

Chapter 5

Brain Mythologies

Jaspers' Critique of Reductionism from a Current Perspective

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5.1 Introduction

Karl Jaspers is considered the uncontested founder of psychopathology as a science with its own object and methodology.¹ This establishment of psychopathology was based essentially on the rejection of natural scientific reductionism, which attempted to trace back mental phenomena and occurrences of mental disorders to their source in the organic substrate (i.e., in the brain). Indeed, this reductionism corresponds to the scientific longing for explanations, but it prioritizes the question of *why* over the question of *what* and thus neglects the careful describing and understanding of pathological variations of psychic life. Psychopathology as a science by contrast is based for Jaspers on the assumption that even mental abnormalities have gestalt-like and meaningful characteristics and therefore cannot be explained exhaustively by the listing of symptoms, which would be considered reflections of neurobiological disturbances. In contrast to neurology, which correlates single deficiencies with localized physical lesions, psychopathology begins there where both the holistic *structure of the mental* and, as a result, the *constitution* of experiencing world and self as a whole suffers from a disturbance. This modified or disturbed constitution cannot be described any longer by reference to individual symptoms, but rather requires a phenomenological presentation of the whole structure of the experienced world. Only if this task is accomplished and the mental illness is understood as a modification of the world-constitution can the search commence for

Translated by Alexander T. Englert from Fuchs (2008).

¹ “Not in regards to the name, rather as a science with its own object of research, own methodology, and own critical consciousness of method was psychopathology directly founded by Karl Jaspers before the First World War” (Janzarik 1974, p. 32f., my translation).

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disturbances' causes, whether they are of a physical, a life-historical, or other sort—namely, by working out from a methodologically secured foundation.

Psychopathology in the 19th Century, by which Jaspers felt confronted, was marked by a dispute between those advocating a “psychic approach” (“*Psychiker*”) and those advocating a “somatic approach” (“*Somatiker*”). The former, above all J. C. A. Heinroth and K. Ideler, sought the causes of mental illnesses in an “aberration” (“*Verirrung*”) of the psyche itself; often this aberration was interpreted according to moral or even religious perspectives. The latter, on the other hand, amongst them M. Jacobi, F. Nasse, and J. B. Friedreich, denied the possibility that the psyche or the mind itself could fall ill, and they attributed mental illness to physical effects.² Thus, both schools of thought failed to conceive of the state of being mentally ill in direct accordance with its own structures—namely, through trying to realize the patient's experience or behavior. Instead, they viewed it solely as a symptom of mental or somatic causes. By doing so, both groups overlooked equally the phenomenological dimension.

Already in the introduction to *General Psychopathology*,³ Jaspers takes a stance against the “somatic approach” of his time, namely, against reducing everything to the brain's physiology: “The principle of this book is to present a psychopathology which, in its concept-building, its methods of investigation and general outlook, is not enslaved to neurology and medicine on the dogmatic grounds that ‘psychic disorder is cerebral disorder’” (GP, p. 4). This dogma, which Wilhelm Griesinger (1861) formulated in 1861, leads psychiatrists to the conclusion that, “if only we had an exact knowledge of the brain, we would then know the psychic life and its disturbances. This has led psychiatrists to abandon psychopathological studies as unscientific” (GP, p. 459). All validity is attributed “solely to cerebral processes, constitution, physiology and the experiments of objective psychology since these [are] purely physiological, and as far as possible excluded from psychic life” (GP, p. 712).

At the same time, Jaspers' critique developed just as severe a criticism of the “psychic approach,” namely, of Freudian psychoanalysis in which he perceived a speculative, ideological tendency at work, which went in the direction of unmasking conscious mental experiences as illusions and self-deceptions (cf. GP, pp. 537 ff., 772 ff.). Albeit misjudging the hermeneutic dimension of psychoanalysis and overlooking the possibilities of extended understanding opened up by it, his critique arose from the same impulse, namely, to assert psychopathology and the primary experiencing of the mentally ill as an independent field of phenomenological knowledge. It also arose from the impulse to defend this field against biological as well as psychological reductionism: “We confine description solely to the things that are present to the patients' consciousness,” in that we “are not concerned at this stage with (...) any subsidiary speculations, fundamental theory or basic postulates”

² Cf. regarding this point K. Jaspers, *General Psychopathology* (1997, p. 850f., in the following cited as “GP”), as well as Schneider (1926, p. 383f.).

³ All translations are taken from: Karl Jaspers, *General Psychopathology* (1997), translated by J. Hoenig and Marian W. Hamilton.

(GP, p. 56). “The psychopathologist, if he is to keep this space free and gain ground for his activities, must set his face against every attempt to create an absolute and to claim that particular methods of research are the only valid, single objectivities, the only true Being as such. He must also take sides on behalf of meaningful understanding in the face of biologism, mechanism, and technics” (GP, p. 770). In Husserl’s sense of “To the things themselves!”, Jaspers asserts that psychopathology must “withdraw” from the secondary, theoretical world of a purportedly recognized true Being and return “to fully present reality” (GP, p. 549).

In accordance with the dominant psychiatric paradigms of his time, Jaspers’ main critique was aimed at biological reductionism. In the following, this confrontation will be examined in more depth; then, its actuality for contemporary psychiatry and neuroscience will be explored.

5.2 Jaspers’ Critique of Biological Reductionism

5.2.1 *The “Somatic Bias”*

At the end of the 19th Century, psychiatry conformed to the natural scientific paradigm that had reigned triumphant in the whole field of medicine since 1850. It concentrated on the search for somatic causes of mental illnesses. To do so, research was promoted above all in the areas of neuroanatomy, neurohistology, neurophysiology, and neuropathology.⁴ Most importantly, one believed it possible to have an effect on mental disturbances via somatic therapies. The majority of psychiatrists considered the psyche and psychology as things that had been supplanted by physiology. In fact, T. Meynert, one of Griesinger’s pupils, rejected the expression of “mental illnesses” completely and spoke from then on only of a “clinic for illnesses of the forebrain” (Meynert 1884).

Around 1900, however, the preliminary euphoria of the somatic approach began to waver. Many results, which were being enthusiastically awaited, had failed to appear; the discovery of lues as the cause for progressive paralysis could not be adopted for other psychoses. The somatic paradigm neither offered a satisfactory explanation for the majority of mental disturbances nor provided effective forms of treatment. Amongst psychiatrists, Jaspers reminisced later that “consciousness of a stagnation in scientific research” was spreading along with pessimism about therapeutic methods.⁵ Jaspers found himself confronted with this situation as he began working on his new system for psychopathology in Heidelberg.

In the introduction of GP, Jaspers refers to the “somatic bias” as threatening psychiatry. This bias presupposes implicitly, that “the actual reality of human ex-

⁴ Seen, for example, in the work of Meynert, Wernicke, Westphal, Nissl, Alzheimer, Vogt, and Spiermeyer.

⁵ Jaspers (1984, p. 21); cf. also Seidler (1976).

istence is a somatic event. Man is only comprehensible when he is understood in somatic terms; should the psyche be mentioned, this is in the nature of a theoretical stop-gap of no real scientific value" (GP, p. 18). This attitude leads to an overhasty identification of morphological or physiological facts with mental experiences and, in the process, arrives at adventurous constructs, which Jaspers refers to as "Brain Mythologies" (GP, p. 18). Natural scientific facts are then offhandedly reformulated into statements about "the psyche," "the person," or "mental illnesses"—an improper stretching of the physical world's domain of validity. This somatic-pathological perspective overlooks, according to Jaspers, the independence of the mental domain, which reveals itself solely through a humanities-oriented understanding. "Somatic medicine," he writes at one point, "only deals with the individual as a creature of nature. It examines and investigates his body as it would that of an animal. But psychopathology is constantly faced with the fact that the individual is a creature of *culture*" (GP, p. 709). Animals can indeed suffer from brain afflictions and nervous disorders, but mental illnesses are specifically human: "Medicine is only one of the roots of psychopathology (...) Whenever the object studied is Man and not man as a species of animal, we find that psychopathology comes to be not only a kind of biology but also one of the Humanities" (GP, pp. 35/36).

5.2.2 *The Localization of the Mental*

In his critique of somatic reductionism, Jaspers especially opposes every hasty attempt to localize mental processes to certain areas of the brain: "We should be particularly wary of regarding known cerebral processes as such direct bases for particular psychic events" (GP, p. 458). Every attempt at localization—the history of which Jaspers reports on thoroughly, from the 18th century on—was based on a presupposition that had not been well thought out, namely, that the arrangement and structure of psychic life had to correlate to the structure of the brain.⁶ This presupposition, however, was just as unverifiable as it was pointless: "What is heterogeneous cannot coincide, but at best the one can only be used as a metaphorical expression of the other" (GP, p. 481 f.). The temporal, processual reality of the mental remained incommensurable with the spatiality of the brain's form (GP, p. 491).

Such somatic constructions have no real basis. Not one specific cerebral process is known which parallels a specific psychic phenomenon. Localization of various sensory areas in the cerebral cortex and of the aphasias in the left hemisphere only means that these organs must be intact for a specific psychic event to be possible. There is no difference in principle here from the equal necessity of having intact

⁶ In this manner, Jaspers also characterized C. Wernicke's system (1906): "The elements and connections of psychic life are seen as identical with the elements and structures of the brain. The psyche becomes spatially represented. Holding such a view one will tend to turn not to the psychic life itself but to the brain and to neurology when one wishes for psychopathological comprehension. Psychic phenomena will only be used for the time being in the absence of direct access to the brain" (GP, p. 534).

function of the eye or of the motor mechanism, etc., which are also essential “tools” (GP, p. 18).

However, don’t certain deficiencies occurring in correlation with localizable lesions in the brain also prove the localizability of the accompanying function? According to Jaspers, the answer is no; this is because the localizations established through attention to brain lesions can only account for “centres of disturbance, not centres of performance” (GP, p. 493). That which is localized proves to be only a tool of the mind, not the mind itself. “We only know conditioning factors for the psychic life; we never know *the* cause of the psychic even, only *a cause*” (GP, p. 459). The reality of the function itself may possibly depend “on an infinite number of relationships between the many parts and is nowhere essentially localized in a centre” (GP, p. 493). “Everything psychic is always a total event, it is not composed of partial functions but functions are the tools it uses and, when these are affected, the event in its totality becomes impossible (...). *Elementary psychic functions* that could be localized are unknown” (GP, p. 495).

The entirety of mental life cannot be assembled out of localizable partial functions. Wouldn’t it then at least be appropriate to localize consciousness or the mind as a whole in the brain? Jaspers finds this notion just as pointless: There can be no fundamental “seat for the psyche” (GP, p. 226). Moreover, the notion is connected with the suggestion of absolutizing brain processes as the substance of what it is to be a person, or to take every human occurrence to be occurrences of the brain (GP, p. 496). From a phenomenological standpoint, brain illnesses are only “one of the causes of psychic disturbance among many. The idea that everything psychic is at least partially conditioned by the brain is correct but is too general to mean anything” (GP, p. 496). The only experienceable coincidence of mind and body, according to Jaspers, is to be found in events of expression (i.e., in the concrete, bodily encounters with others). In such moments, we can perceive directly in the corporeal appearance of the other, the psyche of the other (GP, p. 226). Once we have separated body and mind, however, then we shall never find a coincidence of the two again.⁷

5.2.3 “Causal Knowledge Must Not Be Made into an Absolute”

Jaspers’ critique of the biological paradigm, as it was just detailed, is closely related with his well-known opposition to understanding and descriptive psychologies. Thus, he assigns, on the one hand, a significant role to causal explanations for psychopathology; on the other hand, he argues against making “causal knowledge (...) into an absolute,” for which every mental disorder would only be a symptom of a researchable brain process (GP, p. 460)—one consequence of this would be that one holds every psychological interest (e.g., for schizophrenia), as obsolete as soon

⁷ “To sum up, coincidence (and that restricted to what is an understandable manifestation) exists only at the point where in primary fashion we see and experience the psyche in the body and the body in the psyche. If we have separated body and psyche and are investigating their relationship, no such coincidence is to be found” (GP, p. 226).

as the disorder's somatic causes have been discovered (GP, p. 18). For the psychopathologist (if he does not want to be untrue to his primary duty), the primacy of understanding remains opposed to such a position. And yet, Jaspers does not remain opposed only to descriptive approaches, rather he continues his opposition in the sphere of therapeutic practice. The need for causality is namely based mostly on a longing for "the greatest therapeutic power" (GP, p. 461). Where material causes of mental disorders become accessible, medical interventions will also have an immediate effect; this underpins an important and justified motivation towards thinking in terms of causality. Nonetheless, Jaspers also addresses the problem of such an approach: "Causal knowledge, which grasps the non-understandable as it arises necessarily from its causes, can influence therapy decisively by measures *in which the psyche which is wanting help need take no active part*" (GP, p. 461, author's emphasis).

In complete contrast to such a causally effective, but absolutely impersonal therapy, Jaspers advocates therapy through personal influence on the afflicted person in regards to his internal reflections and resolutions. Causal, descriptive thinking attains possible effectiveness on the basis of general knowledge; however, it tends to distract one away from concrete encounters with the individual patient. Instead, he will only be treated as a case for application of the general principle. The understanding approach, on the contrary, is based on reenactment, on empathy, and (as a result) on the inner relatedness that the therapist experiences with the patient qua human being. "Causal thinking impinges on what is alien, not-understandable and on what can be manipulated; understanding of meaning impinges on myself in the other..." (GP, p. 462). "[T]he healthy person who keeps his psyche marginally exposed," encounters in sick persons, "what he potentially is" (GP, p. 786). In this encounter, one finds "the most intense presentation of what is entirely individual" (GP, p. 462).

5.3 The Relevance of Jaspers' Critique for Today

So much for an outline of the Jaspersian critique; now, to what do we owe its relevance today? It is not difficult to recognize in his dispute with the reductionism of his day positions that we can find in the dominant biological paradigms of neurosciences and psychiatry today. Even if the sophistication of their findings offers much more when compared with the relatively unrefined localization theory of 1900, the primary presupposition remains the same. Accordingly, the mental is assigned a solely symptomatic significance for the natural sciences; all psychological or phenomenological knowledge is simply a preliminary way of describing what is actually going on, namely material processes at the neuronal level. Thus, it is assumed that neuroscience has priority over phenomenology and psychology when it comes to describing experiences and behaviors, or to put it in Jaspers' own words: "Man is only comprehensible when he is understood in somatic terms" (GP, p. 18).

“But we do not know a single physical event in the brain which could be considered the identical counterpart of any morbid psychic event” (GP, p. 459). This warning still holds true today in the era of image-producing technologies. It is not in the brain that we discover conscious experiences, rather only the neuronal processes or correlates that we assign to them. Yet during this assigning, neuroscience can still make the mistake of overhasty localization, thereby arriving at a new form of “phrenology.” Indeed, the activity of certain neuronal modules presents a function’s *necessary* condition if it is shown that the modules are activated through this function or if, vice versa, a lesion leads to the function’s *impairment*. Regardless, it remains impossible to conclude from this that these modules ever provide *sufficient* conditions for the *functions* as such, which, for example, can even involve completely different brain regions (Fuchs 2012, 72f.). The more complex the function, the more likely it will require the integration of differing and spatially disparate networks and centers. “We only know conditioning factors for the psychic life; we never know *the* cause of the psychic event, only *a* cause” (GP, p. 459).

These necessary differences in the relation between single brain processes and the whole structure of the psyche are, however, often neglected in anticipation of a universal biological explanation. Already in 1925, Karl Kleist rejected Jaspers’ approach with the following:

In my opinion, all “psychic processes” will merge with organic ones. This will happen when one has gained more of a perspective for the fact that the meaningful connections of psychic processes, which are prized so highly by Jaspers, are accompanied without exception by neuropathologically explainable symptoms. (Kleist 1925, p. 18, my translation)

That here, in the rapture of formulating his thoughts, Kleist asserts that every understandable mental process should be explainable *neuropathologically*, is a statement that is ironically shared by a current psychiatrist, as can be seen in this analogous statement:

The foundational concepts of learning, thinking, imagining, and perceiving will become understandable—in the same way as the deviations of physiological processing patterns—as disorders of brain functions; they will become representable with the help of medical imaging (...) as states and processes of the brain. As a result, psychic disorders will increasingly become brain function disorders and will no longer differ fundamentally from other CNS illnesses. (Maier 2002)

Such points of view make it clear which consequences may result from a biological reductionist approach. If anxiety, compulsiveness, depression, or schizophrenia are *essentially* only neurobiochemical disorders, then psychiatry will become a specialized form of neurology and psychiatrists will become brain specialists. Psychopathology would then be exhausted by a listing of symptoms, which would be conceived of as simply reflections of disorders of the biological substrate. No longer would inherent meaning or significance be ascribed to mental phenomena and processes of the illness. They, like strokes and neurological syndromes of impairment, would no longer involve such categories.

5.4 Limits of the Jaspersian Position

Kleist's critique does simultaneously hit upon a problematic point in the Jaspersian position that we will now examine in conclusion. Said point is the retreat of the very first foundation of psychopathology into the refuge of conscious subjectivity. In the attempt to demarcate the phenomenal sphere of psychopathology and counter causal explanations of the mental, Jaspers surrenders the entire sphere of the unconscious and of the organic substrate to the natural scientific principle of causality:

It is in the nature of all causal investigation that, as it advances, it penetrates deeper into the *extra-conscious foundations* of psychic life, whereas the psychology of meaning remains by definition within consciousness and *ends at the point where consciousness ends* (...). The extra-conscious element can only be found in the world as something somatic. (GP, p. 457, author's emphasis)

Jaspers' dualism of understanding and explaining⁸ originates from an ultimately Cartesian dualism between psychic and corporeal, in that corporeality remains foreign to understanding's every attempt. As a result, the "meaningful connections" of psychic life run the danger of being criticized by researchers in the field of neurobiology as constituting nothing more than superficial epiphenomena (GP, p. 457f.). Jaspers was unsuccessful in searching for comprehensible motives in the unconscious processes and development of symptoms, as psychoanalysis had undertaken before him; simultaneously, his dualistic approach could not offer the possibility of seeing or (at least) postulating the impact of mental processes on the neurological processes themselves.⁹ In so doing, subjectivity as such persisted as a, granted, impregnable citadel, whose study could be pursued by phenomenological psychopathologists at their leisure. This research, however, was in danger of losing its relevance for the development of psychiatry due to the increasing dominance of causal explanations in science. The loss of psychopathological experience, as is to be diagnosed everywhere today, has at least its roots in the dualistic presuppositions of the Jaspersian psychopathology.

The dichotomy of explaining and understanding appears to be unsustainable today in this form, and indeed for two reasons: First, at the latest since T. S. Kuhn's *The Structure of Scientific Revolutions* (1970), the view has asserted itself in scientific theory that the causal, explanation dimension of the sciences is itself subjugated to historically shifting paradigms. In other words, sociocultural structures of

⁸ Cf. with this also the somewhat critical portrayal by Blankenburg (1991, p. 358).

⁹ Indeed, Jaspers saw correctly that the principle of causality in the biological substrate needed to be reconsidered and expanded into a circular gestalt form: "Causal relations do not run only one way, but take reciprocal effect; they extend in this circular fashion so that they either build life up or as 'circulivitosi' foster a process of destruction" (GP, p. 454). Yet, he continues with: "Now biological causality is not added to mechanistic causality as something fresh and new" (GP, p. 454). This statement should be understood as a verdict against vitalism; it surrenders, however, the field of the living processes in the end to a physicalistic understanding. Above all, the interplay between that which is subjective and that which is organic remains outside of Jaspers' horizon—e.g., in the form of an influence on the brain through interpersonal experiences or a "historical biology," of which Mitscherlich later spoke.

thought are built into the explanatory paradigms, which can then only be understood through hermeneutic comparison. Second, the discovery of neuroplasticity (i.e., the effects that subjective and intersubjective experiences, for example, in psychotherapeutic processes, have on the neural structure), has made it clear that “causes” and “meanings” (as that which is explainable and as that which is understandable) are only comprehensible when taken in constant interplay with each other. As a result, the Jaspersian dichotomy-based differentiation loses its selectivity when compared to a circular relation between influences of the psyche and influences of its substrate (i.e., the brain), which should be described biologically and hermeneutically (Fuchs 2011, 2012).

The advances of neuroscience and psychopharmacology have pushed psychiatry lately in the direction of causal explanations. Nevertheless, for a unified naturalistic model of mental disorders there is no end in sight. If anything, it is precisely the dependency of the brain on the psychosocial world (in a dialectic swinging back of the pendulum) that has opened up a new appreciation for the dependency of the brain on its psychological and social environment. It can increasingly be understood as a historically and socially constituted, meaning-carrying organ, which perpetually translates biological processes and intersubjective experiences back and forth. More than ever, neurobiology and psychiatry are becoming increasingly dependent on the integration of philosophical, biographical-hermeneutic, sociocultural, and systematic approaches. Precisely because the brain itself is the organ responsible for reciprocal translations or transformations of spheres of reality, which are only accessible to us through differing aspects, it cannot itself be adequately comprehended in one single paradigm. Thus, hermeneutic understanding receives a new, comprehensive task: namely, to make communication possible between the currently incommensurable perspectives and languages with which we attempt to grasp scientifically and clinically the state of being mentally ill. Psychopathology can only recover its importance, which was rightfully reclaimed by Jaspers, if it transcends the subjectivism of understanding and also understands the biological processes (within the brain) as socially and historically constituted.

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