a diagnosis, but only interpreted in the context of an overall clinical impression, generated from what I consider to be the three core procedures. Now think of structured interviews. Even at first glance, it is clear that they are not a necessary component of psychiatric diagnostics. We rarely find them used outside of research contexts, such that rather than being essential to proper clinical diagnostics in general, they are an essential tool to clinical research (Aboraya, 2009; Bruchmüller et al., 2011; Mueller and Segal, 2014). That they are also not sufficient to make a diagnosis can be shown in two ways. First, structured interviews do not provide the information necessary to provide a case formulation (discussed in the next section) that has to be provided as part of the diagnostic proposal; this needs, amongst other things, more biographical, psychosocial, and other data from patients that is not attained in typical structured interviews but is provided by the psychiatric interview. Second, structured interviews usually ask questions explicitly mentioning symptoms relevant to categorical diagnosis and thereby hope to elicit answers that collectively allow one to make a diagnosis. However, research suggests that experienced clinicians – when they do use such interviews in evaluating patients – take into account not only the answers to these questions, but also a wide range of patient behaviours they observe in their contact with the patient that would usually fall under information collected in the mental status examination (Nakash and Alegría, 2013). The fact that taking into account additional information such as observable behaviour that goes beyond the mere answers to a structured interview in order to establish a diagnosis is not a mere quirk on the part of clinicians but an important aspect of diagnostic practice can be shown by considering what happens if individuals who are not clinical experts use such interviews. Research suggests, for example, that SCID interviews carried out by laypeople who do not have the skill to implement aspects of the MSE interviews have low validity (as measured against the diagnostic judgements of expert clinicians) (Nordgaard et al., 2012). In conclusion, using a structured interview cannot replace the psychiatric interview, nor does it make an MSE superfluous.

to unpacking the "diagnostic proposal output" box at the bottom of the flowchart's current extent.

Figure 4: Modified flowchart of stepwise psychiatric assessment as developed in this section (1.1). Vertical arrows connect steps in the process; horizontal arrows indicate influencing factors.



1.2 Diagnostic Proposal (*Output*)

Based on the body of information that psychiatrists collect, they are meant to formulate a diagnostic proposal. Following the American Psychiatric Association (APA, 2013), it should consist of a diagnostic case formulation[9] and a manual-based diagnostic classification of the disorder (Figure 5).

Figure 5: The two components of psychiatric diagnosis.

By organising diagnostic information in this way and relating it to the patient's complaints, the case formulation intends to provide a structured presentation of diagnostic information that stands in an explanatory relationship[10] to the patient's complaint, allowing the psychiatrist to determine which aspects of the patient's presentation should be interpreted as presenting which psychiatric symptoms/signs or non-psychiatric problems. As such, the formulation also serves as justificatory grounds for the attribution (or not) of psychopathologically relevant features to the patient.[11]

9 Note however that not only does the APA consider case formulation (outside the United States sometimes called clinical formulation) to be a proper part of psychiatric diagnostics, case formulations are widely recognised as a diagnostic standard in psychiatric diagnostics. Official statements and educational guidelines of various expert societies show that they consider it a core competence in diagnostics, and part of good psychiatric practice. See, for example, Royal College of Psychiatrists, 2013, 2017; Royal Australian and New Zealand College of Psychiatrists, 2014; American Board of Psychiatry & Neurology, 2019.

10 What kind of explanation the case formulation is intended to provide and how it is thought to do explanatory work is usually not specified in the clinical literature. I will come back to this issue by making a proposal as to how to understand the explanatory qualities of case formulations in Chapter 5.

11 While approaches differ in terms of what exactly a case formulation should look like, my characterisation here appears representative in its core idea, assumed across the literature on case formulations. To compare, see, e.g., Meyer and Turkat, 1979; Varghese and Mellsop. 1983; Weerasekera, 1996; Butler, 1998; McHugh and Slavney, 1998; McWilliams, 1999; Eells, 2006; Division of Clinical Psychology (British Psychological Society), 2010; Kuruvilla and Kuruvilla, 2010; Johnstone and Dallos, 2013; Bruch and Bond, 2015; Goldman and Greenberg, 2015; Kennerley, Kirk, and Westbrook, 2016; Ryan, 2019.

To gain an impression of this format of diagnostic proposal, let me provide an example from the literature: the case of Mr Z (Sperry, 1992). Here is a brief description of the case of Mr Z, followed by a diagnostic case formulation based on Sperry's discussion of the case.[12]

Case description Mr. Z

Mr Z is a 40-year-old businessman who presented with complaints of loss of interest in his job, hobbies, and family over a period of six weeks. He acknowledged periods of profound sadness, reduced appetite with significant weight loss, insomnia, fatigue, and recurrent thoughts of death, but denied suicidal ideation. He denied any precipitants but did admit that his expected job promotion had not materialised. Mr Z described himself as unusually serious, conservative, and relatively unable to express affection. He also acknowledged trying to be perfect, needing to be in control of every social situation, and having an excessive commitment to work.

Mr Z indicated that his marriage had been worsening for several years and described his wife as flighty, overemotional, and helpless under stress. For the past several years she had been angry, distant, and had declined to be involved sexually with him. Since the onset of his symptomatology, however, she had been solicitous and obviously concerned. The Z's have two children, a boy, 12, and a girl, 10, who appeared to be doing well at school and home.

Mr Z described his family of origin as very poor. His father deserted his mother when the patient was 12 years of age and, as the oldest child, he had to take considerable responsibility for younger siblings, as well as to work part-time while attending school. He knew that his maternal grandfather had committed suicide and that two maternal uncles were alcoholics. A paternal uncle had died in prison after a long period of antisocial behaviour. Physical, laboratory, and neurological studies were negative.

Diagnostic case formulation Mr. Z

Mr Z is a 40-year-old married businessman whose depressive-like symptoms began shortly after being passed over for a promotion. Other stressors appear to be chronic marital and sexual problems and the fact that his two children are nearing the age of independence and the age when he experienced a significant trauma in his own life: the desertion by his father when he was 12.

Although there is a positive family history for alcoholism, suicide, and sociopathy, Mr Z denies other psychiatric symptoms or treatment for himself. Mr Z's family

12 The following example is one of the rare high-quality illustrations of the structure of a case formulation, but it may appear outdated in parts to readers familiar with clinical matters. Please take into consideration its age and accordingly the changes in our understanding of psychopathology that have taken place since its publication.

history of alcoholism, suicide, and sociopathy makes it likely that he has a genetic predisposition for affective illness.

He appears to have major conflicts over dependency and autonomy. Because of his earlier experience with significant loss, the withdrawal of attention and affection by Mr Z's wife and the growing independence of his children represent significant precipitating events, Mr Z has considerable difficulty expressing emotions and affection. He is controlling and perfectionistic. His cognitive style is obsessive-compulsive. His primary defences are repression, regression, introjection, isolation of affect, and intellectualisation. Mr Z's sociocultural background has helped to instil in him a basic belief in the value of hard work, stoicism, and self-reliance with little dependence on extra-familial sources of support. From a young age, he has been reinforced to sacrifice himself and to maintain the role of provider and nurturer to others who have depended upon him for support.

Mr Z is also distant from his family of origin and his current life centres on his immediate family. His role has been as a provider to a wife and children who have been dependent upon him. Mr Z and his wife have not been able to form a satisfactory marital coalition, they do few things together, and their sexual relationship has deteriorated. His wife had withdrawn emotionally and sexually from him until his recent problems, which promoted her attention and concern. Mr Z has been able to adapt fairly well educationally and occupationally and is a successful businessman. However, he has limited social relationships, no close friends, and few independent recreational activities.

Mr Z's probable biological predisposition to affective instability, coupled with the abandonment by his father and familial and sociocultural reinforcement, resulted in the development of a rigid, obsessive-compulsive personality. His role evolved into one of stoic, hard-working self-sacrifice in the service of others who are dependent upon him and a denial of his own dependency needs. While adaptive educationally and occupationally, his personality structure and ego defences resulted in an isolated lifestyle and the inability to acknowledge his own feelings or to relate to others with warmth and affection. The symbolic abandonment by his wife and children reawakened old dependency conflicts, threatened his adaptive role in life, overwhelmed his rigid defences, and resulted in anxiety, regression, and depression.

A problem list includes 1) clinical depression; 2) marital discord including sexual difficulties; 3) an obsessive-compulsive style; 4) limited social support system with friends; and 5) limited recreational activities.

The other aspect of the diagnostic proposal is the diagnostic categorisation. The idea here is to categorise a present psychopathological condition based on clusters of signs and symptoms that consist of necessary criteria plus a defined number of further diagnostic criteria from a fixed list of possible items, which in combination

are sufficient to diagnose a disorder. The criteria can be either fulfilled (symptom present) or not fulfilled (symptom absent). Every disorder category is mapped onto a set of partly differing combinations of signs and symptoms that have to be present to apply the category to a patient. The criteria to be checked thereby consist of behavioural, emotional, and cognitive features. In some cases, further criteria such as a temporal qualification (e.g., the condition has to be present for at least two weeks) or the requirement of certain types of environmental factor (e.g., experience of a life-threatening, dangerous, or significant abusive circumstance for post-traumatic stress disorder) are explicitly mentioned. To illustrate this aspect of the diagnostic proposal, see the following criteria for major depression disorder from the DSM-5 (APA, 2013, p. 160), which allows for 50 combinations of signs and symptoms to apply this category.

DSM Criteria for Major Depression:
The individual must be experiencing five or more symptoms during the same 2-week period and at least one of the symptoms should be either (1) depressed mood or (2) loss of interest or pleasure.

1. Depressed mood most of the day, nearly every day.
2. Markedly diminished interest or pleasure in all, or almost all, activities most of the day, nearly every day.
3. Significant weight loss when not dieting or weight gain or decrease or increase in appetite nearly every day.
4. A slowing down of thought and a reduction of physical movement (observable by others, not merely subjective feelings of restlessness or being slowed down).
5. Fatigue or loss of energy nearly every day.
6. Feelings of worthlessness or excessive or inappropriate guilt nearly every day.
7. Diminished ability to think or concentrate, or indecisiveness, nearly every day.
8. Recurrent thoughts of death, recurrent suicidal ideation without a specific plan, or a suicide attempt or a specific plan for committing suicide.

Building on the approach to categorical diagnostics I have sketched out so far, which has been the standard since the DSM-III (APA, 1980) and ICD-10 (WHO, 1993) and still applies to most instances of disorder categorisation, a new feature has been introduced in the recent editions of the diagnostic manuals: making dimensional ratings part of categorical diagnostics.[13] The general idea behind dimensional ratings

13 These changes were introduced following the increased interest in psychiatric research in thinking of at least some psychopathological features as occurring on a spectrum. Proposals in this vein were made early on for personality disorders (Trull and Durrett, 2005) and psychosis (Esterberg and Compton, 2009; Cuthbert and Morris, 2021), for example, and were

is to evaluate the presence of at least some psychopathological features on an ordinal severity rating scale rather than by simple presence or absence. Dimensional ratings have been introduced as mandatory in the evaluation of diagnostic criteria for some mental disorder categorisations in the DSM-5 (autism spectrum disorder, intellectual disability) and as optional for others (primary psychotic disorder and personality disorders), and they are mandatory in some disorders categorised by ICD-11(WHO, 2019) (autism spectrum disorder, personality disorder) and optional for others (primary psychotic disorders).

While the basic idea is always the same, the use of dimensional diagnostics can take different forms. In some instances, dimensional rating systems are simply used as add-ons to the specification of present symptoms, for example whether the delusions present are clinically mild, moderate, or severe. In other cases, as in the personality disorder diagnostics in ICD-11, significant changes accompanied the implementation of dimensional diagnostics. In the case of personality disorder diagnostics in ICD-11, for example, the change was a deflation of the rich personality disorder taxonomy present in ICD-10 in favour of one general personality disorder category to be specified in its severity (no difficulty, mild, moderate, or severe) based on dimensional ratings of the patient's personality and social functioning, which is then further specified by selecting from a list of pathological personality features present in the case at hand.

To get a better idea of what the inclusion of dimensional diagnostics in disorder categorisation may look like, let me consider the personality disorder module from the DSM-5 (APA, 2013, p. 761) in more detail. To be diagnosed with a personality disorder, the patient has to show "moderate to great impairments in personality functioning" in relation to him//herself and others and at least one pathological personality trait in addition to a relative stability of the condition across time (>2 years) and across life contexts (intimate relationships, work, school, etc.).

The impairment in personality functioning is assessed by rating the patient on four dimensions (identity, self-direction, empathy, and intimacy) whose scales have five levels of severity (no impairment (0), some impairment (1), moderate impairment (2), severe impairment (3), and extreme impairment (4)). For each level of impairment on every dimension, descriptions of three typical features of patients who would be rated in this way are supplied. Someone may be assessed to be severely impaired (3) on the empathy scale, for example, if they are "hyper attuned to the experience of others, but only with respect to perceived relevance to self" (APA, 2013, p.

adopted in one way or another by relevant research movements in the field, such as the National Institute of Mental Health RDoC Project (NIMH, 2013) or the HiToP Research Consortium (Kotov et al., 2017). To discuss the scientific and clinical motivations to push for a dimensional understanding of mental disorder is beyond the scope of my project. For discussion of these, see, e.g., Helzer et al., 2009; Krueger and Bezdjian, 2009; Adam, 2013; Reed et al., 2019.

776), in accordance with one of three descriptions of the level of impairment in this domain. In addition to this dimensional rating, at least one of five proposed pathological personality traits (negative affectivity, detachment, antagonism, disinhibition and psychoticism) have to be determined to be present in the patient, and they may be further specified by choosing specific facets of these traits that are listed in the diagnostic module. To expand on the example of someone impaired in empathy, one may often also identify as present the trait of antagonism, defined as "behavior that puts the individual at odds with other people, including an exaggerated sense of self-importance and a concomitant expectation of special treatment, as well as a callous antipathy towards others, encompassing both an unawareness of others 'needs and feelings and a readiness to use either in the service of self-enhancement'" (ibid., p. 780). In the end it has to be decided whether the attributed combination of impairments and personality traits in a patient matches with a personality disorder category (now also specified in terms of personality functioning impairments and traits). If so, this category may be attributed to the patient. If not, the patient may nonetheless be diagnosed with a personality disorder that does not fall into one of the typical categories.

To explore one of the examples of the dimensionally adapted format, let me present the proposed diagnostic criteria for a schizotypal personality disorder (APA, 2013, p. 769):

A. Moderate or great impairment in personality functioning, manifested by characteristic difficulties in two or more of the following four areas:
   (a) **Identity:** Confused boundaries between self and others; distorted self-concept; emotional expression often not congruent with context of internal experience.
   (b) **Self-direction:** Unrealistic or incoherent goals; no clear set of internal standards.
   (c) **Empathy:** Pronounced difficulty understanding impact of own behaviors on others; frequent misinterpretation of others' motivations and behaviors.
   (d) **Intimacy:** Marked impairments in developing close relationships, associated with mistrust and anxiety.
B. Four or more of the Following six pathological personality traits:
   (a) **Cognitive and perceptual dysregulation** (an aspect of **Psychoticism**): Odd or unusual thought processes; vague; circumstantial; metaphorical; overelaborated; or stereotyped thought or speech; odd sensations in various sensory modalities.
   (b) **Unusual beliefs and experiences** (an aspect of **Psychoticism**): Thought content and views of reality that are viewed by others as bizarre or idiosyncratic; unusual experiences of reality.

(c) **Eccentricity** (an aspect of **Psychoticism**): Odd, unusual, or bizarre behavior or appearance; saying unusual and unappropriated things.
(d) **Restricted Affectivity** (an aspect of **Detachment):** Little reaction to emotionally arousing situations; constricted emotional experience and expression; indifference or coldness.
(e) **Withdrawal** (an aspect of **Detachment**): Preference for being alone to being with others; reticence in social situations; avoidance of social contacts and activity; lack of initiation of social contact.
(f) **Suspiciousness** (an aspect of **Detachment**): Expectations of – and heightened sensitivity to – signs of interpersonal ill-intent or harm; doubts about loyalty and fidelity of others; feelings of persecution.

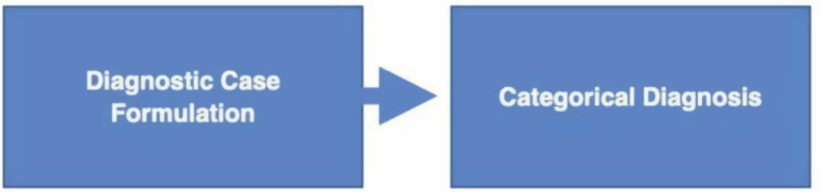
Let me now move from the presentation of the two diagnostic formats in themselves to their relationship to each other. As with the components of diagnostic information-gathering, the diagnostic case formulation and the categorical diagnosis can be brought into a functional relationship to each other. Although the APA (2013) makes no explicit statement on the relationship between the two, it provides some remarks regarding what is necessary and sufficient to make a psychiatric diagnosis and introduces the notion of diagnostic "clinical judgement" in this context. Together these elements allow to reconstruct the relationship in question.

The American Psychiatric Association (APA) states of the categorical diagnosis that "it is *not sufficient* to simply check off the symptoms in the diagnostic criteria to make a mental disorder diagnosis" (APA, 2013, p. 19; my emphasis) but that "the relative severity and valence of individual criteria and their contribution to a diagnosis require clinical judgment" (ibid). Clinical diagnostic judgement, however, is a capacity whose acquisition "requires clinical training" enabling a psychiatrist "to recognize when the combination of predisposing, precipitating, perpetuating, and protective factors has resulted in a psychopathological condition […]" (ibid.).

In this description of diagnostic clinical judgement, it is necessary to assess which aspects of a patient's experiences and behaviours qualify as symptoms and signs and what level of severity they manifest. Both requirements come down to what I described earlier as the clinical reasoning process through which psychiatrists develop their case formulation. The case formulation sets down the results of the psychiatrist's analytic work on the diagnostic information, which suggests that specific complaints do or do not have psychiatric symptom/sign value. In turn, this attribution of symptoms and signs whose justification is given in the case formulation allows for a quicker application of the proposed diagnostic categories and helps justify their application. The profiles of categories, consisting of lists of signs and symptoms and their severity, can be compared to those psychopathological conditions that the diagnostic case formulation suggests are present in the patient,

and a diagnostic category can be chosen.[14] If presented alongside the categorical diagnosis, the case formulation thus makes transparent the reasons for which a specific categorical choice was made and so stands in a justificatory relationship to the categorical diagnosis. This relationship is illustrated in Figure 6.

Figure 6: Relationship between diagnostic case formulation and categorical diagnosis. Arrow indicates a background information relationship



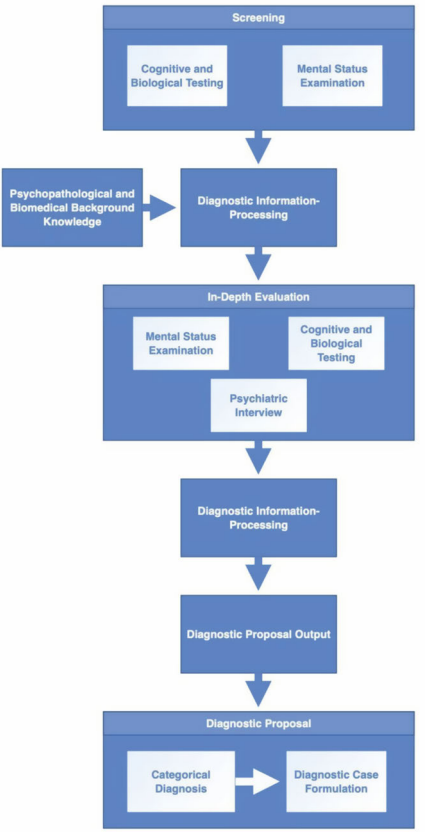
More than merely being a plausible and elegant option to make sense of the coexistence of the case formulation and the categorical diagnosis, this way of understanding their relationship helps to avoid puzzles that arise otherwise. Consider that this relationship does not hold. Why, then, should the psychiatrist invest effort in a diagnostic case formulation that allows her to individuate complaints as being (non)-psychopathological symptoms and signs, if the outcome did not inform the diagnostic category choice? The diagnostic case formulation would seem pointless. If this were true, however, the question arises of how else the psychiatrist would learn about the presence of signs and symptoms. If there is diagnostic judgement at work that, as the APA requires, consists of more than just "checking" symptoms, then what is this process that basically does the same work as the diagnostic case formulation but that an opponent of my proposal would have to claim to be something different? And if there were something that did this work for a second time, why has it not replaced the diagnostic case formulation as part of a comprehensive diagnostic proposal? It appears *prima facie* that rejecting the proposed relationship between the diagnostic case formulation and categorical diagnosis would only generate new

14 To illustrate this, one might recall my previous example of the patient who complained about his sleep problems, which I used to indicate what proper evaluation may look like and why the information it produces can be crucial. In both cases, the reported complaint is superficially the same and may one think of the presence of the symptom of insomnia. We then saw that for good reasons the complaint will be evaluated to be a non-psychopathologically relevant complaint in the one case, but to qualify as insomnia in the other. In both cases, however, the sleeping problems and the explanation found for them by the clinician would appear in a case formulation for the patient, but in one instance addressed as psychiatric symptoms, in the other instance addressed only as disrupted sleep due to bad sleep hygiene.

puzzles, rather than solving or helping to avoid any. Therefore, I will assume that the relationship as presented here is adequate.

In accordance with my presentation of and remarks on the output of the diagnostic proposal, the overview flowchart must be modified as follows:

Figure 7: Modified flowchart of stepwise psychiatric assessment as developed in this section. Vertical arrows connect steps in the process; horizontal arrows indicate the influence of background information.



1.3 Diagnostic Information-Processing

Now that we have unpacked diagnostic information-gathering as well as the diagnostic output, the remaining aspect of the diagnostic process to be considered is diagnostic information-processing. I have saved the discussion of this aspect of the diagnostic process until last because it provides an interesting problem that makes for a good transition from the descriptive task of this chapter (to present a picture of psychiatric diagnostics) to the explanatory task of the next chapter: to spell out the diagnostic reasoning process that governs psychiatric diagnostics and to answer the Methodological Question.

So far, I have discussed what happens in diagnostic information-processing in only a very abstract manner. In section 1.1, I indicated how the screening guides the psychiatrist towards the decision of which potential psychiatric symptoms the patient needs to be assessed for, and how the psychiatrist uses background knowledge plus the variety of diagnostic tools at hand to carry out an in-depth evaluation of the patient, leading to an inference as to the presence (or absence) of psychiatric symptoms. In 1.2, I mentioned that in the inferential step from the in-depth evaluation to diagnostic conclusions, the resulting knowledge about the patient's psychopathological condition is used to set up the diagnostic case formulation, which is intended to explain the patient's condition and to generate an adequate diagnosis of mental disorder.

This abstractness in describing diagnostic information-processing results from the fact that the processing steps in question are usually discussed either in precisely this type of abstract and rather uninformative way, or in terms of single case examples that do not provide a generalisable framework useful for understanding what happens at this step of the process in general. Why this may be the case is puzzling. From conversations with clinicians and from my review the literature, it appears to me that clinicians learning to diagnostically assess patients learn and correct their diagnostic reasoning on a case-by-case basis. That is, they learn by looking at and working with single cases or small clusters of cases (i.e., patients with this or that pathology) rather than making use of a general framework governing what it means to process diagnostic information. Although such a general approach is perhaps tacitly picked up and skilfully exercised by clinicals who have been educated mostly via single cases and small clusters, the canonical presentations of psychiatric diagnostics contain no explicit reference to *how* diagnostic information-processing is supposed to take place in a generalised format.

If one looks for work on what happens in diagnostic information-processing, proposals can be found, but these proposals are not descriptively stating what can be generally agreed to happen in diagnostic information-processing. Rather, these are already theoretical proposals for how to understand diagnostic reasoning based on the rough commonsensical descriptions we have of it and how, given the inputs

and outputs to this stage (and maybe some experimental data), we should understand diagnostic information-processing. These proposals try to provide a theoretical framework to explain what kind of belief-forming procedure takes place between the various stages of the diagnostic process. In so doing, however, they end up making a proposal as to what method is at work here. Examples of such proposals were briefly mentioned in the Introduction of this thesis, such as the phenomenological proposal (Fuchs, 2010; Parnas, Sass, and Zahavi, 2013) involving the idea that the reasoning process leading to the attribution of a disorder diagnosis is a form of Gestalt recognition. This is apparently not a commonsensical description of what psychiatrists do, but rather a specific form of theorizing about what they do. It is a part of an answer to the Methodological Question rather than a descriptive presentation.

Spelling out the diagnostic information-processing in a less vague but still generalisable manner seems not to be a task that can be addressed descriptively, thanks to the lack of consensus-building discussion on the topic within descriptions of psychiatric discourse. It seems that by looking at all we know about the diagnostic process as it is described here, proposing an understanding of what process is taking place in diagnostic information-processing is an explanatory rather than a descriptive task. Therefore, the descriptive work in this chapter is now complete. To address the question of how diagnostic information-processing should be assumed to take place becomes an interesting problem that we can look forward to seeing answered as part of the Methodological Question. Bearing in mind the question of how diagnostic information-processing should be thought to take place, considering all our descriptive knowledge of diagnostic core procedures, I will proceed towards addressing this and other questions. For now, I will briefly recap the main conclusions reached in this chapter.

1.4 Conclusion

In this chapter I have presented an overview of the core practices of clinical psychiatric diagnostics, to provide a descriptive baseline understanding towards which I can orient my approach to providing an answer to the Methodological Question. I started with the picture of diagnostics being a three-stage process involving diagnostic information-gathering, diagnostic information-processing, and, finally, the output of a diagnostic proposal. I unfolded each of these steps in the course of the chapter.

First, I discussed the diagnostic assessment and divided it into two further steps: the screening and the in-depth evaluation. I discussed the methods that typically provide the core of the psychiatric diagnostic proposal: the diagnostic interview, the MSE, and potential cognitive or biological testing.

Second, we proceeded to consider the results of the diagnostic assessment: the diagnostic case formulation and the disorder diagnosis proposal. I provided examples for both formats of diagnostic output and clarified how their relationship should plausibly be understood. Specifically, I claimed that the diagnostic case formulation presents the reasoning process leading to the psychiatrist's conclusions regarding the presence of certain symptoms, thus serving as the informational base for providing a symptom criteria-based disorder diagnosis.

Finally, I discussed the obstacles to addressing the aspect of diagnostic information-processing in psychiatric diagnostics, which is usually either described only in rather vague terms that can barely be considered to truly unpack what is going on, or else considered only in terms of single instances of diagnostics that do not provide a generalisable understanding of diagnostic information-processing comparable to the detail in which the other steps in the diagnostic process were spelled out. I suggested that as a result, the task of coming up with an understanding of diagnostic information-processing forms part of the process of generating an answer to the Methodological Question, rather than falling under the descriptive aims of this chapter.

Now that I have provided a description of the core procedure of psychiatric clinical diagnostics and thus established a baseline for what my methodological proposal must explain, we can proceed to the next step. This will be, in Chapter 2, to present a methodology for diagnostic modelling, which in Chapter 3 will then be argued to apply to the picture of psychiatric diagnostics being painted here.