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INVITED REVIEW

On the concept of delusions: Global trends and psychopathology in Japan

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Abstract

The present article spotlights challenging conceptual and epistemological issues regarding delusions. A research history of various approaches to delusions in Europe, the United States, and Japan reveals the difficulty of defining delusions. Facing these difficulties, the standard concept of delusions has become thinner than the traditional ones, making its boundary with minority opinions vaguer. Nevertheless, clinical typology and epistemological approaches are contributing to the continuous conceptual refinement of delusions. Both standpoints validate and promote each other in elaborating the characteristics of delusions and their boundaries with non-delusions. In addition, epistemological inquiries into delusions shed new light on the extraordinarily difficult problems in the relationship among belief, knowledge, certainty, and delusions, contributing to epistemology in general. These approaches to delusions promote the evolution of the concept of delusions and related epistemological inquiries.

KEYWORDS
delusion, DSM, epistemology, psychosis, self-disorder

INTRODUCTION

The concept of delusions is far from firmly established, even though they are often easily identified by clinicians and laypeople.[1] The glossary definition of delusions that had been used for the past four decades was dropped in the most recent psychiatric diagnostic criteria,[2] and a more rudimentary definition has been adopted. This change results from inquiries into the problem of whether fallaciousness is essential and indispensable to delusions.[3–5] In addition, whether there are primary delusions that are distinct from ordinary beliefs and normal neural functions remains a point of disagreement.[6] A "bizarre" type of delusions has been identified, but its role in the differential diagnosis of psychiatric disorders has been gradually depreciated. This change was promoted by the claim that both the inter-rater reliability and predictive value of bizarre delusions were insufficient,[7] although this claim is equivocal.[8]

Meanwhile, the World Health Organization (WHO) justly cautions that delusional disorder or psychosis "should not be used to classify the expression of ideas, beliefs, or behaviours that are culturally sanctioned."[9] To avoid using the term "delusion" for enhancing social prejudices, a conceptual clarification of delusions is necessary, as the nature of delusions remains an unresolved issue that deserves attention.

Current debates on the concept of delusions are rooted in the history of psychiatry, therefore this review article starts with the criteria established by Jaspers,[10,11] which still influence the widely accepted definition of delusions.[2,12] As Jaspers[10,11] himself admitted, his external criteria could not perfectly differentiate delusions from ordinary thoughts and beliefs. Jaspers and subsequent psychiatrists have tried to revise the definition of delusions to delineate a more clinically relevant class of delusions. There have also been approaches that avoid definitional problems. Some psychiatrists have focused on the syndromes presenting with

delusions, rather than delusions as a symptom, and thus skipped the definitional issues in symptomatology. Others have placed delusions and normal beliefs on a continuum. The present article reviews each approach in turn and examines how these lines of argument have intermingled and resulted in the current minimalist criteria for delusions. The final part of the article argues that there is still room for novel approaches to defining delusions. The scope of the present article mainly concerns conceptual issues, and as such, etiological issues are reviewed only cursorily.

As an article in one of the official journals of the Japanese Society of Psychiatry and Neurology, this review adds some weight to psychopathological studies of delusions in Japan. However, psychopathology in Japan has not evolved in isolation. It has gained much insight from psychiatry and related disciplines in German, French, and English languages. Japanese psychiatrists have imported and mastered various approaches to the human psyche, such as descriptive psychopathology, psychodynamics, phenomenology, and philosophy of mind.[13] This coexistence and the interplay of the diverse approaches in Japanese psychopathology are remarkable throughout the world. This article aims to reassess and thus contribute to global studies on delusions from the viewpoint of a psychopathologist in Japan.

CONCEPTS OF DELUSIONS IN THE EARLY AND MID-TWENTIETH CENTURY

Jaspers' criteria and accompanying difficulties

Jaspers presented the following criteria for delusions in his comprehensive textbook, *General Psychopathology*[10,11]: (1) subjective certainty, (2) imperviousness or incorrigibility, and (3) impossibility of contents.[10,p.45,11,pp.95–96] Jaspers stated that these were "external characteristics" of "what man names *vaguely* delusion".[11,p.95] Jaspers himself was not satisfied with these criteria and presented more precise characteristics. Subsequent psychiatrists have also attempted to improve these criteria. The main issue has been the third criterion, the impossibility of contents.

Jaspers did not think that the impossibility of contents was an absolute criterion of delusions. He described a case in which a patient's jealousy was delusional, even though the partner actually betrayed the patient.[11,p.106] In addition, he did not think that the external criteria for delusions would delineate a homogeneous class of symptoms. Jaspers, who considered understandability as one of the basic methods of psychopathology, maintained that whether the idea was understandable was more important than whether it was factual, therefore he distinguished between "delusion-like ideas" and "delusions proper."[11,p.96] Delusion-like ideas emerge comprehensibly from patient's other experiences, such as an affective state. If an idea expressed by a person is understandable, there is no need for a further explanation, even when that idea turns out to be incorrect. Delusions proper are incomprehensible and considered a primary experience irreducible to other experiences. Matsumoto and Kato[14] emphasized that delusion proper is "elementary,"[14,p.763] and recapitulated the "unmediated,"[11,p.132] "nonsensical," and "overwhelming" nature of primary delusions.[14,p.763] Such an incomprehensible delusion calls for an explanation of its causes. On Jaspers' account, incomprehensible delusions indicate more severe psychopathology that probably reflects yet unidentified biological causes.

Although Jaspers had already paid attention to both the empathic and rational sides of understanding,[11,15] it was Kurt Schneider[16] who examined the relationship between the empathic and rational aspects of understanding clearly and explicitly. He distinguished meaningful connections from the possibility of imagining a patient's experience. The former corresponds to the rational side of understanding, whereas the latter corresponds to subjective and empathic understanding. According to Schneider, we cannot imagine the form of patients' delusional experiences, regardless of their contents. He added that the meaning of delusion contents may sometimes be understood, even when the patient is in a psychotic state. Therefore, at that time, Schneider thought that the impossibility of imagining what the patient experiences was more important than whether the meaningful connection of the delusional contents was understandable. However, he also pointed out that our inability to imagine the form of the experiences of the patient cannot be used as *the* single fundamental principle in the diagnosis of delusions or psychosis. Although we are quite capable of imagining another person's experiences, this ability remains subjective and relative.

Later, Schneider[17,18] attempted to introduce a clear structural criterion for delusions. He pointed out that criteria such as "extent, strangeness, impossibility, imperviousness, and so forth" are vague and subjective.[17,p.461] He pursued a definition of delusions independent of the possibility or impossibility of contents. He elucidated the structural difference between delusional perception (*Wahnwahrnehmung*) and delusional notion. Delusional perception has a "two-stage" (*zweigliedrig*)[18,pp.110,112] structure: normal perception and abnormal meaning attached to that percept. By contrast, according to Schneider,[17] unlike delusional perception, normal experience is not divided into the two stages of perception and abnormal meaning. Similarly, "delusional notion … does not have this second stage",[18,p.112] therefore "we cannot separate them [delusional notions] in any way from other notions which occur among us all."[18,p.113] Delusional notions and ordinary notions are distinguished only vaguely and relatively according to the impossibility or incomprehensibility of their contents.[18]

There have been some objections to Schneider's argument regarding delusional perception. For example, Matussek[19] remarked, from the perspective of Gestalt psychology, that perceptions are already endowed with meanings that cannot be detached. He therefore insisted that patients with delusional perception experience changes in their perception, and that these experiences cannot be divided into "normal perceptions" and "abnormal meanings." However, he admitted that Schneider's two-stage theory was logically correct, as new meanings were given to many cases of

delusional percepts, therefore their views were not radically opposed. However, both of their arguments have been criticized by succeeding psychiatrists, as discussed later in this article.

Studies on syndromes presenting with delusions

A number of studies have focused on syndromes presenting with delusions, rather than the definition of delusions at the symptom level. In this approach, psychiatrists do not address delusions in isolation, but investigate how they are related to the overall changes in the relationship between the self and outside world in psychotic disorders.

Conrad[20] observed that delusional perception in schizophrenia is typically accompanied by self-reference. From the standpoint of Gestalt psychology, Conrad posited that patients with schizophrenia experience that the whole world revolves around themselves because they have lost the ability to view objects under various aspects.

From the standpoint of phenomenological psychopathology, Blankenburg[21] remarked that patients with delusions are trapped within an autistic world, and that their experiences are incommunicable to others. He continued studying how the relationship between patients with psychosis and the inter-subjective world is altered,[22] and later[23] pursued how average people evade delusions, even though they too have only limited capabilities of perspective-taking.

Uchinuma[24] also investigated delusional symptoms phenomenologically. To Uchinuma, Schneider's concept of delusional perception was no different from the incomprehensibility of its abnormal meaning. However, Uchinuma did not think that Matussek illuminated the mysterious, idiosyncratic features of delusional perception effectively. Uchinuma applied Sartre's[25] phenomenology of imagination to the psychopathology of delusions. Sartre shed light on the intentionality of imagination that is distinct from perception: "the image gives its object as a nothingness of being".[25,p.13] People are ordinarily aware that their imagination is related to nonexistent objects, which Sartre called the "imaginary." Then, Uchinuma[24] remarked that the contents of delusions are as unreal as the imaginary. However, patients with delusions are not aware of the nonexistent, unreal characteristics of their imaginary. In Uchinuma's conclusion, delusional perception is the result of impossible attempts to equate the imaginary with percepts, and being unable to integrate these, the patients have chimeric, paradoxical experiences that are neither perception nor imagination. This theory explains why delusions are concurrently certain and perplexing for patients with delusions.

Yasunaga, a colleague of Uchinuma, analyzed how patients with psychosis experience delusions. Yasunaga relied on the argument of British philosopher Wauchope[26] regarding the "pattern" in which selfhood definitely precedes otherness in normal experiences. Based on Wauchope's argument, Yasunaga[27] noticed "pattern reversal" in schizophrenia in which otherness surpasses selfhood. Indeed, patients with schizophrenia often claim that their thoughts and actions are inescapably watched, anticipated, or preempted by a certain external force. Yasunaga[28] further pursued why patients experience delusions as absolutely certain and coming from the outside. In his original "Phantom Space Theory," Yasunaga explained how patients lose their senses of agency and control over their own thoughts.[28,29]

Kimura[30,31] further stressed that patients with schizophrenia have difficulty differentiating their individual selfhood from that of others. According to Kimura, they experience anonymous and amorphous otherness appearing abruptly within themselves, and thus they feel overwhelmed by others. For Kimura, the contents of delusions were of secondary importance. Rather, the focus was on how patients experience a deteriorated intersubjective relationship delusionally.[30,32]

Despite their vastly different appearances, these psychiatrists commonly spotlighted changes in the relationship between the patient's self and others, and showed the paradoxical nature of delusions that are concurrently unquestionable and mysterious to the patient's eye. These studies have influenced the present neuropsychological investigation of the sense of agency.[33,34]

Nakai, who paid attention to the overall courses of physical, nonverbal, and verbal manifestations of patients with psychosis,[35] also regarded delusions as a secondary symptom.[36] Nevertheless, Nakai[36] focused on intra- and interpersonal dynamics leading to delusions. He discerned patients' hidden will for power and vindication behind the formation of delusions, regardless of any underlying psychiatric disorders. Patients tend to justify themselves and blame others, and other people tend to delve into a power game with the patients. Nakai scrutinized how this power game reinforces delusions and how we could find ways out of the vicious cycle of reinforcement.

Miyamoto[37] compared the way patients with mental disorders state their delusions because delusions eventually manifest in their locutions. He observed patients with mood disorders and found that their delusions of belittlement were circular repetitions of an identical set of thoughts about themselves. In contrast to those self-oriented types of delusions, Miyamoto remarked that delusions in schizophrenia are related to other people, even though their contents reveal incommensurability between patients with these delusions and other people. In addition, Miyamoto applied French structural linguistics to psychopathology and contended that both syntactic organization and the association between language and signified objects are compromised in the delusional statements of patients with schizophrenia.

Numerous studies have been conducted on how delusions manifest themselves in the life course of patients. Japanese psychiatrists observed that some adolescent and young adult patients with social phobia were delusionally convinced that their personal traits such as gaze, physiognomy, or body odor made other people feel unpleasant; their symptoms were severer than those in social anxiety disorder without delusions, whereas they did not have passivity experiences typical of schizophrenia.[37–42]

Pauleikhoff[43] presented cases of delusional disorder whose onset was in their 30s. The contents of their delusions and hallucinations were that they were a nuisance to the community. They did not manifest disorganized symptoms and their prognosis was better than that of schizophrenia. Roth[44] and Janzarik[45] described psychotic symptoms in older patients without organic brain disease, who tended to be in isolated living situations[46,47] and claim that someone had invaded their living space.[45] Janzarik[45] postulated dynamic interplay between the patients' somatic constitutions, personalities, and socioenvironmental factors in developing psychotic symptoms including delusions.[48]

The continuum view on delusions

In contrast to Jaspersian psychopathology, American psychiatry in the mid-twentieth century promoted the view that most psychiatric disorders are reactions to the living conditions of the patients and therefore continuous with ordinary mental function.[49,50] US psychiatrist Strauss[51] validated the continuum view on delusions. He set the "?" rating in their symptom scale to indicate that the "examiner is not sure whether the symptom is present or not" (p. 582). He interviewed 119 patients with schizophrenia and rated 142 delusions in 74 patients as questionable, compared with 269 definite delusions in 91 patients. He found it difficult to dichotomize delusional and non-delusional thoughts; his article has had a substantial influence on subsequent studies on delusions.

THE STANDARD DEFINITION OF DELUSION IN CURRENT PSYCHIATRY

Diagnostic and statistical manual of mental disorders, 3rd edition

The commonly accepted definition of delusion in clinical psychiatry was glossed in 1980 and has not changed for several decades. The definition of delusion was listed in the glossary of the *Diagnostic and statistical manual of mental disorders*, 3rd edition (DSM-III)[52,p.356]:

> A false personal belief based on incorrect inference about external reality and firmly sustained in spite of what almost everyone else believes and in spite of what constitutes incontrovertible and obvious proof or evidence to the contrary. The belief is not one ordinarily accepted by other members of the person's culture or subculture.

This definition of delusion did not diverge much from Jaspers' criteria.[11,12] The phrase "firmly sustained in spite of …" corresponds to subjective certainty and incorrigibility. "A false personal belief" roughly corresponds to the impossibility of contents. This correspondence is hardly surprising; similar to Jaspers' external criteria, DSM-III takes a descriptive approach to be "atheoretical with regard to etiology or pathophysiological process".[52,p.7] DSM-III and later editions have remained neutral regarding whether psychiatric disorders are the result of a stress response or neurobiological abnormalities.

The position of the DSM regarding the distinction between delusion proper and delusion-like ideas in German psychiatry was somewhat ambivalent. DSM-III incorporated delusional perception and other Schneiderian first-rank symptoms, and defined "bizarre" delusion as "(a) false belief whose content is patently absurd and has no possible basis in fact".[52,p.356] Until the *Diagnostic and statistical manual of mental disorders*, 4th edition, text revision (DSM-IV-TR),[53] bizarre delusions had had a special diagnostic value in differential diagnosis of schizophrenia, whereas delusions in delusional disorder were not considered bizarre. However, because of its atheoretical approach, the DSM was also neutral regarding whether bizarre delusions had a distinct quality.

Revisions to the DSM

The meaning of the glossary definition of delusion remained nearly unchanged until the *Diagnostic and statistical manual of mental disorders*, 5th edition (DSM-5),[54] although its wording changed slightly during two major and two minor revisions. In the background of this stability, prominent approaches to delusions have been compatible with the DSM definitions of delusions. Garety and Hemsley[55,p.105] characterized delusions as "jumping to conclusions" based on cognitive psychological experiments. However, they admitted that the jumping-to-the-conclusion theory did not explain why patients with delusions stick to specific beliefs. Subsequent researchers conjectured that the patient initially has an "anomalous experience," and then fails to suppress the inference leading to a wrong conclusion because of reasoning biases.[56] This type of explanation is referred to as the two-factor theory of delusions.[57] By contrast, a one-factor model also exists; this model attempts to explain delusions as prediction errors that deviate from Bayesian inference.[58]

Both the one- and two-factor theories are compatible with the DSM definition and Jaspers' external criteria. The prediction error theory of delusions is compatible with false beliefs in the DSM and the subjective certainty over impossible contents in Jaspers' criteria. Two-factor theories split Jaspers' criteria into the impossibility of contents and incorrigibility, and attribute each factor to neural activities[59] or functional modules.[60] These two factors are also compatible with "false … belief" and "firmly sustained" in the DSM definition, respectively. Therefore, these theories have not proposed an alternative definition of delusions.

The concept of bizarre delusions is not well suited to current continuum views on delusions or the atheoretical position of the DSM. The currently prevalent views on delusions as a continuum of ordinary brain functions and beliefs do not favor a dichotomous view either. The special diagnostic value of bizarre delusions in the DSM system has been diminished and then abandoned in DSM-5.[54]

A bizarre delusion alone is no longer sufficient for a diagnosis of schizophrenia, and both bizarre and nonbizarre delusions have become possible in delusional disorder. Tandon and colleagues[7] explained that "less than 2% of persons diagnosed with DSM-IV schizophrenia receive a diagnosis of schizophrenia based on a single bizarre delusion or hallucination." (p. 4)

The difficulty with the criterion of impossibility or falsity of contents also affected the DSM definition. It took social and cultural factors into account to alleviate the problems with falsity of delusion contents. However, the DSM Work Group did not think that that measure was sufficient. Heckers and colleagues[5] stressed that "it is often difficult … to establish the non-veridical nature of a belief" (p. 12). Therefore, the following simplified definition of delusion is presented in "key features that define the psychotic disorders" in DSM-5: "*Delusions* are fixed beliefs that are not amenable to change in light of conflicting evidence."[54,p.87] In DSM-5, this key feature and traditional glossary definition coexisted. However, the glossary has been dropped from the *Diagnostic and statistical manual of mental disorder*, 5th edition, text revision (DSM-5-TR)[2] and only the simpler key feature remains.

However, these changes are not without problems. Jauhar and coworkers[8] expressed the objection that the depreciation of bizarre delusions might be overhasty, citing a Cochrane Review[61] that supports the diagnostic value of bizarre delusions. Indeed, some critiques of bizarre delusions did not plead for their abolition, but rather aspire to a clearer definition of delusions.[62,63] In addition, a thin definition of delusions makes the distinction between delusions and the firm beliefs of minorities more difficult, contrary to the caution expressed by the WHO[9] mentioned previously. Therefore, to guard against such prejudicial usage, the concept of delusions needs to be made thicker again.

UPDATES ON THE CONCEPT OF DELUSIONS

Kasahara[64] lamented that studies on the psychopathology of delusions nearly ended after 1980; however, this is only half true. As reviewed in the previous section, no prominent *and* groundbreaking findings on delusions leading to a major revision of the concept of delusions have been reported for decades. Nevertheless, inquiries into the basic features of delusions have not ceased, even after the establishment of the DSM definition of delusions.

Delusions and certainty

Manfred Spitzer[65–68] attempted to upgrade Schneider's concept of delusional perception. Similar to Uchinuma,[24] Spitzer[66] pointed out that differentiation between the normal and abnormal experiences of meaning in delusional perceptions depends on incomprehensibility, which Schneider himself rejected as an insufficient criterion.

Spitzer[65,66] proposed a definition of delusions without reference to the impossibility of contents, but in a different way from that of Schneider. Spitzer pointed out, "Each person is subjectively certain and not to be corrected when speaking about her/his own mental states." By contrast, a patient with delusions "speaks with subjective certainty and incorrigible about facts which do *not* lie within the scope of his mental states …." The patient "extends his epistemological 'claim to absoluteness' in an inadmissible way to intersubjectively accessible facts."[65,p.131] Spitzer concluded:

> *Thus, we can define delusional beliefs as follows: statements which are uttered formally like statements about a mental state, whose contents, however, are not mental states but rather intersubjectively accessible ("objective") facts.*[65,p.132] (italics original)

Spitzer claimed that it is a formal definition without referring to contents. It skips the difficulty in defining the "impossibility of contents." In addition, it clarifies the meaning of both "subjective certainty" and "imperviousness." Spitzer's definition of delusions seems clear and highly innovative.

However, Spitzer's definition also has some exceptions. Average people may not doubt external facts or their own external features. People are absolutely certain of analytic propositions like those in logic and mathematics, but the certainty of analytic propositions is justified and therefore not delusional. Spitzer[66] excluded analytic propositions from his arguments on delusions.

There are also empirical facts, which "I do not know how to doubt reasonably."[65,p.136] For example, Spitzer[65,67] himself admitted his own convictions that he was Spitzer, he was a psychiatrist, he was married, and he had children. Nevertheless, he insisted, citing Wittgenstein,[69] that certainty is holistic and not attributed to each single statement. With regard to such statements, Spitzer[65] claimed that "there is not the same certainty as with regard to mental states," (p. 136). and that "we all are able to… react to challenges made by others and sometimes change our beliefs."[67,p.392] Here, Spitzer seems to have been in a dilemma. To address this issue, Spitzer[66] acknowledged the need for further innovation in psychopathology.

Ikuta[70,71] investigated the relationship between delusions and average people's convictions about the external world. His argument was mainly based on the philosophy of common sense and certainty by Moore[72] and the later Wittgenstein.[69] According to them, many common sense propositions are exempt from doubt, for instance "the earth had existed also for many years before my body was born" [72,p.107] and "I have never been on the moon."[69,§111] They noted that we have no doubt about these propositions, but not because they were logically proven to be true. We do not and cannot doubt these propositions, even though they are not based on certain further grounds. These propositions are an exception to Spitzer's definition above. As Ikuta quoted, Wittgenstein wrote:

> … I did not get my picture of the world by satisfying myself of its correctness; nor do I have it because I am

> satisfied of its correctness. No: it is the inherited background against which I distinguish between true and false.[69,§94]

We are not confronted with the groundlessness of common sense propositions because, as average people, we hold them in common. By contrast, according to Ikuta,[70,71] the person who continues to act against common sense fails to elicit empathy from others, stands out in our intersubjective world, and becomes regarded as delusional. Put differently, a patient with delusions regards what is certain only for themself as if they were certain for everybody. In Ikuta's words, delusion is characterized as "anti-'common sense'"[70] or "'anti-'common knowledge'."[71]

In 2021, Ikuta was invited to a symposium on the definition of delusions at the annual meeting of the Japanese Society of Psychopathology, and elucidated his previous argument further. Ikuta[73] argues more clearly that patients firmly hold "personal" common sense propositions, and that such propositions are regarded as delusions in the intersubjective world. Wittgenstein investigated not only universally endorsed common sense propositions, but also propositions about the individual that are nevertheless totally certain for us.[74,75] Ikuta[73] quotes Wittgenstein's query, "(w)hy is there no doubt that I am called L W.?".[69,§470] That is not universal common sense, but nevertheless neither Wittgenstein nor other people doubt that. Average people all have their own personal common sense propositions, but these are not in conflict with universal common sense propositions. By contrast, some of the patients' personal common sense propositions are incommensurable with universal common sense propositions, and thus other people label such personal common sense as delusions.[73]

Reference to the intersubjective aspect of delusions was a remarkable feature of Ikuta's study. This point was different from other analyses of delusions from the standpoint of Wittgensteinian certainty issued just after the turn of the century,[76–78] which seem to focus primarily on abnormalities within the patients. Phenomenological studies have mainly investigated the intersubjective aspects of delusions. In his arguments on interactional psychopathology, Glatzel[79] remarked that patients with delusions do not share the common definition of the situation with surrounding others, and that the patients nevertheless dismiss these divergent viewpoints. Following Glatzel, Nakatani[80,81] presented a case of delusions and described how the views of the patient did not mesh with those of other people as well as how he failed to anticipate other people's intentions and actions. Based on phenomenology and Wittgenstein's earliest work *Tractatus*,[82] Sass[83] interpreted the delusions of a patient with schizophrenia as "a self-contradictory attempt" (p. 58) at "making public the truth of his own (private) solipsistic vision."[83,p.59] He spotlighted the patients' self-contradictions between their insistence on the indisputable truth and the "seeming self-sufficiency"[83,p.58] of the "quasi-solipsistic" world of the patient,[83,p.147,note47] distinguishing his own view from that of Spitzer's. Oka,[84] also amending Spitzer's definition, remarked that we are all incorrigible about the "appearance [of the world] that seems to a person such and such" (p. 533). Average people do not usually notice "confusions between reality and appearance".[84,p.533] Such incorrigibility and unawareness are not delusional in themselves. Patients with delusions are different from average people in terms of the inability to withdraw this conviction "in spite of encounters with other persons".[84,p.533] Thus, combining these intersubjective viewpoints with Wittgenstein's later argument on certainty and common sense propositions was an outstanding characteristic of Ikuta's study.

Fukao,[85] the coordinator of the symposium, reaffirmed that delusions seem to be undefinable without reference to common sense, and stressed the need for tackling the question "What is common sense?" in further studies on the concept of delusions.

Latest inquiries into the definition of delusions in Japanese psychopathology

Fukao invited three psychiatrists other than Ikuta to the same symposium on the definition of delusions at the annual meeting of the Japanese Society of Psychopathology. Ueno[86,87] analyzed delusions from the standpoint of epistemic externalism. Ueno construed delusions as knowledge claims, citing Spitzer's[67] remark that "patients rarely say that they 'believe that (such and such),' but rather state that they 'know that (such and such)'."[67,p.381] Patients with delusions fail to give sufficient grounds for their knowledge claims to persuade other people. However, Ueno agreed with Ikuta[71] in that average people cannot give grounds for all of their knowledge claims either. Therefore, Ueno affirmed that "(t)he demarcation between our ordinary knowledge claims and delusional knowledge is surprisingly difficult."[87,p.180] To tackle this difficulty, Ueno applied Nozick's tracking theory to the criteria for delusions. According to this theory, a person knows *p* if their belief *p* tracks the situations and changes accordingly: one maintains the belief *p* if *p* continues to be veridical, and "if *p* were false, one would not believe … that *p*."[88,section3.3] This theory does not require that people can explain the reason they claim to know something, and thus is subsumed under externalism.[88] Ueno[87] maintains that delusions differ from ordinary knowledge in that they are fixed and thus fail to track the situation. His argument preserves the knowledge status of average people as far as they can track the facts, regardless of whether they can explain the grounds of their knowledge claims.

Reviewing the research history, Kumazaki[89,90] poses the question of why the definition of delusions is so difficult to obtain. He focuses on how a definition of delusion itself could (or could not) be judged to be complete. A complete definition means that it is formalized so well that any proposition can be judged to be delusional or non-delusional according to that definition (here, the complete definition is almost synonymous with the analytical definition). Let us assume that Dr. D has come to be convinced that he has found a complete definition of delusion. How would that definition be judged? Would other psychiatrists' opinions be irrelevant if the definition were complete? Assume that D continued to be convinced

of this definition, even though it was not approved by most psychiatrists. Might this conviction itself not be a delusion? Although other people would not be able to determine whether it was a delusion, D would not be successful in proving *to others* that D themself is not delusional. On the other hand, if many psychiatrists supported this definition, they would not ask whether the definition by D was a delusion.[89]

What would happen if this definition was accepted by not only psychiatrists, but also nearly all laypeople? If the definition were complete in the sense stated above, everyone would similarly be able to decide whether any proposition is delusional. Would patients with delusions also accept it? If a patient with a delusion accepted the definition of delusions and could correct their own "delusional" beliefs accordingly, it would be just like correcting miscalculations according to the principles of arithmetic, and it would no longer make sense to call those beliefs delusions.[89]

To put it another way, if delusions were subtypes of miscalculation, then teaching the correct method of calculating the true propositions would cure delusions. However, everyday clinical experiences show that there are many cases that are not amenable to logical or rational persuasions; rather, such persuasions might sometimes provoke the patients' opposition and strengthen their delusions further. Talking with the patients about issues unrelated to delusions would be a better approach to developing a psychotherapeutic alliance with them and mitigating the delusions later.[91]

Coinciding with other recent studies,[6,60,92,93] Kocha[94] observes that what people call delusions do not comprise a homogenous class, and submits a clinical typology of delusions. Kocha lists (1) delusional perception, (2) delusional intuition in schizophrenia, (3) delusional ideas in mood disorders, such as grandiose or nihilistic delusions that arise autochthonously, (4) delusion-like ideas due to intense emotional reactions, mainly in delusional disorder, and (5) autosuggestive delusion-like ideas associated with personality traits or intoxication. Kocha emphasizes that classification into these types results from endeavors for the differential diagnosis of psychiatric disorders. He adds that each type of delusion has a position within the whole constellation of a symptom complex. Kocha remarks that it is difficult to draw a definite demarcation line between these types of delusions and to dichotomize delusions and non-delusions. In particular, types 4 and 5 are on the boundary between delusions and non-delusions. Nevertheless, he affirms that types 1–3 indisputably belong to delusion proper, while excluding delirious symptoms, paranoid ideas in dementia, and passivity experiences from delusions.

Typology in accordance with epistemology

The abovementioned symposium consisted of two approaches to the conceptual issues of delusions: Kocha presented clinical typology and others took the epistemological approach. However, these approaches are not in conflict because epistemological inquiries into delusions reveal the need for typology in clinical practice. The epistemological studies demonstrate that delusions can hardly be defined analytically; they can only be grasped in contrast with common sense. Because common sense cannot be thoroughly written down, its boundary with delusions cannot be clear,[71,89] therefore it is highly unlikely that a unitary set of criteria might define and demarcate the whole class of delusions. If it is difficult to grasp delusions as a whole using a single definition, it is natural and almost essential to investigate delusions in a somewhat piecemeal manner. Some researchers have recommended studying each specific type of delusion one by one,[60,95,96] and this line of inquiry has never died out.

Several studies have investigated the demarcation between types of delusional statements in recent years. Kocha and Furuno[97] presented cases of involutional melancholia with severe delusions of belittlement and observed that their symptoms are manifestations of autochthonous negative feelings of their own worth (*Selbstwertgefühl*). Kocha and Furuno distinguished these symptoms from understandable reactions to depressive affect. Hamada[98] observed that patients with various diagnoses belittle themselves, withdraw into themselves, and lose their own freedom. He coined the term "asthenic delusion" to represent this state. He added that asthenic delusions are, despite their slow progress, discontinuous from the patient's pre-morbid personality. Kumazaki[99] investigated conceptual issues with delusions in mood disorders and remarked that themes of delusions only roughly correspond to the difference between mood-congruent and -incongruent delusions.

Shimizu[100,101] studied families with shared delusions and found a subtle difference between patients stating "I am persecuted" and those stating "we are persecuted." Patients with schizophrenia tended to use "I" at least early in the disease course, whereas patients with shared psychotic or delusional disorder mostly used "we." She discerned the "solipsistic structure"[101,p.97] of schizophrenia behind this difference and also argued that the modern, self-reflective mind is a precondition for these self-referential statements.[100]

Nakayasu[102,103] observed and then theorized how the schizophrenic symptoms develop from the latent, prodromal phase to the full-brown psychotic state. He argued that delusions derive from "heightened awareness," which is observed in the earlier stage. In his theory, a patient with early schizophrenia becomes highly alert because their subconscious neural system fails to process information and such poorly processed pieces of information come to their consciousness: then, the patient's nervous system depicts pieces of the background information and begins to connect these pieces in self-referential ways to cope with a critical state. Thus, delusions eventually manifest themselves.

In this line of study, delusion is grasped as a family resemblance concept comprising a variety of specific delusions; this is not to deny the concept of delusion, although the family resemblance conception of delusion tends to be regarded as the denial of a discrete concept of delusion.[55,104] The family resemblance concept does not preclude the possibility of conceptualization.[74,105] Investigating family resemblances among various types of delusions is a legitimate method to conceptualize delusions.

Epistemological approaches to delusions

The concept of delusions has been investigated in various ways with reference to beliefs, knowledge, and certainty. The relationship between delusions and beliefs has attracted substantial attention. The DSM definition[2] continues to subsume delusions under beliefs, but this view is equivocal. Some researchers stress that beliefs are rational by definition, whereas delusions are not. Berrios[3] cast doubt on the view of delusion as a wrong belief. Whereas beliefs are usually tested against background knowledge and other competing beliefs, he observed that patients with delusions often do not make such a comparison between their delusions and other thought contents. Because delusions do not fulfill the same roles as those of normal beliefs, Berrios claimed that "delusions are empty speech acts that disguise themselves as beliefs."[3,p.8] From an etiological viewpoint, Currie[106] posited that patients with delusions feel their imagination devoid of a sense of agency as if it were a belief. Some researchers have also argued that beliefs and delusions are more or less different propositional attitudes, mainly because unlike beliefs, delusions are often disconnected from other thought contents or actions.[107,108] Other researchers defend the view that many delusions share some key features with beliefs, although they agree that many delusions do not fully meet the criteria for beliefs.[109–112]

Studies on the relationship between patients' convictions and Wittgensteinian certainty are also ongoing and widespread around the world, although these do not constitute a unified movement. Thornton[113] once criticized that this approach does not facilitate *understanding* of delusions, but his argument does not inhibit an *explanation* of delusions from Wittgensteinian certainty.[114,115]

Bardina[116] grasped delusions as "abnormal framework propositions" and investigated their differences from ordinary common sense propositions. By contrast, Ariso[12] differentiated two levels of delusions, each corresponding to a specific class of beliefs. The distinction within beliefs was based on Wittgenstein's remark: "At the foundation of well-founded belief lies belief that is not founded."[69,§253] Empirical beliefs are founded on other beliefs and the world-picture in the background. By contrast, the world-picture is utterly certain for us, although it is not founded on other beliefs. Ariso[12] even refrained from classifying such certainty into beliefs, and applied this distinction to delusions. As Ariso articulates, some patients with delusions are unaware of the possibility that their belief might be false, whereas others lack certainty about the world-picture that most people take for granted.

In contrast to these studies, Bellaar[117] claims that neither alternative nor lost certainty can explain delusions. Bellaar argues that delusions are in conflict with certainty because certainty is preserved. More specifically, Bellaar claims that this is because patients with delusions and others use language in the same way in which people discern abnormal statements uttered by patients. According to Bellaar, it is not delusion but the disorganized psychotic state in which certainty is lost.

The relationship between delusions and knowledge involves an even more difficult problem. Some researchers highlight the fact that patients with delusions make knowledge claims about their delusional contents,[67,87,118] but are also aware that these delusional contents are not usually endorsed as knowledge by others. Because judgment depends on perspective, inquiries into delusions compared with knowledge are more complicated and therefore less pursued than those with beliefs or certainty. Ohlhorst[119] tackles this issue by applying Williamson's[120,p.v] "knowledge first" approach, which does not resolve knowledge into justification, truth, and belief. Citing Williamson's claim that "belief aims at knowledge,"[120,p.47] Ohlhorst finds similarity between delusions and beliefs in that both aim at but fall short of knowledge. Thus, Ohlhorst construes delusions as "failed knowledge."[119,p.5]

Why are epistemological approaches to delusions so diverse and complicated?

There are two reasons why the relationship between belief, knowledge, and delusions is indeterminate. As reviewed in this article, the concept of delusions is difficult to determine. In addition, the concepts of beliefs, knowledge, and certainty are not monolithic either, even though they are vitally important in epistemology. Beliefs can be defined in many ways, and the relationship between beliefs and associated concepts such as knowledge is indeterminate.[121] Knowledge has been defined as justified true beliefs, but Gettier[122] described exceptions to this definition. Later philosophers have made various attempts to revise the theory of knowledge to accommodate Gettier's counterexamples. Examples of these attempts include Nozick's tracking theory and Williamson's[120] knowledge-first approach, which are cited above. However, no consensus has been reached on this issue.[123,124] The meaning of certainty is also heterogenous.[125] Wittgenstein[69] struggled to clarify the similarities and differences between certainty and knowledge (see also Ikuta[73]). Even now, researchers have diverse views on the relationship between certainty and knowledge, as well as on the classifications of what are quite certain for us.[75,126] For example, whether or not to subsume our linguistic conventions under our world-picture is equivocal.[74,75]

Indeed, as noted by Mullen and Gillett,[118] difficulty in defining delusions is related to difficulty in defining beliefs. They remark that people do not sufficiently know the diverse functions of beliefs, and that the concept of beliefs is therefore indeterminate. Porcher[127] also remarks that the relationship between delusions and beliefs depends on the use of the terms "belief" and "delusion". Porcher even proposes abandoning the question of whether delusions are a kind of belief. The difference between Ohlhorst[119] and doxasticism lies in their conception of belief and knowledge: Ohlhorst considers beliefs to be secondary to knowledge, while doxasticists presume that beliefs are primary. Arguments on the relationship between delusions and certainty depend on what level or aspect of certainty each researcher is focusing on, as seen above.

Future directions of epistemological studies on delusions

Difficulties in conceptualizing delusions as stated above do not mean that we are in a deadlock. The relationship between epistemology and studies on delusions is not unidirectional from the former to the latter. Efforts to disentangle conceptual problems with delusions might contribute to epistemology as a whole.

For example, Murai and colleagues[128,129] assert that Capgras delusion cannot be described with the Russellian descriptive theory of proper names, and that the concept of the Kripkean rigid designator[130] is necessary for analysis. As far as one supposes that proper names are reducible to a bundle of definite descriptions, the statement "the person with the physiognomic properties p1, p2,… p*n* that are exactly the same as those of the person P is not P" is just a logical contradiction. By contrast, if a proper name is regarded as a rigid designator, the claim "the person whose physiognomic properties p1, p2, … p*n* are the same as those of P is not the genuine P" is a meaningful, though delusional, proposition. Their studies also indicate that the analysis of a specific type of delusion can contribute to approaching epistemological problems.

The association between defining delusions and defining knowledge is pointed out by Murphy.[131] Ueno[87] indicates that the tracking theory of knowledge clarifies the criteria for delusions. This means that a specific conceptualization of knowledge helps to define delusions better than another conceptualization. It is a factor that favors the former theory of knowledge over the latter. More emphatically, Bardina[116] claims that her analysis of actual cases of delusions "goes beyond Wittgenstein's own position" and promotes "an expansion of the concept of certainty." These epistemological studies on delusions shed new light on the opaque concepts of and relationship between knowledge and certainty.

CONCLUSIONS

The present review has reexamined the concept of delusions. First, the conceptual history of delusions has been revisited. Jaspers presented external criteria for delusions, but acknowledged that his criteria did not necessarily demarcate delusions from other thought contents. Jaspers and later psychiatrists, mainly in Germany, pursued a clearer definition of genuine, primary delusions, but the proposed amendments warranted further revisions. There have also been approaches that avoid definitional problems, either by focusing more on the structures underlying the delusions than the symptoms themselves, or by regarding delusions as a continuum from normal beliefs.

The current standard definition of delusions in the DSM results from a mixture of symptom descriptions in German psychiatry and the atheoretical, continuum view in US psychiatry. The DSM has been rendering its concept of delusions slightly thinner, although fundamentally unchanged, probably because of its atheoretical characteristics.

Although no prominent studies have been conducted to revise the standard definition of delusions, attempts to refine the concept of delusions are ongoing. Typological studies continue to clarify the characteristics of delusions, their boundary with non-delusions, and underlying psychiatric disorders. On the other hand, some epistemological approaches to delusions have analyzed the relationship among beliefs, knowledge, certainty, and delusions. Although these approaches involve highly complicated issues, epistemological studies have helped reexamine the concept of delusions and epistemology as a whole. Epistemology and clinical typology are not opposed, but rather necessitate each other to explore the concept of delusions and related issues.

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Tsutomu Kumazaki conceived and prepared the whole manuscript.

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REFERENCES

1. Gillett G, Mullen R. Delusions and the postures of the mind. Philos Psychiatry Psychol. 2014;21(1):47–9.
2. American Psychiatric Association. Diagnostic and statistical manual of mental disorders. 5th ed. text rev. Washington, DC: American Psychiatric Association; 2022.
3. Berrios GE. Delusions as "wrong beliefs": a conceptual history. Br J Psychiatry. 1991;159(Suppl. 14):6–13.
4. Bell V, Halligan PW, Ellis HD. Explaining delusions: a cognitive perspective. Trends Cogn Sci. 2006;10(5):219–26.
5. Heckers S, Barch DM, Bustillo J, Gaebel W, Gur R, Malaspina D, et al. Structure of the psychotic disorders classification in DSM-5. Schizophr Res. 2013;150:11–4.
6. Radden J. On delusion. London: Routledge; 2011.

7. Tandon R, Gaebel W, Barch DM, Bustillo J, Gur RE, Heckers S, et al. Definition and description of schizophrenia in the DSM-5. Schizophr Res. 2013;150:3–10.
8. Jauhar S, Johnstone M, McKenna PJ. Schizophrenia. Lancet. 2022;399:473–86.
9. World Health Organization. ICD-11 for mortality and morbidity statistics, 2019/2021. Available from: icd.who.int/browse11/l-m/en#/http%3a%2f%2fid.who.int%2ficd%2fentity%2f405565289
10. Jaspers K. *Allgemeine Psychopathologie: Ein Leitfaden für Studierende, Ärzte und Psychologen*. La Vergne, TN: Kessinger; 1913/2009. (in German)
11. Jaspers K. General psychopathology. [Hoenig JJ, Hamilton MW Trans.] Baltimore, MD: Johns Hopkins University Press; 1962/1997.
12. Ariso JM. Delusion formation through uncertainty and possibility-blindness. Anales del Seminario de Metafísica. 2019;52:29–50.
13. Matsumoto T, Shimizu K, Mo W. History of Japanese psychopathology: portraits of the second-generation psychopathologists (Takeo Doi, Yomishi Kasahara, Hiroshi Yasunaga, Tadao Miyamoto, Bin Kimura, and Hisao Nakai) and their relationship to psychiatric reform movement in Japan. Psychiatry Clin Neurosci Rep. 2023;2(2):e111.
14. Matsumoto T, Kato S. [The concept of "elementary phenomena": a contribution to the diagnostic symptomatology of schizophrenia]. Seishin shinkeigaku zasshi = Psychiatria et neurologia Japonica. 2012;114(7):751–63. (in Japanese)
15. Kumazaki T. The theoretical root of Karl Jaspers' *General Psychopathology*. Part 1: reconsidering the influence of phenomenology and hermeneutics. Hist Psychiatry. 2013;24(2):212–26.
16. Schneider K. Versuch über die Arten der Verständlichkeit. Z Ges Neurol Psychiat. 1922;75:323–7. (in German)
17. Schneider K. Eine Schwierigkeit im Wahnproblem. Nervenarzt. 1938;11:461–5. (in German)
18. Schneider K. Clinical psychopathology [Hamiltion MW Trans.]. New York: Grune & Stratton; 1959.
19. Matussek P. Untersuchngen über die Wahnwahrnehmung. 2. Mitteilung: Die auf einem abnormen Vorrang von Wesenseigenschaften beruhenden Eigentümlichkeiten der Wahnwahrnehmung. Schweiz Arch Neurol Psychiat. 1953;71:189–210. (in German)
20. Conrad K. Die beginnende Schizophrenie: Versuch einer Gestaltanalyse des Wahns [Beginning schizophrenia: an attempt to analyse delusion using Gestalt theory]. Stuttgart: Thieme; 1958 (in German)
21. Blankenburg W. [On differential phenomenology of delusion perception. A study of an abnormal significant experience]. Nervenarzt. 1965;36(7):285–98. (in German)
22. Blankenburg W. First step toward a psychopathology of "common sense" [Mishara AL Trans.]. Philos Psychiatry Psychol. 1969/2001;8(4):303–15.
23. Blankenburg W. Perspektivität und Wahn. In: Blankenburg W, editor. Wahn und Perspektivität. Stuttgart: Verdinand Enke; 1991. p. 4–26. (in German)
24. Uchinuma Y. [On the dualized structure of the delusional world]. Psychiatria et neurologia Japonica. 1967;69:707–34. (in Japanese)
25. Sartre JP. The imaginary: a phenomenological psychology of the imagination [Webber J Trans.]. London: Routledge; 1940/2004.
26. Wauchope OS. Deviation into sense: the nature of explanation. London: Faber & Faber; 1948.
27. Yasunaga H. The essential character of schizophrenic experiences. Psychiatria et neurologia Japonica. 1960;62(3):437–66. (in Japanese)
28. Yasunaga H. [Phantom space theory]. In: Collected papers. 1. Tokyo: Kongo Shuppan; 1977/1992 (in Japanese)
29. Kumazaki T, Hayashi N. Self-disorder explained: Yasunaga's "Phantom Space Theory" on schizophrenia. Psychiatry Clin Neurosci Rep. 2023;2(2):e90.
30. Kimura B. [Phenomenology of schizophrenia]. Tokyo: Koubundou; 1975. (in Japanese)
31. Kimura B. Disturbance of timing and selfhood in schizophrenia. Seishin shinkeigaku zasshi = Psychiatria et neurologia Japonica. 2003;105(6):729–32.
32. Kimura B. *Cogito* and I: a bio-logical approach. Philos Psychiatry Psychol. 2001;8(4):331–6.
33. Kashima H, Maeda T. On the linking neuropsychology to psychopathology: from previous studies on frontal damage and schizophrenia. Jpn J Psychopathol. 2005;26(2):107–21. (in Japanese)
34. Maeda T. Psychopathology of subjectivity. Jpn J Psychiatric Treat. 2018;33(1):5–12. (in Japanese)
35. Sugibayashi M. Theory of remission process of schizophrenia (Nakai). Psychiat Clin Neurosci Rep. 2023;2(2):e96.
36. Nakai H. [Patients and society]. In: NAKAI Hisao collection: experiences in psychiatry. 5. Tokyo: Iwasaki Gakujutsu Shuppansha; 1991. (in Japanese)
37. Miyamoto T. [Studies on delusions and related issues]. Tokyo: Koubundou; 1982. (in Japanese)
38. Fujinawa A. [On egorrhoe symdrome]. In: Doi T, editor. [Psychopathology of schizophrenia]. 1. Tokyo: The University of Tokyo Press; 1972. p. 33–50. (in Japanese)
39. Fujinawa A, Kasahara Y. The psychotic experience of having self or part of self escape into the external world. World Biennial of Psychiatry and Psychotherapy. 2. 1973; p. 265.
40. Murakami Y. [Psychopathology of self and others: adolescent paranoia and schizophrenia]. In: Yuasa S, editor. [Psychopathology of schizophrenia]. 7. Tokyo: The University of Tokyo Press; 1978. p. 71–97. (in Japanese)
41. Kobayashi T. "Jikoshu": Japanese studies in the 1960s and 1970s, and international trends today. Psychiatry Clin Neurosci Rep. 2023;2(2):e112.
42. Nakamura K, Kitanishi K, Miyake Y, Hashimoto K, Kubota M. The neurotic versus delusional subtype of taijin-kyofu-sho: their DSM diagnoses. Psychiatry Clin Neurosci. 2002;56:595–601.
43. Pauleikhoff B. [The paranoid-hallucinatory psychosis in the 4th decade. Onset, clinical picture, course]. Fortschr Neurol Psychiatr Ihrer Grenzgeb. 1966;34(10):548–60. (in German)
44. Roth M. The natural history of mental disorder in old age. J Ment Sci. 1955;101:281–301.
45. Janzarik W. [Lack-of-contact paranoid in the aged and syndrome character of the schizophrenic sickness]. Nervenarzt. 1973;44(10):515–26. (in German)
46. Mayer-Gross W, Slater E, Roth M. Clinical psychiatry. 3rd ed. London: Balliere, Tindall & Cassell; 1969.
47. Sato A, Ihda S. Paraphrenia and late paraphrenia. Psychogeriatrics. 2002;2(1):20–5.
48. Kojo K. Late-onset schizophrenic syndromes in socially isolated situations: a comparison of Janzarik's 'Kontaktmangelparanoid' and late paraphrenia: late-onset schizophrenic syndromes. Psychogeriatrics. 2010;10:83–9.
49. The Committee on Nomenclature and Statistics of the American Psychiatric Association. Diagnostic and statistical manual: mental disorders. Washington, DC: American Psychiatric Association, Mental Hospital Service; 1952.
50. Shorter E. A historical dictionary of psychiatry. Oxford: Oxford University Press; 2005.
51. Strauss JS. Hallucinations and delusions as points on continua function: rating scale evidence. Arch Gen Psychiatry. 1969;21:581–6.
52. American Psychiatric Association. Diagnostic and statistical manual of mental disorders. 3rd ed. Washington, DC: American Psychiatric Association; 1980.

53. American Psychiatric Association. Diagnostic and statistical manual of mental disorders. 4th ed. Text Rev. (DSM-IV-TR) Washington, DC: American Psychiatric Association; 2000.
54. American Psychiatric Association. Diagnostic and statistical manual of mental disorders. 5th ed. Arlington, VA: American Psychiatric Association; 2013.
55. Garety PA, Hemsley DR. Delusions: investigations into the psychology of delusional reasoning. Oxford: Oxford University Press; 1994.
56. Stone T, Young AW. Delusions and brain injury: the philosophy and psychology of belief. Mind Lang. 1997;12(3, 4):327–64.
57. Davies M, Coltheart M, Langdon R, Breen N. Monothematic delusions: towards a two-factor account. Philos Psychiatry Psychol. 2001;8(2/3):133–58.
58. Corlett P. Delusions and prediction error. In: Bortolotti R, editor. Delusions in context. Cham: Palgrave Macmillan; 2018. p. 35–66.
59. Gerrans P. The measure of madness: philosophy of mind, cognitive neuroscience, and delusional thought. Cambridge MA: MIT Press; 2014.
60. Coltheart M, Langdon R, McKay R. Delusional belief. Annu Rev Psychol. 2011;62:271–98.
61. Soares-Weiser K, Maayan N, Bergman H, Davenport C, Kirkham AJ, Grabowski S et al. First rank symptoms for schizophrenia. Cochrane Database Syst Rev. 2015;1:CD010653.
62. Mullen R. The problem of bizarre delusions. J Nerv Ment Dis. 2003;191(8):546–8.
63. Cermolacce M, Sass L, Parnas J. What is bizarre in bizarre delusions? A critical review. Schizophr Bull. 2010;36(4):667–79.
64. Kasahara Y. [Commentary]. In: Kasahara Y, Fujinawa A. [Delusions]. Tokyo: Misuzu Shobo; 2010. p. 219–31. (in Japanese)
65. Spitzer M. Karl Jaspers, mental states, and delusional beliefs: a redefinition and its implications. In: Spitzer M, Uehlein FA, Oepen G, editors. Psychopathology and philosophy. Berlin: Springer; 1988. p. 128–42.
66. Spitzer M. Was ist Wahn? Untersuchungen zum Wahnproblem [What is delusion? Investigation on the problem of delusion]. Berlin: Springer; 1989. (in German)
67. Spitzer M. On defining delusions. Compr Psychiatry. 1990;31: 377–97.
68. Spitzer M. The phenomenology of delusions. Psychiatr Ann. 1992;22(5):252–9.
69. Wittgenstein L. On certainty. Oxford: Basil Blackwell; 1969.
70. Ikuta T. *[Delusion and anti- "common sense"]*. Proceedings of the 19th annual meeting of Japanese Society of Psychopathology. 1996. p. 74–5. (in Japanese)
71. Ikuta T. On the structure of conviction in schizophrenic delusions: delusion and "anti"-common knowledge. Jpn J Psychopathol. 2003; 24:3–19. (in Japanese)
72. Moore GE. A defense of common sense. In: Baldwin T, editor. G. E. Moore: selected writings. London: Routledge; 1925/1993. p. 106–33.
73. Ikuta T. The "framework theory" of delusion, reconsidered. Jpn J Psychopathol. 2022;43(2):164–9. (in Japanese)
74. Glock HJ. A Wittgenstein dictionary. Oxford: Blackwell; 1996.
75. Moyal-Sharrock D. Understanding Wittgenstein's *on certainty*. Basingstoke: Palgrave Macmillan; 2004.
76. Campbell J. Rationality, meaning and the analysis of delusion. Philos Psychiatry Psychol. 2001;8:89–100.
77. Klee R. Why some delusions are necessarily inexplicable beliefs. Philos Psychiatry Psychol. 2004;11(1):25–34.
78. Gillett G. Brain pain: psychotic cognition, hallucinations, and delusions. In: Radden J, editor. The philosophy of psychiatry: a companion. Oxford: Oxford University; 2004. p. 21–35.
79. Glatzel J. The paranoid syndrome seen from the perspective of interactional psychopathology. Nervenarzt. 1981;52:147–52. (in German)
80. Nakatani Y. [On the process culminating in violence in a patient with chronic delusional schizophrenia]. In: Yoshimatsu K, editor. [Psychopathology and therapy of schizophrenia]. 1. Tokyo: Seiwa Shoten; 1988. p. 111–34. (in Japanese)
81. Nakatani Y. A behavioral approach to the study of delusions: what we learn from the experience of forensic psychiatric evaluations. Jpn J Psychopathol. 2018;39(2):148–55. (in Japanese).
82. Wittgenstein L. Tractatus logico-philosophicus. In: Werkausgabe. 1. Frankfurt am Main: Suhrkamp; 1922/1984. p. 7–85. (in German)
83. Sass LA. *The paradoxes of delusion: Wittgenstein, Schreber, and the schizophrenic mind*. Ithaca, NY: Cornell University Press; 1994.
84. Oka K. [Psychopathology on "as if" experience and statement]. Seishin shinkeigaku zasshi = Psychiatria et neurologia Japonica. 2007;109(6):516–33. (in Japanese)
85. Fukao K. Introduction to symposium 2. Jpn J Psychopathol. 2022;43(2):155–6. (in Japanese)
86. Ueno S. *[On defining delusions with externalism in epistemology]*. Proceedings of the 39th annual meeting of Japanese Society of Psychopathology. 2016. p. 58. (in Japanese)
87. Ueno S. On the features of delusional claims as knowledge claims. Jpn J Psychopathol. 2022;43(2):175–80. (in Japanese)
88. Rysiew P. Epistemic contextualism. In: Zalta EN, editor. The Stanford encyclopedia of philosophy (Spring 2021 ed.). Stanford, CA: The Metaphysics Research Lab Philosophy Department Stanford, Stanford University; 2021. Available from: https://plato.stanford.edu/archives/spr2021/entries/contextualism-epistemology/
89. Kumazaki T. Delusions and first-person authority. Jpn J Psychopathol. 2008;29:61–71. (in Japanese)
90. Kumazaki T. Why is it difficult to define delusion? Jpn J Psychopathol. 2022;43(2):170–4. (in Japanese)
91. Mundt C. [Psychotherapy of delusions]. Nervenarzt. 1996;67:515–23. (in German)
92. Bayne T. Delusions as doxastic states: contexts, compartments, and commitments. Philos Psychiatry Psychol. 2010;17(4):329–36.
93. Porcher JE. Delusion as a folk psychological kind. Unisinos J Philos. 2016;17(2):212–26.
94. Kocha H. The typology of delusions. Jpn J Psychopathol. 2022; 43(2):157–63. (in Japanese)
95. Marshall JC, Halligan PW. Towards a cognitive neuropsychiatry. In: Halligan PW, Marshall JC, editors. Method in madness: case studies in cognitive neuropsychiatry. Hove: Psychology Press; 1996. p. 3–11.
96. Bortolotti L. Delusions and other irrational beliefs. Oxford: Oxford University Press; 2010.
97. Kocha H, Furuno T. [A study on involutional melancholia]. Seishin shinkeigaku zasshi = Psychiatria et neurologia Japonica. 2009;111: 373–87. (in Japanese)
98. Hamada H. [On asthenic delusion]. J Keio Med Soc. 2004;81(2): 117–23. (in Japanese)
99. Kumazaki T. What is a "mood-congruent" delusion? History and conceptual problems. Hist Psychiatry. 2011;22:315–31.
100. Shimizu M. [Folie à deux in schizophrenia—"psychogenesis" revisited]. Seishin shinkeigaku zasshi = Psychiatria et neurologia Japonica. 2004;106:546–63. (in Japanese)
101. Shimizu M, Kubota Y, Calabrese JR, Toichi M, Kato S, Baba H. Analysis of delusional statements from 15 Japanese cases of "Folie à Deux". Psychopathology. 2006;39:92–8.
102. Nakayasu N. [Symptomatology of schizophrenia: from phenomenological description to neuropsychological understanding]. Tokyo: Seiwa Shoten; 1991. (in Japanese)

103. Nakayasu N. Proposal of situational-meaning agnosia/endogenous-reaction hypothesis for schizophrenia. Psychiatry Clin Neurosci. 2019;73:599–601.
104. Gipps RGT, Fulford KWM. Understanding the clinical concept of delusion: from an estranged to an engaged epistemology. Int Rev Psychiatry. 2004;16(3):225–35.
105. Baker GP, Hacker PMS. Family resemblance. In: Meaning and understanding. Oxford: Basil Blackwell; 1980. p. 185–208.
106. Currie G. Imagination, delusion and hallucinations. Mind Lang. 2000;15(1):168–83.
107. Egan A. Imagination, delusion, and self-deception. In: Bayne T, Fernández J, editors. Delusion and self-deception: affective and motivational influences on belief formation. New York: Psychology Press; 2009. p. 263–80.
108. Dub R. Delusions, acceptances, and cognitive feelings. Philos Phenomenol Res. 2017;94(1):27–60.
109. Bayne T, Pacherie E. In defence of the doxastic conception of delusions. Mind Lang. 2005;20(2):163–88.
110. Reimer M. Only a philosopher or a madman: impractical delusions in philosophy and psychiatry. Philos Psychiatry Psychol. 2010;17:315–28.
111. Bortolotti L. In defence of modest doxasticism about delusions. Neuroethics. 2012;5:39–53.
112. Clutton P. A new defence of doxasticism about delusions: the cognitive phenomenological defence. Mind Lang. 2018;33:198–217.
113. Thornton T. Why the idea of framework propositions cannot contribute to an understanding of delusions. Phenomenol Cogn Sci. 2008;7:159–75.
114. Boncompagni A. Common sense, philosophy, and mental disturbance: a Wittgensteinian outlook. In: Hipólito I, Gonçalves J, Pereira JG, editors. Schizophrenia and common sense. Cham: Springer; 2018. p. 227–38.
115. Lalumera E. Understanding schizophrenia through Wittgenstein: empathy, explanation, and philosophical clarification. In: Hipólito I, Gonçalves J, Pereira JG editors. Schizophrenia and common sense. Cham: Springer; 2018. p. 239–54.
116. Bardina S. Abnormal certainty: examining the epistemological status of delusional beliefs. Int J Philos Stud. 2018;26(4):546–60.
117. Bellaar R. Certainty and delusion. Philos Psychol. 2022. https://doi.org/10.1080/09515089.2022.2125372
118. Mullen R, Gillett G. Delusions: a different kind of belief? Philos Psychiatry Psychol. 2014;21(1):27–37.
119. Ohlhorst J. Delusions and beliefs: a knowledge-first approach. Asian J Philos. 2022;1:34.
120. Williamson T. Knowledge and its limits. Oxford: Oxford University Press; 2000.
121. Schwitzgebel E. Belief. In: Zalta EN, editor. The Stanford encyclopedia of philosophy. (Winter 2021 ed.) Stanford, CA: The Metaphysics Research Lab Philosophy Department Stanford, Stanford University; 2021. Available from: https://plato.stanford.edu/archives/win2021/entries/belief/
122. Gettier EL. Is justified true belief knowledge? Analysis. 1963;23(6):121–3.
123. Lehrer K. Theory of knowledge. 2nd ed. New York, NY: Routledge; 2000/2018.
124. Ichikawa JJ, Steup M. The analysis of knowledge. In: Zalta EN, editor. The Stanford encyclopedia of philosophy (Summer 2018 ed.). Stanford, CA: The Metaphysics Research Lab Philosophy Department Stanford, Stanford University; 2018. Available from: https://plato.stanford.edu/archives/sum2018/entries/knowledge-analysis/
125. Klein PD. Certainty. In: Audi R, editor. The Cambridge dictionary of philosophy. 2nd ed. Cambridge: Cambridge University Press; 1999. p. 129–30.
126. Coliva A. Moore and Wittgenstein: scepticism, certainty and common sense. Basingstoke: Palgrave Macmillan; 2010.
127. Porcher JE. The doxastic status of delusion and the limits of folk psychology. In: Hipólito I, Gonçalves J, Pereira JG, editors. Schizophrenia and common sense. Cham: Springer; 2018. p. 175–90.
128. Murai T, Toichi M, Yamagishi H. Capgras' syndrome and proper names: toward a new method of descriptive psychopathology. Jpn J Psychopathol. 1996;17:27–35. (in Japanese)
129. Murai T, Toichi M, Yamagishi H, Sengoku A. What is meant by 'misidentification' in delusional misidentification syndromes? Comparison between Capgras' syndromes and "clonal pluralization of a person". Psychopathology. 1998;31:313–7.
130. Kripke SA. Naming and necessity. Cambridge, MA: Harvard University Press; 1980.
131. Murphy D. Delusions, modernist epistemology and irrational belief. Mind Lang. 2013;28(1):113–24.

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