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THE IMPACT OF SELECTED NEUROPSYCHOLOGICAL BRAIN DYSFUNCTIONS ON THE CRIMINAL RESPONSIBILITY OF THE PERPETRATOR

Abstract

Knowledge of clinical neuropsychology is of great importance in determining the possibility of holding the perpetrator criminally responsible and determining the scope of that responsibility. In the case of head injuries, the age of the brain, neurobiological and functional plasticity, brain resources, types and depth of dysfunction, as well as the assessment of the effects of current and planned therapy are important when assessing effects of determining responsibility. Findings in the field of clinical neuropsychology may be helpful especially in determining the subjective side (intention) of the perpetrator of the prohibited act, but above all – sanity (capacity). One of the grounds for declaring lack of criminal responsibility is "another disturbance of mental functions" (Article 31(1) Polish Criminal Code (CrC), which may include many neuropsychological conditions, such as frontal lobe syndromes, temporal lobe syndromes, frontotemporal disorders, temporal lobe epilepsy, limbic thalamus disorder, or cerebellar cognitive-affective syndrome. They cause cognitive or emotional deficits that may result in abolishing or limiting to a large extent the ability to recognize the meaning of an act or to control one's own behavior. Certain neuropsychological findings may be important in determining that an act was committed under the influence of error, for example, in the case of agnosia – that is, the inability to recognize or interpret stimuli regardless of the channel. This text will mainly present selected neuropsychological deficits and their impact on the criminal responsibility of the perpetrator in the context of Article 31 Polish Criminal Code.

KEYWORDS

incapacity, other disturbance of mental activity, neuropsychology

SŁOWA KLUCZOWE

niepoczytalność, inne zakłócenia czynności psychicznych, neuropsychologia

I. PREREQUISITES OF INCAPACITY

Knowledge of clinical neuropsychology is of great importance in determining the possibility of holding the perpetrator criminally responsible and determining the scope of this responsibility[1]. In the case of head injuries, the age of the brain, neurobiological and functional plasticity, brain resources, types and depth of dysfunction, as well as the assessment of the effects of current and planned therapy are important when assessing effects of such determination. Findings in the field of clinical neuropsychology can be helpful especially in determining the subjective side (intention) of the perpetrator of a prohibited act, but above all – capacity.

One of the prerequisites for incapacity (as well as severely diminished capacity) is "other disturbance of mental function." Determining the types of causes that fall under this definition has been controversial[2]. It is nowadays recognized that they can be both pathological, such as meningitis, and non-pathological, such

[1] M. Budyn-Kulik, *Głos w dyskusji*, (in:) M. Mozgawa, K. Dudka (eds), *Kodeks karny i kodeks postępowania karnego po 10 latach obowiązywania. Ocena i perspektywy zmian*, *Nałęczów 22-24 czerwca 2008*, Warsaw 2009, pp. 284–293.

[2] A. Szymusik, *Dyskusyjne problemy orzecznictwa psychiatryczno-psychologicznego w stanach afektywnych*, (in:) Z. Majchrzyk, T. Gordon, E. Milewska (eds), *Materiały IX Krajowej Konferencji Sekcji Psychiatrii PTP pt. 'Stany afektywne w opiniowaniu sądowo-psychiatrycznym'*, Warsaw 1992, p. 9; J. Pionkowski, *Poczytalność zmniejszona*, 'Zdrowie Psychiczne' 1970, No. 3–4, p. 139; M. Tarnawski, *Niepoczytalność i poczytalność zmniejszona – de lege lata i de lege ferenda*, (in:) R. Rutkowski, Z. Majchrzyk (eds), *Materiały VII Krajowej Konferencji Sekcji Psychiatrii Sądowej PTP pt. 'Teoria i praktyka oceny poczytalności'. Cedzyna 9–11.06.1988*, Warsaw 1988, p. 31; K. Daszkiewicz, *Poczytalność zmniejszona – kontrowersje i postulaty*, (in:) R. Rutkowski, Z. Majchrzyk (eds), *Materiały VII Krajowej Konferencji Sekcji Psychiatrii Sądowej PTP pt. 'Teoria i praktyka oceny poczytalności'. Cedzyna 9–11.06.1988*, Warsaw 1988, pp. 45–46; J.K. Gierowski, *Niepoczytalność i poczytalność zmniejszona w świetle współczesnej psychologii*, (in:) R. Rutkowski, Z. Majchrzyk (eds), *Materiały VII Krajowej Konferencji Sekcji Psychiatrii Sądowej PTP pt. 'Teoria i praktyka oceny poczytalności'. Cedzyna 9–11.06.1988*, Warsaw 1988, p. 62 ff.; Pietrzyk A., *Psychologiczne kryteria niepoczytalności i poczytalności zmniejszonej. Refleksje biegłego psychologa dla prawników*, 'Palestra' 1993, No. 12, pp. 88–89.

as menopausal fatigue[3]. Other disturbances of mental function also include strong agitation – passion[4], neuropsychological illnesses resulting from brain injury or brain tumors (neoplasms) or degenerative and neurodegenerative diseases (various types of dementia – including Alzheimer's disease, frontotemporal dementia – FTD)[5]. These include, for example, frontal lobe syndromes, temporal lobe syndromes, frontotemporal syndromes, temporal lobe epilepsy, limbic epilepsy, limbic thalamus, cerebellar cognitive-affective syndrome[6]. They cause cognitive or emotional deficits that may result in abolishing or limiting to a large extent the ability to recognize the meaning of an act or to control one's own behavior.

The state of incapacity exists when the cause indicated by the legislation – in this case, another disturbance of mental activities causes at least one of the consequences indicated in Article 31(1) CrC[7]. Therefore, it is not enough to simply identify the existence of a deficit, it is also necessary to determine its actual impact on human functioning.

The inability to recognize the meaning of the act concerns both its legal meaning – it is a prohibited act – and the actual meaning – the perpetrator does not realize, for example, that hitting a person with a knife can cause harm to that person[8]. The assessment of these abilities is based on the analysis of the impact the disorders have on these "abilities". On the basis of the perpetrator's actual mental experiences, it is only possible to analyze the impact of the disorder on

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[3] M. Budyn-Kulik, (in:) M. Mozgawa (ed.), *Kodeks karny. Komentarz*, Warsaw 2021, p. 133; L.K. Paprzycki, J.K. Gierowski, (in:) L.K. Paprzycki (ed.), *System Prawa Karnego,* Vol. 4, *Nauka o przestępstwie, wyłączenie i ograniczenie odpowiedzialności,* Warsaw 2016, pp. 528–529; M. Cieślak, (in:) M. Cieślak, K. Spett, A. Szymusik, W. Wolter, *Psychiatria w procesie karnym*, Warsaw 1991, pp. 30–31; J.K. Gierowski, *Rola biegłego psychologa w opiniowaniu o poczytalności. Problemy diagnostyczne i kompetencyjne*, (in:) J.K. Gierowski, A. Szymusik (eds), *Postępowanie karne i cywilne wobec osób zaburzonych psychicznie. Wybrane zagadnienia z psychiatrii, psychologii i seksuologii sądowej*, Kraków 1996, pp. 128–129; J.K. Gierowski, L.K. Paprzycki, (in:) L.K. Paprzycki (ed.), *System Prawa Karnego, Vol. 7, Środki zabezpieczające*, Warsaw 2015, p. 162; A. Golonka, *Niepoczytalność i poczytalność ograniczona*, Warsaw 2013, pp. 125–150.

[4] J. Leszczyński, *Niepoczytalność sprawców przestępstw oraz czynów zabronionych i jej kryminologiczne konsekwencje*, 'Przegląd Policyjny' 1995, No. 1, p. 47 ff.; M. Budyn-Kulik, (in:) M. Mozgawa (ed.), *Prawo karne materialne*, Warsaw 2020, p. 335.

[5] K. Walsh, D. Darby, *Neuropsychologia kliniczna*, Sopot 2014, pp. 89–104.

[6] B. Ledwoch, *Aplikacyjny charakter neuropsychologii na gruncie prawa*, (in:) E. Habzda-Siwek, J. Kabzińska (eds), *Psychologia i prawo. Między teorią a praktyką*, Gdańsk 2014, p. 81.

[7] M. Budyn-Kulik, (in:) M. Mozgawa (ed.), 2021, *op. cit.,* p. 133; M. Budyn-Kulik, (in:) M. Mozgawa (ed.), 2020, *op. cit.,* p. 332.

[8] L. Peiper, *Komentarz do kodeksu karnego*, Kraków 1936, p. 66; A. Wąsek, (in:) O. Górniok, S. Hoc, M. Kalitowski, S.M. Przyjemski, Z. Sienkiewicz, J. Szumski, L. Tyszkiewicz, A. Wąsek, *Kodeks karny*, Vol. 1, *Komentarz do artykułów 1–116*, Gdańsk 2005, p. 410; A. Pietrzyk, 1993, *op. cit.*, p. 88; A. Zoll, (in:) K. Buchała, A. Zoll, *Kodeks karny. Część ogólna*, Vol. 1, *Komentarz do art. 1–116 Kodeksu karnego*, Kraków 1998, p. 290; A. Zoll, (in:) W. Wróbel, A. Zoll (eds), *Kodeks karny. Część ogólna*, Vol. 1, part 1, *Komentarz do art. 1–52*, Warsaw 2016, pp. 638–640; M. Budyn-Kulik, (in:) M. Mozgawa (ed.), 2020, *op. cit*., p. 336.

their motivational side and criminal intention[9]. Psychological literature emphasizes that this concept refers to the cognitive aspect of the motivational process – intellectual and rational[10].

Inability to manage one's behavior consists in the inability to make decisions about a particular behavior and to submit the behavior to intellectual control. The inability to control one's own behavior means that the perpetrator is unable to behave in accordance with the applicable social standards in a manner adequate to the meaning of the act recognized by the perpetrator[11]. In the light of psychological knowledge, this concept refers to the so-called spheres of the volitional psyche; in the language of modern psychology – it refers to decision-making processes[12].

II. NEUROPSYCHOLOGICAL DEFICITS AS OTHER DISORDERS OF MENTAL ACTIVITY

There are many neuropsychological deficits, but due to the limited scope of this study only some of them will be presented here. Of course, each case of the existence of such a deficit must be assessed by experts (mainly an expert neuropsychologist) individually, taking into account the overall mental state of a specific perpetrator, the depth of this deficit and the consequences it causes in their behavior[13]. The following discussion of the possible impact of a given mental disorder on the perpetrator's capacity presents models that take into account the specificity of a given deficit and the characteristic way it influences the behavior of the affected person.

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[9] R. Rutkowski, *Kontrowersje w sprawie odpowiedzialności karnej osób z zaburzeniami psychicznymi,* (in:) R. Rutkowski, Z. Majchrzyk (eds), *Materiały VII Krajowej Konferencji Sekcji Psychiatrii Sądowej PTP pt. 'Teoria i praktyka oceny poczytalności'. Cedzyna 9–11.06.1988,* Warsaw 1988, pp. 18–19.

[10] J.K. Gierowski, 1996, *op. cit.*, p. 131; L.K. Paprzycki, J.K. Gierowski, 2016, *op. cit.*, p. 541; also A. Golonka, 2013, *op. cit.*, pp. 167–177; M. Budyn-Kulik, (in:) M. Mozgawa (ed.), 2021, *op. cit*., p. 133.

[11] A. Pietrzyk, 1993, *op. cit.*, p. 88; A. Zoll, 1998, *op. cit.*, p. 290; A. Zoll, (in:) W. Wróbel, A. Zoll, 2016, *op. cit.*, p. 640; A. Golonka, 2013, *op. cit.*, pp. 177–188; M. Budyn-Kulik, 2020, *op. cit*., p. 336; M. Budyn-Kulik, 2021, *op. cit*., p. 133.

[12] J.K. Gierowski, 1996, *op. cit.*, p. 132; L.K. Paprzycki, J.K. Gierowski, 2016, *op. cit.*, p. 541; A. Grześkowiak, (in:) A. Grześkowiak, K. Wiak (ed.), *Kodeks karny. Komentarz*, Warsaw 2021, p. 319.

[13] B. Ledwoch, 2014, *op. cit.*, p. 81; B. Ledwoch, *Aplikacja badań neuropsychologicznych w prawie karnym*, (in:) B. Kaczmarek (ed.), *Neuropsychologiczne uwarunkowania kontroli zachowania dorosłych sprawców przestępstw*, Lublin 2009, p. 73.

In addition to issues related to sanity, neuropsychological disorders may be important in determining that an act was committed in error, such as in the case of agnosia – the inability to recognize or interpret stimuli regardless of channel[14]. However, they are beyond the scope of this study.

Other mental disorders include: neuropsychological disorders following a brain injury: frontal lobe syndromes, temporal lobe syndromes, frontotemporal syndromes, temporal lobe epilepsy, limbic epilepsy, limbic thalamus and cerebellar cognitive-affective syndrome[15]. Regardless of whether the perpetrator is diagnosed with a specific set of symptoms, the neuropsychological deficit may concern individual functions or processes, e.g. disorders of executive functions, thinking, orientation (body diagram, visual, spatial-topographic, time disorientation), perception, memory, attention, identity, or emotional, personality and communication disorders[16]. The impact of brain injury on human functioning depends not only on the place of its occurrence, but also on the patho-mechanism of the injury, individual differences in the brain and individual's cognitive reserves[17]. Therefore, the severity and course of disorders may vary[18]. Depending on the moment of their appearance, the neuropsychological consequences of brain injury are divided into primary (at the time of the injury), secondary and distant (several months after the injury)[19].

2.1. FRONTAL AND TEMPORAL LOBE SYNDROMES

A severe brain injury often results in the development of the frontal lobe syndrome. The frontal lobes (especially the prefrontal areas) play a very important role in shaping specifically human behavior. They are responsible for creating and launching programs of intentional action and for inhibiting undesirable behavior, e.g. behavior contrary to social norms[20]. Disorders occurring after damage to the frontal lobes may take the form of dorsolateral and basomedial (orbital) syndromes, which include impulsive and emotionally inadequate behaviors[21] as well

[14] M. Pąchalska, *Neuropsychologia kliniczna. Urazy mózgu,* Vol. 1*,* Warsaw 2007, p. 285 ff.

[15] B. Ledwoch, 2014, *op. cit.*, p. 82.

[16] M. Pąchalska, *Neuropsychologia kliniczna. Urazy mózgu,* Vol. 2, Warsaw 2007, pp. 234–488.

[17] Y. Stern, *What is Cognitive Reserve? Theory and Research Application of the Reserve Concept*, 'Journal of the International Neuropsychological Society' 2002, No. 8(3), pp. 448–60.

[18] M. Pąchalska, 2007, Vol. 1, *op. cit.,* pp. 96–97.

[19] D. Kądzielawa, *Zaburzenia językowe po urazach czaszkowo- mózgowych*, (in:) A. Herzyk, B. Daniluk, M. Pąchalska, B.D. McQuinn (eds), *Neuropsychologiczne konsekwencje urazów głowy. Jakość życia pacjentów*, Lublin 2003, pp. 17–24.

[20] M. Pąchalska*,* 2007, Vol. 2, *op. cit.,* pp. 238–239; B.L.J. Kaczmarek, *Mózg, język, zachowanie*, Lublin 1994, pp. 65–66.

[21] B.L.J. Kaczmarek, *Płaty czołowe a język i zachowanie człowieka*, Wrocław 1986, pp. 25–26; B.L.J. Kaczmarek, *Mózg aspołeczny*, (in:) B.L.J. Kaczmarek (ed.), *Neuropsychologiczne uwarunkowania kontroli zachowania u dorosłych sprawców przestępstw*, Lublin 2009, pp. 29–32.

as impaired control[22]. The description of the frontal syndrome accommodates neurobehavioral disorders such as unpredictability, unreasonable and impulsive behavior, or feeling excessive pleasure from taking risks[23]. The behavior of a person who suffers from such a syndrome may be perceived by the environment as arrogant or brash. If the person commits a prohibited act, a question may arise about the functioning of their ability to control their own conduct, which may result in the limitation (to some extent) of capacity or even even the abolition of capacity at the time of the act[24].

Klüver-Bucy syndrome is a neurological disorder that occurs as a result of damage to temporal lobes (both temporal lobes or the right lobe and the middle part of the left lobe) and their connections with the amygdala (associated with dysfunction of the amygdala) and the visual cortex. There are many reasons for it. These include: senile dementia, Alzheimer's or Pick's disease; infectious or viral diseases (e.g. herpetic encephalitis and meningitis); serious and deep surgical injuries and craniocerebral injuries; hematomas and hemorrhages within the skull due to exudation or blood loss; frontotemporal tumors, epilepsy; or brain dysfunction resulting from ischemia[25]. The symptoms of Klüver-Bucy syndrome are varied. They include e.g. hypersexuality, eating habits turning into bulimia, memory impairment, impaired adequate response to emotional stimuli, prosopagnosia, visual agnosia, or so-called oral perception, that is, examining everything by putting objects in the mouth[26]. It seems that sometimes the behavior of a person with Klüver-Bucy syndrome may be a sexual misdemeanor or crime (e.g. an indecent act – Article 140 of the Polish Code of Misdemeanors, committing another sexual act – Article 197(2) CrC), as well as a crime against life and health or bodily integrity (Articles 148(4), 156, 157, 155, 217 CrC). Depending on the severity of symptoms, control of behavior may be so impaired that it is reasonable to consider that the ability to manage one's own behavior is limited to some extent or even absent altogether.

[22] M. Pąchalska, 2007, Vol. 2, *op. cit.*, pp. 240–241.

[23] *Ibidem*, p. 241; Y. Lebrun, *Luria's Notion of '(Frontal) Dynamic Aphasia*', 'Aphasiology' 1995, Vol. 9(2), pp. 171–180.

[24] M. Budyn-Kulik, *Zuchwałość w ujęciu psychologicznym*, (in:) M. Mozgawa (ed.), *Kradzież szczególnie zuchwała*, Warsaw 2023, in print.

[25] S. Kwiatkowski, A. Starowicz, O. Milczarek, A. Kułaga, *Pourazowy zespół Klüvera–Bucy-'ego – opis i porównanie dwóch przypadków klinicznych*, 'Psychiatria Polska' 2010, Vol. XLIV(3), p. 372; https://portal.abczdrowie.pl/zespol-kluvera-bucyego (accessed 1.05.2023); S.J. Kile, W.G. Ellis, J.M. Olichney, S. Farias, C. DeCarli, *Alzheimer Abnormalities of the Amygdala with Kluver-Bucy Syndrome Symptoms*, 'Archives of Neurology' 2009, Vol. 66(1), pp. 125–129.

[26] S. Kwiatkowski, A. Starowicz, O. Milczarek, A. Kułaga, 2010, *op. cit.*, p. 372.

2.2. EXECUTIVE FUNCTION, PERSONALITY AND EMOTIONAL DISORDERS

Executive function and personality disorders can occur after brain injuries, especially injury in the frontal lobes which perform supervisory functions in relation to other parts of the brain[27]. Executive function refers to many different adaptive abilities, including developing new patterns of behavior, creating action plans and implementing them[28]. The literature mentions in particular the following: taking into account long-term consequences when setting goals, creating alternative reactions, selecting and initiating intentional behavior, controlling the correctness and adequacy of behavior, adapting behavior to changing conditions, sticking to the decision made despite obstacles[29]. There are many symptoms of executive function disorders. They include e.g. making incorrect decisions, anxiety, nervousness, apathy, impulsiveness, volatility of motivation, poor planning, incorrect timing, lack of action control, lack of insight, euphoria, non-compliance with the rules of community life, aggression, lack of inhibitions, or carelessness[30]. Frontal lobe dysfunction includes engaging in antisocial behavior[31]. Executive dysfunction usually does not affect capacity, although it cannot be ruled out in advance in a particular case. Due to distraction and difficulties with abstract thinking, such dysfunctions may affect the ability to recognize the meaning of an act. In turn, the tendency to make incorrect decisions, lack of inhibitions in behavior and light-heartedness can affect the ability to direct behavior[32]. Determining the degree of impairment in each of the abilities referred to in Article 31(1) CrC is the competence of expert psychologists (neuropsychologists).

Personality disorders usually do not affect the assessment of capacity. Although certain neurobiological and neuropsychological aspects play an important role in psychopathy or an explosive personality[33], it is assumed in the doctrine

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[27] M. Pąchalska, 2007, Vol. 1, *op. cit*., p. 446; K. Jodzio, *Neuropsychologia intencjonalnego działania. Koncepcje funkcji wykonawczych*, Warsaw 2008, pp. 148–157.

[28] M. Pąchalska, 2007, Vol. 1, *op. cit*., p. 445.

[29] S.E. Malloy, M.L. DeNatale, *Online Critical Thinking: a Case Study Analysis*, 'Nurse Educator' 2001, Vol. 26(4), pp. 191–197.

[30] M. Pąchalska, 2007, *op. cit*., Vol. 1, pp. 446–447.

[31] B. Pastwa-Wojciechowska, *Naruszenie norm prawnych w psychopatii. Analiza kryminologiczno-psychologiczna*, Gdańsk 2004, pp. 68–70.

[32] B. Ledwoch, 2009, *op. cit*., pp. 74–75.

[33] B. Ledwoch, 2014, *op. cit*., p. 82. Dysfunctions in psychopathy may involve, inter alia, the following brain structures: the superior and inferior cingulate gyri, the amygdala, the superior temporal gyrus, the parabasal ganglia. Y. Yang, A. Raine, *Functional Neuroanatomy of Psychopathy*, 'Psychiatry' 2008, Vol. 7, No. 8, p. 134, see also A.L. Glenn, A. Raine, *The Neurobiology of Psychopathy*, 'Psychiatric Clinics of North America' 2008, No. 31, pp. 463–475; R. James, R. Blair, *Psychopathy: Cognitive and Neural Dysfunction*, 'Dialogues in Clinical Neuroscience' 2013, Vol. 15(2), pp. 181–190.

and jurisprudence that psychopathy does not cause the perpetrator's incapacity[34], because then there is no limitation of the perpetrator's intellectual abilities, but only a "character deviation"[35]. In the case of characteropathy[36], depending on the type and depth of underlying disorders, the perpetrator's ability to recognize the meaning of their own act or to control their own behavior may sometimes be limited or, less frequently but not ruled out, absent. It is worth noting the so-called explosive personality (intermittent explosive disorder) that generates limbic anger (limbic rage), a frequent feature among perpetrators of domestic violence[37]. Although the WHO ICD-11 classification, in force since 1 January 2022, does not distinguish it[38], it should be looked at in the context of this study, because regardless of the method of classifying and diagnosing disorders, this set of symptoms is quite characteristic[39]. This disorder consists in the appearance of episodes of fury, anger and rage without justification in objectively existing external circumstances, combined with forgetfulness of the act, separated by periods of calm and self-control[40]. These outbursts of anger often lead to aggressive behavior. They are based on certain organic conditions. People with an explosive personality display disorganization of brain functioning, in particular within the limbic system. In this case, the temporo-parietal areas as well as the amygdala and hippocampus are usually dysfunctional[41]. They may also have limbic epilepsy as well as mild

[34] There is no uniform definition of psychopathy in the psychological literature. Currently, the terms 'asocial personality' or 'abnormal personality' are used. B. Pastwa-Wojciechowska, 2004, *op. cit.*, pp. 15–27.

[35] K. Mioduski, (in:) J. Bafia, K. Mioduski, M. Siewierski, *Kodeks karny. Komentarz*, Warsaw 1987, Vol. 1, p. 122; A. Malinowski, *Podstawowe zagadnienia w orzecznictwie sądowo-psychiatrycznym. Kompendium dla lekarzy i prawników*, Warsaw 1961, pp. 136–139; judgment of the Supreme Court of 10 December 1971, I KR 220/71, LEX No. 21442; L.K. Paprzycki, J.K. Gierowski, 2016, Vol. 4, *op. cit.*, pp. 168–170; D. Krakowiak, *Psychopatia, socjopatia i charakteropatia a odpowiedzialność karna*, 'Prokuratura i Prawo' 2019, No. 3, p. 16.

[36] A. Bilikiewicz, *Zaburzenia osobowości*, (in:) A. Bilikiewicz, J. Landowski, P. Radziwiłłowicz, *Psychiatria. Repetytorium*, Warsaw 2006, p. 204.

[37] B. Ledwoch, 2014, *op. cit.*, pp. 82–83; B. Ledwoch, *Osobowość eksplozywna a zaburzenia tożsamości- aspekty neuropsychologiczno-sądowe*, (in:) M. Pąchalska (ed.), *Tożsamość w ujęciu interdyscyplinarnym*, Kraków 2007, pp. 221–231.

[38] The no longer valid version 10 of the WHO classification (ICD-10) listed the impulsive type of emotionally unstable personality disorder (formerly explosive personality) as one of the types of personality disorders. As of the end of April 2023, there is no official Polish translation of ICD-11 yet (accessed 01.05.2023).

[39] It was pointed out in the literature that the ICD-10 and DSM-IV diagnostic criteria are too general in this case. B. Ledwoch, 2007, *op. cit.,* p. 222.

[40] K. Blum, E.R. Braverman, S. Wu, J.G. Cull, T.J.H. Chen, J. Gill, R. Wood, A. Eisenberg, M. Sherman, K.R. Davis, D. Matthews, L. Fischer, N. Schnautz, W. Walsh, A.A. Pontius, M. Zedar, G. Kaats, D.E. Comings, *Association of Polymorphisms of Dopamine D2 Receptor (DRD2), and Dopamine Transporter (DAT1) Genes with Schizoid/Avoidant Behaviors (SAB)*, 'Molecular Psychiatry' 1997, No. 2, pp. 239–246; B. Ledwoch, 2007, *op. cit.,* pp. 221–222.

[41] B. Ledwoch, 2014, *op. cit.*, p. 83.

to moderate frontal dysfunction[42]. The person is unable to control themselves, because the limbic system in a state of strong arousal can trigger behavior without the participation of the cerebral cortex[43]. This disorder may therefore cause a limitation or lack of ability to primarily control one's own behavior – depending on the severity of the disorder[44].

People with brain dysfunctions may have problems with the depth and adequate assessment of emotional information[45]. Emotional disturbances may occur alongside frontal lobe syndromes, striatal syndrome, pallidum syndrome, and with symptoms of thalamic dysfunction[46]. They may take the form of a severe apathy syndrome, lability, non-specific anxiety or depressive reactions, post-traumatic depression, right hemisphere apathy syndrome or denial syndrome[47]. In most cases, the appearance of emotional disturbances alone does not affect sanity. However, they are often part of a wider clinical picture, e.g. in the frontal lobe syndrome. It seems that the limitation of the ability to recognize the meaning of an act may accompany non-specific fear reactions, which may also play a role, e.g. in assessing the crossing of the limits of self-defense under the influence of fear (Article 25(3) CrC).

2.3. DISTURBANCES OF CONSCIOUSNESS AND/OR AWARENESS

Undoubtedly, other disturbances of mental activity include disorders of consciousness and/or awareness. In neuropsychology, it is assumed that consciousness is not only a state of readiness to receive stimuli, but also a process of perceiving reality[48]. A prerequisite for consciousness is attention and awareness[49]. The common practice in criminal law is to equate the terms consciousness and

[42] B. Ledwoch, 2007, *op. cit*., p. 221.

[43] B. Grochmal-Bach, M. Pąchalska, *Tożsamość człowieka a teoria mikrogenetyczna*, Kraków 2004, pp. 244–251.

[44] B. Ledwoch, 2007, *op. cit.,* p. 225.

[45] B. Ledwoch, *Utrata więzi z własnym doświadczeniem – przypadek depresji pourazowej w kontekście neuropsychologiczno- sądowym*, (in:) S. Steuden (ed.), *Psychospołeczne konteksty doświadczenia straty*, Lublin 2009, p. 101; J. Zagrodzka, *Mechanizm emocji i zaburzeń afektywnych w świetle badań neurobiologicznych,* (in:) A. Herzyk, A. Borkowska (eds), *Neuropsychologia emocji,* Lublin 2002, pp. 41–58.

[46] B. Ledwoch, 2009, *op. cit*., pp. 102–103.

[47] M. Pąchalska, 2007, Vol. 1, *op. cit*., pp. 392–393.

[48] B. Ledwoch, *Ewolucja pojęć i poglądów w neuropsychologii oraz ich przydatność w neuropsychologii sądowej,* (in:) B. Gulla, I. Niewiadomska, M. Wysocka-Pleczyk (eds), *Białe plamy w psychologii sądowej*, Kraków 2010, pp. 41–46; B. Grochmal-Bach, M. Pąchalska, 2004, *op. cit.,* pp. 116–117.

[49] J.R. Searle, *Umysł. Krótkie wprowadzenie*, Poznań 2010, pp. 138–148; M. Wierzchoń, *Granice świadomości*, Kraków 2013, pp. 15–21; T. Tomaszewski, *Świadomość,* (in:) T. Tomaszewski (ed.), *Psychologia,* Warsaw 1977, p. 173; M. Pąchalska, 2007, Vol. 1, *op. cit*., p. 236; O.D. Hebb, *Podręcznik psychologii,* Warsaw 1973, p. 391.

awareness, which is not entirely correct[50]. The concept of consciousness, used by criminal law scholars, seems to have a broader meaning than awareness, which is sometimes defined as a state of readiness of the nervous system to receive stimuli from the environment[51]. A state of awareness without consciousness will constitute a presumption of incapacity. Lack of consciousness precludes the possibility of recognizing the meaning of an act. Where consciousness is partial, the question remains as to whether and to what extent this circumstance has impaired accountability. In the opposite situation, consciousness without awareness[52], the perpetrator cannot be considered capable, although it would be better to switch to a more primal plane of exclusion of criminal responsibility – the lack of act[53].

2.4. OTHER NEUROPSYCHOLOGICAL DYSFUNCTIONS

Disorders of thinking, primarily abstract and logical thinking, are very common after brain injuries, especially in the presence of frontal lobe syndrome. They usually consist in the inability to predict the consequences of one's own behavior by a person who is surprised by the negative effects caused by them. They are also unable to evaluate the existing options of behavior and choose the one that is appropriate in the context of circumstances, moral and legal norms[54]. These disorders may therefore entail the limitation or lack of the ability to both recognize the meaning of an act and to control the conduct. Similarly, intentionality disorders – depending on the situation, may affect the perpetrator's attitude towards the act, which in turn may also exclude or limit their capacity.

Perception disorders (auditory, visual, tactile)[55], depending on the type and degree, may reduce or disable the ability to recognize the meaning of an act. This will depend on the specific situation and requires individual assessment by experts. They can also cause an act to be committed under the influence of a mistake. Prosopagnosia (disorders in the perception of faces)[56] can lead to a mistake in choosing a victim. In most cases, it is irrelevant from the perspective of criminal law (e.g. "whoever kills a person" – namely, anyone); sometimes such an error changes the assessment of the prohibited act (its qualification), but does not exclude the perpetrator's responsibility.

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[50] T. Przesławski, *Psychika, czyn, wina*, Warsaw 2008, p. 99.

[51] M. Pąchalska, 2007, Vol. 1, *op. cit.*, p. 235.

[52] For example, during sleep, when certain visual and auditory impressions reach the sleeper, despite the fact that they do not maintain contact with the outside world through their senses. M. Budyn-Kulik, *Umyślność w prawie karnym i psychologii. Teoria i praktyka sądowa*, Warsaw 2015, p. 78.

[53] M. Pąchalska, 2007, Vol. 1, *op. cit.*, p. 237; M. Budyn-Kulik, 2015, *op. cit.*, pp. 77–78.

[54] M. Pąchalska, 2007, Vol. 2, *op. cit.*, pp. 44–51; B.L.J. Kaczmarek, 2009, *op.cit.*, pp. 33–35.

[55] M. Pąchalska, 2007, Vol. 1, *op. cit.*, pp. 285–310.

[56] *Ibidem*, pp. 302–303.

Some cases of attention disorders, especially omission bias[57], may limit or remove the ability to recognize the meaning of an act, and may lead to committing an act under the influence of a mistake as to the fact.

Neuropsychological communication disorders (e.g., aphasia, post-traumatic dyspragma, post-traumatic aprosody, post-traumatic reading and writing disorders, post-traumatic dysarthria)[58] do not typically reduce or remove the ability to recognize the meaning of an act or to control behavior. They can cause problems in communication with the defendant (or witness).

It seems that orientation disorders (body schema, spatial disorientation, time disorientation)[59] typically do not limit or disable sanity. They may affect the ability to give explanations or testify (by a witness). Only in the case of visual disorientation with the co-occurrence of attention deficit (lateral omission) may the ability to recognize the meaning of an act be reduced or absent[60].

It seems that Post-Traumatic Stress Disorder (PTSD) is rarely the basis for a court finding of insanity or severe limitation of sanity[61]. Nevertheless, the presence of some core symptoms of PTSD, such as over-reactivity, irritability and outbursts of anger, may lead to a reduction in the ability to recognize the meaning of an act or to control one's own behavior, or to the absence of one or both of these abilities. It can affect the crossing of the limits of self-defense (under the influence of fear or agitation) or the adoption of a type of privileged homicide (in passion), as well as the commission of an act under the influence of an error of fact and the ability to give explanations or testify (by a witness).

As a rule, disorders of memory processes (post-traumatic amnesia, so-called flashbulb, flashback) do not affect capacity[62]. They may affect the ability to give explanations or testify (by a witness).

III. CONCLUSION

For many years, criminal law scholars and commentators and judicial decisions have presented a belief, unjustified in my opinion, that only psychiatrists are (and should be) the only experts authorized to comment on the sanity of the

[57] *Ibidem*, pp. 360–366.

[58] M. Pąchalska, 2007, Vol. 2, *op. cit.*, pp. 73–131.

[59] M. Pąchalska, 2007, Vol. 1, *op. cit.*, pp. 261–283.

[60] It cannot be ruled out that the act was committed under the influence of a mistake as to the fact.

[61] L. Miller, *Counselling Crime Victims*, New York 2008, pp. 14–16; D.L. Rosenhan, M.E.P. Seligman, *Psychopatologia*, Vol. 1, Warsaw 1994, pp. 261–263.

[62] M. Pąchalska, 2007, Vol. 1, *op. cit.*, pp. 313–314; 324–326.

accused[63], and that the appointment of an expert psychologist and the preparation of an opinion by them (always auxiliary), should be done as an exception[64]. Since the entry into force of the Polish Criminal Code of 1997, the position of the psychologist has been stronger, although the current Polish Code of Criminal Procedure still does not provide for the need to appoint this kind of expert to give an opinion on the mental state of the accused[65]. Clinical neuropsychology is a very dynamically developing science, which is beginning to be used more and more as an auxiliary science of law and criminal trial. However, representatives of the judiciary are not always sufficiently aware of the complexity and diversity of psychological knowledge, primarily in the field of clinical neuropsychology. The need to take into account the results of research on the impact of brain dysfunctions on human behavior in the judicial practice, primarily in the context of capacity, makes it increasingly necessary to appoint an expert psychologist of this specialization.

REFERENCES

Bafia J., Mioduski K., Siewierski M., *Kodeks karny. Komentarz*, Warsaw 1987

Bilikiewicz A., *Zaburzenia osobowości*, (in:) A. Bilikiewicz, J. Landowski, P. Radziwiłłowicz, *Psychiatria. Repetytorium*, Warsaw 2006

Blum K., Braverman E.R., Wu S., Cull J.G., Chen T.J.H., Gill J., Wood R., Eisenberg A., Sherman M., Davis K.R., Matthews D., Fischer L., Schnautz N., Walsh W., Pontius A.A., Zedar M., Kaats G., Comings D.E., *Association of Polymorphisms of Dopamine D2 Receptor (DRD2), and Dopamine Transporter (DAT1) Genes with Schizoid/ Avoidant Behaviors (SAB)*, 'Molecular Psychiatry' 1997, No. 2

Buchała K., Zoll A., *Kodeks karny. Część ogólna*, vol. 1, *Komentarz do art. 1–116 Kodeksu karnego*, Kraków 1998

Budyn-Kulik M., *Zuchwałość w ujęciu psychologicznym*, (in:) M. Mozgawa (ed.), *Kradzież szczególnie zuchwała*, Warsaw 2023

Budyn-Kulik M., *Umyślność w prawie karnym i psychologii. Teoria i praktyka sądowa*, Warsaw 2015

Budyn-Kulik M., *Głos w dyskusji*, (in:) M. Mozgawa, K. Dudka (eds), *Kodeks karny i kodeks postępowania karnego po 10 latach obowiązywania. Ocena i perspektywy zmian, Nałęczów 22- 24 czerwca 2008*, Warsaw 2009

Cieślak M., Spett K., Szymusik A., Wolter W., *Psychiatria w procesie karnym*, Warsaw 1991

[63] Judgment of the Polish Supreme Court of 9 June 1987, WR 237/87, OSNKW 1988, Vol. 1-2, item 13.

[64] Judgment of the Polish Supreme Court of 19 February 1974, III KR 376/73, OSNKW 1974, Vol. 6, item 116.

[65] M. Budyn-Kulik, 2008, *op. cit.*, p. 292.

Daszkiewicz K., *Poczytalność zmniejszona – kontrowersje i postulaty*, (in:) R. Rutkowski, Z. Majchrzyk (eds), *Materiały VII Krajowej Konferencji Sekcji Psychiatrii Sądowej PTP pt. "Teoria i praktyka oceny poczytalności". Cedzyna 9–11.06.1988*, Warsaw 1988

Gierowski J.K., *Rola biegłego psychologa w opiniowaniu o poczytalności. Problemy diagnostyczne i kompetencyjne*, (in:) J.K. Gierowski, A. Szymusik (eds), *Postępowanie karne i cywilne wobec osób zaburzonych psychicznie. Wybrane zagadnienia z psychiatrii, psychologii i seksuologii sądowej*, Kraków 1996

Gierowski J.K., *Niepoczytalność i poczytalność zmniejszona w świetle współczesnej psychologii*, (in:) R. Rutkowski, Z. Majchrzyk (eds), *Materiały VII Krajowej Konferencji Sekcji Psychiatrii Sądowej PTP pt. "Teoria i praktyka oceny poczytalności". Cedzyna 9–11.06.1988*, Warsaw 1988

Glenn A.L., Raine A., *The Neurobiology of Psychopathy*, 'Psychiatric Clinics of North America' 2008, No. 31

Golonka A., *Niepoczytalność i poczytalność ograniczona*, Warsaw 2013

Górniok O., Hoc S., Kalitowski M., Przyjemski S.M., Sienkiewicz Z., Szumski J., Tyszkiewicz L., Wąsek A., *Kodeks karny*, vol. 1, *Komentarz do artykułów 1–116*, Gdańsk 2005

Grochmal-Bach B., Pąchalska M., *Tożsamość człowieka a teoria mikrogenetyczna*, Kraków 2004

Grześkowiak A., Wiak K. (eds), *Kodeks karny. Komentarz*, Warsaw 2021

Hebb O.D., *Podręcznik psychologii,* Warsaw 1973

James R., R. Blair, *Psychopathy: Cognitive and Neural Dysfunction*, 'Dialogues in Clinical Neuroscience' 2013, Vol 15, No. 2

Jodzio K., *Neuropsychologia intencjonalnego działania. Koncepcje funkcji wykonawczych*, Warsaw 2008

Kaczmarek B.L.J., *Mózg aspołeczny*, (in:) B.L.J. Kaczmarek (ed.), *Neuropsychologiczne uwarunkowania kontroli zachowania u dorosłych sprawców przestępstw*, Lublin 2009

Kaczmarek B.L.J., *Mózg, język, zachowanie*, Lublin 1994

Kaczmarek B.L.J., *Płaty czołowe a język i zachowanie człowieka*, Wrocław 1986

Kądzielawa D., *Zaburzenia językowe po urazach czaszkowo- mózgowych*, (in:) A. Herzyk, B. Daniluk, M. Pąchalska, B.D. McQuinn (eds), *Neuropsychologiczne konsekwencje urazów głowy. Jakość życia pacjentów*, Lublin 2003

Kile S.J., W.G. Ellis, J.M. Olichney, S. Farias, C. DeCarli, *Alzheimer Abnormalities of the Amygdala with Kluver-Bucy Syndrome Symptoms*, 'Archives of Neurology' 2009, Vol. 66(1)

Krakowiak D., *Psychopatia, socjopatia i charakteropatia a odpowiedzialność karna*, 'Prokuratura i Prawo' 2019, No. 3

Kwiatkowski S., Starowicz A., Milczarek O., Kułaga A., *Pourazowy zespół Klüvera–Bucy'ego – opis i porównanie dwóch przypadków klinicznych*, 'Psychiatria Polska' 2010, Vol. XLIV(3)

Lebrun Y., *Luria's Notion of "(Frontal) Dynamic Aphasia"*, 'Aphasiology' 1995, Vol. 9(2)

Ledwoch B., *Aplikacyjny charakter neuropsychologii na gruncie prawa*, (in:) E. Habzda-Siwek, J. Kabzińska (eds), *Psychologia i prawo. Między teorią a praktyką*, Gdańsk 2014

Ledwoch B., *Ewolucja pojęć i poglądów w neuropsychologii oraz ich przydatność w neuropsychologii sądowej,* (in:) B. Gulla, I. Niewiadomska, M. Wysocka- Pleczyk (eds), *Białe plamy w psychologii sądowej*, Kraków 2010

Ledwoch B., *Aplikacja badań neuropsychologicznych w prawie karnym*, (in:) B. Kaczmarek (ed.), *Neuropsychologiczne uwarunkowania kontroli zachowania dorosłych sprawców przestępstw*, Lublin 2009

Ledwoch B., *Utrata więzi z własnym doświadczeniem- przypadek depresji pourazowej w kontekście neuropsychologiczno- sądowym*, (in:) S. Steuden (ed.), *Psychospołeczne konteksty doświadczenia straty*, Lublin 2009

Ledwoch B., *Osobowość eksplozywna a zaburzenia tożsamości- aspekty neuropsychologiczno- sądowe*, (in:) M. Pąchalska (ed.), *Tożsamość w ujęciu interdyscyplinarnym*, Kraków 2007

Leszczyński J., *Niepoczytalność sprawców przestępstw oraz czynów zabronionych i jej kryminologiczne konsekwencje*, 'Przegląd Policyjny' 1995, No. 1

Malinowski A., *Podstawowe zagadnienia w orzecznictwie sądowo-psychiatrycznym. Kompendium dla lekarzy i prawników*, Warsaw 1961

Malloy S.E., M.L. DeNatale, *Online Critical Thinking: a Case Study Analysis*, 'Nurse Educator' 2001, Vol. 26(4)

Miller L., *Counselling Crime Victims*, New York 2008

Mozgawa M. (ed.), *Kodeks karny. Komentarz*, Warsaw 2021

Mozgawa M. (ed.), *Prawo karne materialne*, Warsaw 2020

Paprzycki L.K. (ed.), *System Prawa Karnego,* vol. 4, *Nauka o przestępstwie, wyłączenie i ograniczenie odpowiedzialności,* Warsaw 2016

Paprzycki L.K. (ed.), *System Prawa Karnego*, vol. 7, *Środki zabezpieczające*, Warsaw 2015

Pastwa-Wojciechowska B., *Naruszenie norm prawnych w psychopatii. Analiza kryminologiczno-psychologiczna*, Gdańsk 2004

Pąchalska M., *Neuropsychologia kliniczna. Urazy mózgu,* vol. 1, vol. 2, Warsaw 2007

Peiper L., *Komentarz do kodeksu karnego*, Kraków 1936

Pietrzyk A., *Psychologiczne kryteria niepoczytalności i poczytalności zmniejszonej. Refleksje biegłego psychologa dla prawników*, 'Palestra' 1993, No. 12

Pionkowski J., *Poczytalność zmniejszona*, 'Zdrowie Psychiczne' 1970, No. 3–4

Przesławski T., *Psychika, czyn, wina*, Warsaw 2008

Rosenhan D.L., Seligman M.E.P., *Psychopatologia*, vol. 1, Warsaw 1994

Rutkowski R., *Kontrowersje w sprawie odpowiedzialności karnej osób z zaburzeniami psychicznymi,* (in:) R. Rutkowski, Z. Majchrzyk (ed.), *Materiały VII Krajowej Konferencji Sekcji Psychiatrii Sądowej PTP pt. "Teoria i praktyka oceny poczytalności". Cedzyna 9–11.06.1988,* Warsaw 1988

Searle J.R., *Umysł. Krótkie wprowadzenie*, Poznań 2010

Stern Y., *What is Cognitive Reserve? Theory and Research Application of the Reserve Concept*, 'Journal of the International Neuropsychological Society' 2002, No. 8(3)

Szymusik A., *Dyskusyjne problemy orzecznictwa psychiatryczno-psychologicznego w stanach afektywnych*, (in:) Z. Majchrzyk, T. Gordon, E. Milewska (eds), *Materiały IX Krajowej Konferencji Sekcji Psychiatrii PTP pt. "Stany afektywne w opiniowaniu sądowo-psychiatrycznym"*, Warsaw 1992

Tarnawski M., *Niepoczytalność i poczytalność zmniejszona – de lege lata i de lege ferenda*, (in:) R. Rutkowski, Z. Majchrzyk (eds), *Materiały VII Krajowej Konferencji Sekcji Psychiatrii Sądowej PTP pt. "Teoria i praktyka oceny poczytalności". Cedzyna 9–11.06.1988*, Warsaw 1988

Tomaszewski T., *Świadomość*, (in:) T. Tomaszewski (ed.), *Psychologia,* Warsaw 1977

Walsh K., Darby D., *Neuropsychologia kliniczna*, Sopot 2014

Wierzchoń M., *Granice świadomości*, Kraków 2013

Wróbel W., A. Zoll (eds), *Kodeks karny. Część ogólna*, vol. 1, part 1, *Komentarz do art. 1–52*, Warsaw 2016

Yang Y., A. Raine, *Functional Neuroanatomy of Psychopathy*, 'Psychiatry' 2008, Vol. 7(8)

Zagrodzka J., *Mechanizm emocji i zaburzeń afektywnych w świetle badań neurobiologicznych,* (in:) A. Herzyk, A. Borkowska (eds), *Neuropsychologia emocji,* Lublin 2002