Appendix 1

WKL international society consensus on English nomenclature

Introduction: a question of nomenclature

For readers familiar with Leonhard's own words, some of the terms used in the current document might be confusing. Some are different from the terms that were used in the previous translations of Leonhard's books.

The Wernicke-Kleist-Leonhard international society (WKLIS, http://www.wkl-society.de) has endorsed two primary goals: first, the diffusion of the knowledge from this school of thought and the promotion of research based on a differentiated psychopathology; second, the preservation of the "tradition" or a sort or "orthodoxy" of its original contribution, ie, the classification of endogenous psychoses. The latter should not be viewed as the preservation of an old-fashioned practice but of a clinical expertise that has dramatically vanished after 40 years of *DSM* domination.

The current rejection of the "*DSM-III* research program" renewed the need to improve knowledge of the research community on what looks to be a promising alternative to break the deadlock. We felt, however, that a too-literal translation of the original German terms, cited in the 1960s for the latest, might be misleading, as they have different significance nowadays. Moreover, it might bias the vision of the community towards a pure historical account, whereas its medical and neuroscientific vision is of tremendous modernity.

This nomenclature's refreshing induces a dilemma regarding our two major goals as it apparently opposes the preservation of the "traditions." However, this is only an appearance, as the idea is to capture these original concepts at best using current terminology.

Here are short accounts for the motivation behind these changes. They were submitted to the coauthors of the main article using a web survey. Everybody agreed upon the need for a modernization and a standardization of the WKL English (n = 16/16; 100%). By supporting the publication of this article, the WKL International Society formally endorsed these changes.

Naming the courses

We proposed copying the neurological naming of the course for chronic diseases such as multiple sclerosis.

1. Relapsing-remitting labels psychoses' course of periodic symptomatic exacerbations, ie, relapses that completely remit thereafter, whatever the number of relapses, hence having "free intervals" with no (new) manifestations (*Figure 1a*). The term "remission" means that the patient has returned to his or her original state but remains susceptible to relapse and thus cannot be said to be healed. Leonhard's terms of "*phasischen Psychosen*" (phasic psychoses) come with this idea but does not apply to cycloid psychoses despite their similar course.

2. Progressive-relapsing labels psychoses' course of periodic symptomatic exacerbations, ie, relapses, that are not followed by complete remissions, ie, with accumulating residual symptoms (*Figure 1b*).

3. Primary progressive labels psychoses' course of progressively accumulating residual symptoms during a so-called "process phase." Accessory symptoms can be observed during this initial period, which disappear after it. The residual manifestations will remain unchanged (monomorphic) up to the end of the patient's life (*Figure 1c*).

Apparently secondary progressive forms are supposed to be subsumed to either a progressive-relapsing or primary progressive course. In the latter case, accessory symptoms of the process phase are taken for an acute exacerbation.

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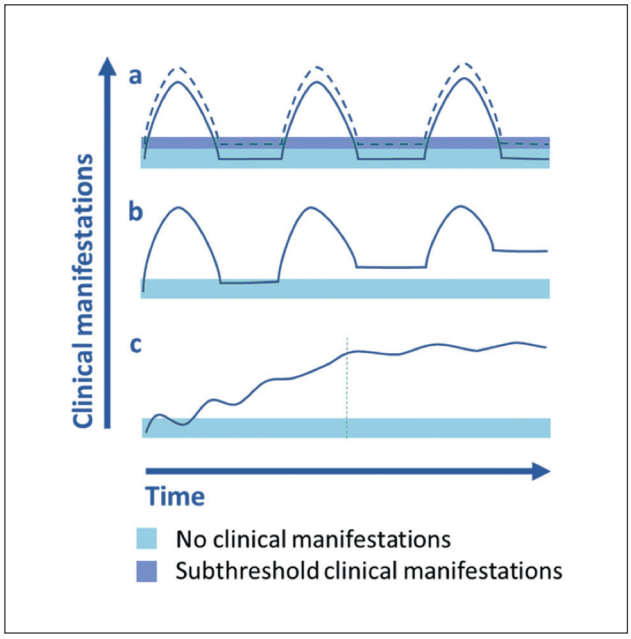

Figure 1. Main courses in the WKL framework.
a. Relapsing-remitting; b. progressive-remitting; c. Primary progressive.

System vs nonsystem schizophrenias

The German words are "*systematischen*" and "*unsystematischen Schizophrenien*" which were translated as "systematic and unsystematic schizophrenias" in the two previous translations.

The first was in 1979[98] by the "Washington School of Psychiatry. Eli Robins (1921-1994), Georges Winokur (1925-1996) and Samuel Guze (1923-2000) were from the psychiatric department at Washington University in St. Louis. They were influential contributors to the operationalized criteria movement, eg, those of the so-called Feigher's criteria. George Winokur is credited for having introduced Kleist, Leonhard, and Neele's concept of bipolar and mono-/unipolar distinction in the United States. Last, the Washington school pleaded for a naturalistic research program and opposed the nominalist approach endorsed by the *DSM-III* task force headed by Robert Spitzer (1932-2015).

The second was done in 1999[99] by the "Würzburg school of psychiatry."

It is of interest to recall that before endorsing Kleist's "neurological system" vision, Leonhard called them, like Mitsuda, "typical" and "atypical" schizophrenias ("*typische und atypische Schizophrenien*").

As stated in the main text, Kleist's vision under "*system-krankungen des Gehirns*" (system diseases of the brain) was the same as in neurology, ie, the impairment of specific neurological circuits or systems. While he distinguished between "neurological" and "psychic" systems, the latter being implicated in higher-order neuropsychological domains, the idea remained the same. Instances of neurological systems are the pyramidal, the extrapyramidal, the cerebellar, or the vegetative systems. Amyotrophic lateral sclerosis is an example of a degeneration of the pyramidal system. Importantly, it differs from a "localization syndrome" as it involves the system at several levels, ie, Betz's pyramidal neurons of the motor cortex (upper motor neurons) and spinal motor neurons (lower motor neurons). Other degenerative diseases involve multiple systems, suchas multiple-system atrophy (degeneration of the extrapyramidal, cerebellar, and vegetative systems.)

To come back to our nomenclature question, the "systematic" and "unsystematic" translations come with two issues. Firstly, they convey some confusion with the concept of "systematization" of delusional ideas. Second, it is not the way they should be translated according to the neurological nomenclature. The latter uses "system" diseases for Kleist's "*systematisch*" concept. Hence, we proposed to use "system" and "nonsystem" to solve both problems (n = 14/15; 93%)

Neuropsychological domains vs psychic systems

The original words of "*psychischen Systeme*" can only be found on p 120 of the 8th edition of the textbook.[100] It has been translated as "psyche system" in the 1979 translation and "psychic systems" in the 1999 one. Importantly, however, it does not refer to the large domains that are thoughts, emotions, and psychomotricity—Kraepelin talked about " *Denk-, Wahrnehmungs- und Sprachstörung*, "ie, disorders of cognition, affect and volition—but to one system in a domain. The Würsburg school uses the term "*Hauptebenen*" which can be translated as "main levels." However, following Werner Strik and his colleagues,[101] we propose to use "domain" to name these large fields

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Validity of Wernicke-Kleist-Leonhard phenotypes - *Foucher et al*

ORIGINAL GERMAN NAMES	POSSIBLE XTRANSLATIONS	NOTE	REMARK	SURVEY	%
Manisch-depressive Erkrankung (n = 9)	Manic-depressive psychosis	1999 translation		4	44%
	Manic-depressive disease	1979 translation		0	0%
	Manic-depressive illness	Alternative proposal		**5**	**56%**
Gehetzte Depression (n = 8)	**Agitated depression**	1999 translation	Close to current understanding	**8**	**100%**
	Harried depresion	1979 translation	Possible confusion with self-tortured	0	0%
Selbstquälerische Depression (n = 8)	Self-tortured depression	1999 translation		0	0%
	Self-torturing depression	1979 translation		**8**	**89%**
	Harried depression	Alternative proposal	Possible confusion with agitated depression due to the former use of the term for it	0	0%
Schwärmerische Euphorien (n = 9)	**Exalted euphoria**	1999 translation		**8**	**89%**
	Enthusiastic euphoria	1979 translation		1	11%
Angst-Glück-Psychose (n = 9)	**Anxiety-happiness psychosis**	1999&1979 translation		**7**	**78%**
	Anxiety-blissfulness psychosis	Yadav (2010)		2	22%
Affektvolle Paraphrenie (n = 9)	Affective paraphrenia	1999 translation		0	0%
	Affect-laden paraphrenia	1979 translation		**9**	**100%**
Läppische Hebephrenien (n = 8)	**Foolish hebephrenia**	1999 translation		**6**	**75%**
	Silly hebephrenia	1979 translation		2	25%
Flache Hebephrenien (n = 9)	**Shallow hebephrenia**	1999 translation		**9**	**100%**
	Insipid hebephrenia	1979 translation		0	0%
Phonemische Paraphrenien (n = 9)	Phonemic paraphrenia	1999&1979 translation	Ununderstandable by non WKL psychiatrist	3	33%
	Voice-hearing paraphrenia	Alternative proposal	Understandable by non WKL-trained psychiatrist	**6**	**67%**
Manierierte Katatonien (n = 9)	Manneristic catatonia	1999 translation	Double meaning	2	22%
	Affected catatonia	1979 translation	Double meaning	0	0%
	Ritualized catatonia	Alternative proposal	Understandable by non WKL-trained psychiatrist	2	22%
	Pseudo-compulsive catatonia	Alternative proposal		**5**	**56%**

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Sprechbereite Katatonien (n = 7)	Speech-prompt catatonia	1999 translation	Possible confusion with real talkative behavior	2	29%
	Voluble catatonia	1979 translation		1	14%
	Short-circuit-speech catatonia	Alternative proposal	Avoid confusion with talkative behavior	**4**	**57%**
Sprachträge Katatonien (n = 7)	Sluggish catatonia	1999 translation	Direct translation of the German term	0	0%
	Sluggish-speech catatonia	1979 translation		2	29%
	Taciturn catatonia	Alternative proposal		0	0%
	Aloof catatonia	Alternative proposal		0	0%
	Dull catatonia	Alternative proposal		0	0%
	Hardly speaking catatonia	Alternative proposal		0	0%
	Absentminded catatonia	Alternative proposal	Focus on another important aspect of the phenotype	**3**	**43%**
	Inattentive catatonia	Alternative proposal		2	29%

Table 2. List of phenotypes with uncertain translations. The ones adopted are in bold.

of human's cognition. Each domain is made of several "systems," a term under which we will subsume both the (psychic) systems of the system schizophrenias, but also the "*Gefühlsschicht*" of (affective) monopolar phenotypes ("emotional plane" in 1999's translation or "emotional layer").

Moreover, "psychic" sounds outdated nowadays as if these processes would come with some additional "spiritual" aspect. Yet, Kleist and Leonhard only used the qualifier to stress the difference between "low-level" (neurological) and "high-level" (psychological) systems. Both are supposed to be implemented in the brain without any added "spiritual matter." Hence, the adjectives of "neuropsychological" or "neurobehavioral" were proposed instead of "psychic."

"Neurobehavioral" was again inspired by Werner Strik and colleagues[101] who put forward that only behavioral outputs are observable and operative. Indeed, it is the term that has been adopted by the neurological specialty that is the closest to psychiatry, ie, behavioral neurology.

However, it was argued that "neuropsychological" better captured Wernicke, Kleist, and Leonhard's vision of the "psyche" while emphasizing the hypothesis of a neurological substrate for domains and systems (n = 10/13; 77%).

The "thought and language test" vs "psychic experimental test"

Initiated by Karl Kleist, the "*Psychisch-experimentelle Prüfung*" (psychic experimental test) is a way to test thinking, logic, and language (p101).[100] The way we currently evaluate conceptual disorganization in the Positive and Negative Syndrome Scale is a poor by-product of it. Beyond proverb interpretation and the similarities test (conceptualization), there are many important differences that make it unique as it allows some important differential diagnoses (cataphasia, system paraphrenias…).

The translation of "psychic experimental test" is poorly informative and again sounds outdated. "Test for Thought (Logic) and Language" (TTL) was proposed as a name, to indicate what it is used for (n = 13/16; 81%).

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Naming of specific phenotypes

The survey also proposed to define or even modify the English translation of some phenotypes. There were essentially two reasons for this. First, some phenotypes had been translated under different names in the English literature, eg, "*Affektvolle Paraphrenie*" was called affective or affect-laden paraphrenia. Future publications should be consistent in the naming in order to avoid confusion and to facilitate literature search. Second, considering the semantic drift since the names were quoted, some translations might have been misleading, eg, "*Manierierte Katatonie*" which translation as "manneristic catatonia" does no more convey the idea of a highly ritualized behavior. Last, emphasis was put on the avoidance of stigmatizing labels. See *Table I* for the different proposals and the final choice endorsed by the WKL international society. ■

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