

The Natural History of the Soul

*A commentary on Eugen Bleuler, *Naturgeschichte der Seele und ihres Bewußtwerdens* (1921) — do Ey's praise and Jaspers's critique reach the same book?*

Commentarius — le monisme mnémique de Bleuler, entre l'éloge d'Ey et la critique de Jaspers

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ABSTRACT

In a lecture of 1940 Henri Ey gave an extended account of Eugen Bleuler's *Naturgeschichte der Seele und ihres Bewußtwerdens. Eine Elementarpsychologie* (1921) as a book “even less known in France than the writings on schizophrenia.” He conceded that such a psychology “remains essentially atomistic, associationist and, all in all, of rather little interest,” and then concluded that “Bleuler's monism is nevertheless of a distinctly dynamist character, and consists less in reducing the psyche to the brain than in making the psyche penetrate the very organisation of the brain.” Ey adds that “the severe analysis Jaspers made of this work is well known” — without giving a reference. Jaspers's criticism in the *Allgemeine Psychopathologie*, however, is directed on its face at *Die Psychoide* (1925). Is the book Ey praised the same book Jaspers attacked? Section 4-2 of the main article left the question standing.

To answer it, this commentary reads all 338 pages of the *Naturgeschichte* and reconstructs each section of its four parts, quoting the German and giving the printed page throughout: Part I, the means of coming to know the mind; Part II, the derivation of consciousness from the function of the central nervous system; Part III, the psychic apparatus — memory, perception, thought, *Ergie*, *Schaltung*, *Spannung*, *Psychokym*, localisation; Part IV, the view of life and of the world. The final chapter sets the two verdicts against the text.

Three conclusions follow. First, Ey's concession — atomistic and associationist — holds of the book's theory of memory but not of

its theory of thought. What stands at the centre of its doctrine of association is not the existence of associations but their **selection**, and that selection is governed by *Denkziel*, *Strebung*, *Konstellation* and *Schaltung* (S. 184–187). Ey's other word — dynamist — hits the book far more exactly. Second, of the three items Jaspers listed as bound together in the *Psychoide* — the mnemonic functions, integration, and the purposiveness of structures and forces — the first two are already present in 1921 in fully developed form. Memory is “a general function of living protoplasm” (S. 90); integration is one of the two conditions of consciousness (S. 58–66). Third, the one item that is missing is purposiveness — and it is not merely missing but expressly **forbidden**: “Purpose is a concept that can exist only in connection with a being that acts according to conscious goals, as man does. [...] It cannot be ascribed to a universe, to a world-order” (S. 326). What the *Psychoide* of 1925 added was therefore not new material but the unification of material, together with a reversal of attitude towards purpose. Ey and Jaspers were looking at two stages of one body of thought; their verdicts do not pass each other by, but neither do they coincide. It must be said, however, that *Die Psychoide* (1925) and *Mechanismus, Vitalismus, Mnemismus* (1931) remain unobtainable, and that this commentary's judgment about 1925 is a provisional inference drawn from Jaspers's summary, Ey's remarks, and the text of 1921 (see the editorial note and the caveat at 8-3).

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Nota in limine — Prefatory note This is Paper III of the three-part English edition of the author’s study of Bleuler and Henri Ey, based on the Japanese original, v27 (2026). Papers I and II — *The Loosening of Associations* and *The Cradle of Delusions* — reconstruct Bleuler’s system from the inside and follow it into France. The present paper is of a different kind: it is a *commentarius*, a section-by-section reading of a single book, written to settle a question the other two were obliged to leave open. In the Japanese original it stands as an appendix to chapter 4 of the main article; here it stands as the third paper, since the question it answers belongs to the English edition as much as to the Japanese. The complete argument remains the Japanese original. Sources shared between the three papers carry different reference numbers in each, since each list is self-contained.

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Editorial note — the text used, the pagination, and the policy of citation

The text underlying this commentary is the complete first edition of Eugen Bleuler’s *Naturgeschichte der Seele und ihres Bewußtwerdens. Eine Elementarpsychologie* (Berlin: Julius Springer, 1921).^[1] The copy consulted is the digital edition published by the Internet Archive (identifier nat-

urgeschichted00bleu), which runs to 364 images, printed page 1 falling on image 13 counted from the half-title. **Printed page N therefore corresponds to page N + 12 of the digital edition.** All page numbers below are printed pages and are given, following German usage, with the prefix S.

The optical character layer of the scan is good. The original is set in roman rather than Fraktur, and the reading is on the whole secure. Scanning errors nonetheless remain, and in quoting I have silently corrected only unmistakable misreadings (of the type Affektivität → Affektivität, Parallelogravims → Parallelogramms, Beligionen → Religionen). Where I could not be confident of the restoration I have not quoted, but have given the substance only, or said so. German quotation marks are reproduced in the low-opening, high-closing form of the original.

The only book this commentary has read against the original is this one volume of 1921. Bleuler’s two late works — *Die Psychoide als Prinzip der organischen Entwicklung* (1925)^[4] and *Mechanismus, Vitalismus, Mnemismus* (1931)^[5] — have both **proved impossible to obtain**. Of the former, the opening pages can be viewed on Springer’s site; beyond that no full text is public, and the book is not to be had through the ordinary channels of the trade. The same holds of the latter. No digital edition has surfaced in Japan, nor in the public archives of Europe or America.

This constraint fixes the reach of the commentary. Everything said in chapter 8 about the *Psychoide* of 1925 is an **inference** drawn from the collation of three things — the summary Jaspers gave,^[9] the remarks Ey gave,^[6] and the text of 1921 — and has not been checked against the original. This is true above all of the judgment at 8-3, that what 1925 added was not new material but the unification of material together with a reversal of attitude towards purpose; it is a provisional conclusion reached under that condition. It is fair to add that

Jaspers's critical paragraph itself takes the form of a list, dividing the content of the *Psychoide* into three items, so that the inference rests on firmer ground than the usual discussion of an unread book. But firmer ground is not the same thing as verification. Should the original become available, 8-2 and 8-3 ought to be rewritten.

As to Bleuler's vocabulary: the Semonian terms *Engramm*, *Engraphie* and *Ekphorie* are given by their established English equivalents, engram, engraphy and ecphory, with the German supplied at first occurrence. Bleuler's own coinages, on the other hand — *Ergie*, *Psychokym*, *Neurokym*, *Schaltung*, *Gelegenheitsapparat*, *dereierendes Denken* — have no settled English form, and the danger in giving them one is that the moment a translation is supplied the concept is absorbed into some existing notion. These are therefore kept in German and explained. *Schaltung* alone, because it recurs so often, is glossed as "switching" where the English sentence requires a noun that will decline.

1. The place of the book: the year 1921

1-1 The Naturgeschichte among the five works

Bleuler's writings have, in Japan as elsewhere, been made to stand almost entirely for the one volume of 1911, *Dementia praecox oder Gruppe der Schizophrenien*.^[2] What he himself conceived as a system, however, was an articulation of five works: the *Lehrbuch der Psychiatrie* (first edition 1916, third 1920)^[3] carries the whole of clinical practice; the present book, the *Naturgeschichte der Seele* (1921), the foundations of normal psychology; *Die Psychoide als Prinzip der organischen Entwicklung* (1925)^[4] the biological extension of those foundations; and *Mechanismus, Vitalismus, Mnemismus* (1931)^[5] the methodological summation.

In that series the present book stands at the hinge. It takes the themes handled by chapter A of the third edition of the textbook, the "Psychological Guide" — memory, association, affectivity, autistic thinking — detaches them from the exigencies of the clinic, and develops them afresh as an elementary psychology; the subtitle, *Eine Elementarpsychologie*, is the declaration of that intent. When Ey, citing a letter of Bleuler's from 1932, reports that the author rated this book above the monograph on schizophrenia, it is presumably this systematic position that he has in view.^[6]

1-2 Dedication and preface: separating faith from knowledge

After the title page comes the dedication: "To my wife, Dr Hedwig Bleuler-Waser." The first sentence of the preface states the method of the whole book in a single breath.

Die ganze Untersuchung ist eine naturwissenschaftliche, d. h. sie sucht Beobachtungen — außen und innen — und bestrebt sich, dieselben in erklärende Verbindung zu bringen.

The whole investigation is a natural-scientific one; that is to say, it seeks observations — outward and inward — and endeavours to bring them into explanatory connection. (S. 1)

There follows the sentence from which every one of the book's criticisms of philosophy will be derived.

Das Glauben hat neben dem Wissen, nicht darin, seine hohe Bedeutung und Existenzberechtigung. Durch Vermischung beider wird Wissen gefälscht, Glauben erniedrigt.

Faith has its high significance and its right to exist *beside* knowledge, not within it. By mixing the two, knowledge is falsified and faith degraded. (S. 1)

Upon this he observes that for the investigator of nature there is no such thing as a "matter to be demonstrated" (Quod erat demonstrandum), and that any result whatever is equally welcome (S. 1). His object of study is called neither *Seele* nor *Geist* but *Psyche*, so as to avoid the metaphysical freight adhering to the first two. And the most important step of the preface is the refusal to define the *Psyche* as that which is conscious. Consciousness contains only irregular and accidental fragments of the causal whole, and is therefore useless to a science that aims at causal understanding; the unconscious must accordingly enter the account on equal terms.

The preface already contains a sentence that will prove decisive in the final chapter of this commentary.

[...] die höhere Funktion ist immer nur die besondere Entwicklung der niedrigeren, und wenn wir sie bis in ihre Ursprünge zu verfolgen suchen, so kommen wir auf allgemeine Eigenschaften der lebenden Substanz überhaupt.

[...] the higher function is always only the particular development of the lower, and if we try to follow it back to its origins we arrive at general properties of living substance as such. (S. 3)

1-3 The table of contents of the original

The structure of the book is itself an argument. Examine the means by which the mind can be known (Part I); derive consciousness from central nervous function (Part II); describe the psychic apparatus part by part (Part III); defend the view of the world that may be drawn from all this (Part IV). The original table of contents follows, with the printed pages.

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2. Part I: the means of coming to know the mind (S. 1–19)

2-1 Our thinking: a declaration of war on philosophy

The first presupposition of all knowledge is “the correctness of our thinking,” and we cannot get outside it. Thinking cannot criticise thinking, nor the understanding the understanding, in its principle; only particular applications can be criticised. The single touchstone is therefore experience, and we

call “correct” those logical forms that have withstood it. So far the starting point is temperate. What is developed from it, however, is a polemic against philosophy of a violence unusual under the pen of a psychiatrist. Philosophy has produced nothing but what Ziehen called a graveyard of systems — but in that graveyard the murdered systems walk as ghosts, some of them being killed for the hundredth time while others are being resuscitated. The mixture of philosophy and natural science is “a dish of garlic and chocolate”; the introduction of philosophy into medical education is a misfortune for the next generation of physicians. The anecdote that Hegel proved “on rational grounds” that there could be no planet between Mars and Jupiter, two years after the discovery of Ceres, is posted as a warning notice.

This violence is not mere abuse. He takes up the objection made against his own position squarely.

Ein Kollege, den ich hoch achte, hält mir vor, meine ganze Auffassung von der Identität von Seele und Leib sei, weil nicht sicher bewiesen, Metaphysik; das ist nicht richtig [...] Auf die größere oder geringere Wahrscheinlichkeit der Schlüsse kommt es bei dieser Frage gar nicht an, sondern auf die Art des Schließens.

A colleague whom I hold in high regard reproaches me that my whole conception of the identity of soul and body is metaphysics, since it is not securely proved. That is not correct. [...] What matters in this question is not at all the greater or lesser probability of the conclusions, but **the manner of concluding.** (S. 9, note)

This sentence fixes the character of the book. Bleuler concedes that his identity thesis remains a hypothesis. What he claims is not the certainty of the conclusion but that the procedure by which he reaches it is of the same kind as the derivations of physics and physiology. The same point closes Part I: “We make no claim whatever that our conclusions are correct in some sense different from others. We wish only to be their equals” (S. 20).

2-2 The senses and the world: the mind–body positions reviewed, parallelism denied

What is given is inner process alone. The reality of the psychic series is absolute but subjective, and cannot be proved to another. The external world, conversely — one’s own body included — may be an illusion, like the hallucination of a dream. Yet no one can live without presupposing it: one eats meat, one avoids the stake, one lectures on the assumption of an audience. Bleuler therefore presupposes the external world, and holds that only under that presupposition may “I” be replaced by “we.”

Next the demand, Platonic in descent, to see things as they are is dismantled. To perceive is to make a psychic sign out of the forces issuing from an object; what we “see” are fluctuations of the *Neurokym*, the flux of nervous energy, and not things. Not even a god could see “as it is” — for seeing and as-it-is are mutually exclusive.

The positions on the mind–body question are then examined in turn: dualism; thoroughgoing idealism, which necessarily ends in solipsism; materialism, which has always failed to derive consciousness — a defect Part II announces it will remove; the psychophysical parallelism tacitly accepted by natural scientists; Wundt's position; and the Spinozist identity thesis, rejected on the ground that force and consciousness cannot be set against each other, since matter is nothing but the sum of forces. Finally parallelism in the proper sense is denied.

In Wirklichkeit ist die ganze Annahme der bare Unsinn: wenn die beiden Reihen nicht aufeinander wirken können, dann wissen wir von einer physischen Welt überhaupt nichts, weder daß sie existiert, noch wie sie ist, noch ob sie irgendeinem Vorgang parallel läuft [...]

In reality the whole assumption is sheer nonsense: if the two series cannot act upon one another, then we know nothing whatever of a physical world — neither that it exists, nor how it is, nor whether it runs parallel to any process at all [...] (S. 19)

It is worth noticing that this denial is not empirical but logical. Parallelism is not rejected because it conflicts with the facts, but because granting it would make any statement about the physical world self-contradictory.

3. Part II: the derivation of consciousness from central nervous function (S. 20–74)

3-1 The psyche is a function of the brain

That such a proposition has to be set at the head of the argument is itself odd, Bleuler writes. The evidence is then enumerated. The complexity of psychic capacities runs tolerably parallel with the complexity of ganglia and brain — within a single species too, where, as in ants, different tasks fall to the sexes and the brains differ accordingly; the olfactory brain of the dog against its degenerate counterpart in man. Mental characters are inherited in the same manner as bodily ones. In pathology, gross anatomical change corresponds to disturbance of the basal functions of memory and association, and fine disturbance to fine — the contrast between the organic psychoses and schizophrenia. Among interventions there are chloroform, blows to the head, pressure on the exposed brain (speech stops in mid-course and, when the pressure is released, resumes at the point of interruption, like a clockwork that had been held), alcohol, thyroid preparations, the removal and transplantation of gonads, starvation.

The weightiest argument, however, is not this empirical correspondence.

Am wichtigsten ist aber, daß die Gesetze der zentralnervösen Funktionen diejenigen der Psyche sind und umgekehrt.

Most important of all, however, is that the laws of central nervous function are those of the psyche, and conversely. (S. 25)

Weber's law; thresholds; the summation of subliminal stimuli; the failure of the parallelogram of forces (enticed at once towards the south and towards the west, one does not go south-west); in the reflex, facilitation and inhibition and selection by afferent stimuli, association by similarity, the germ of memory; Ranschburg's law; Sherrington's integrative function — and even the "creative synthesis" that Wundt held to be the mark of mind: all of these, he argues, are to be found in the study of reflexes, and indeed in machines made by man.

3-2 The absence of a boundary: "a difference of standpoint, not of the thing"

No one can indicate, even approximately, a boundary between central nervous and psychic function. Whoever settles the matter by declaring that the psychic is the conscious will never be able to say honestly which of the motives of his own actions were conscious. Bleuler sets out a ladder without steps: the ordinary reflex; the association reflex; a connection established by a single act of will; what Exner called the "cortical reflex," a set adopted for the occasion; and conscious action. Instinct grows out of the reflex in a different direction. Nowhere is there a qualitative difference.

[...] nirgends zeigt sich ein qualitativer Unterschied zwischen physisch und psychisch, sei es in den Vorgängen oder den Apparaten. Der Unterschied, den wir kennen, ist ja einer des Standpunktes und nicht einer der Sache.

[...] nowhere does a qualitative difference show itself between the physical and the psychic, whether in the processes or in the apparatus. The difference we know is **one of standpoint and not one of the thing**. (S. 30)

Eine Grenze findet sich also erst zwischen den Lichtschwingungen und dem Reizzustand der Retina, zwischen der Erregung der zentrifugalen Nerven und der Kontraktion des Muskels oder der Sekretion der Drüsenzelle usw., nicht aber zwischen Funktion des CNSs und der Psyche.

A boundary is therefore to be found only between the vibrations of light and the state of excitation of the retina, between the excitation of the centrifugal nerves and the contraction of the muscle or the secretion of the gland cell, and so forth — but not between the function of the CNS and the psyche. (S. 30)

Here is a claim that cuts directly across the reading of Ey which the main article discussed under the head of the organo-clinical gap. Ey found in Bleuler something interposed between the organic and the clinical; Bleuler himself says that the boundary lies further out — at the interface between sense organ and world, and at the interface between centre and muscle — and nowhere else. The difference is not small.

By way of appendix it is remarked that the boundary between life and death is likewise growing indistinct (enzyme theory; the hysteresis of colloids may one day explain memory), and that memory in living beings is not confined to the nervous system (heredity; the chemical memory of immunity and anaphylaxis). Memory, however, means only a change that can be ecphorised.

3-3 Deriving conscious quality: the thought-experiment of the stone, and the *Functio cogitans*

In section D of Part II, Bleuler defines his target strictly. The problem is neither the totality of psychic process in a moment nor its order, but only the “conscious quality” (*die bewußte Qualität*) that distinguishes a mind from an automaton. And a decisive correction is entered.

Wir haben gesagt, es bestehe ein kausales Verhältnis zwischen ‚psychischer und physischer Funktion‘; es wäre aber falsch, wenn wir uns ausgedrückt hätten: ‚zwischen Physis und Psyche‘; deshalb, weil die Psyche [...] identisch ist mit einer Gruppe physischer Hirnfunktionen, die von einer andern Seite, von innen, gesehen werden kann, ohne daß sie im übrigen in ihrer Natur etwas Besonderes wäre. Das Besondere, der Unterschied zwischen Physis und Psyche, liegt nicht in den ‚beiden‘ Dingen, sondern in der Seite, von der wir das eine Ding wahrnehmen.

We have said that a causal relation obtains between “psychic and physical function.” It would have been false, however, had we expressed ourselves thus: “between *Physis* and *Psyche*” — because the *Psyche* [...] is identical with a group of physical brain functions which can be seen from another side, from within, without being in its nature anything special in other respects. What is special, the difference between *Physis* and *Psyche*, lies not in the “two” things but **in the side from which we perceive the one thing.** (S. 38)

This is the identity hypothesis (*Identitätshypothese*). Bleuler acknowledges that as a thought it is not new. What is new is that he shows the “how” of the identity, and that is the task of section E.

The derivation begins from a thought-experiment. A stone struck and flying through the air has no memory. It has therefore only the present. Since it possesses no place in which comparison could occur, it never comes to be “in another place”; for it there is no change, no motion, no cause. Even were it endowed with consciousness and the power of thought, it could know nothing of causality, since at the time of the cause it does not have the effect present, nor at the time of the effect the cause. For a thing without memory there can be no perception. Conversely, if the preceding moment leaves an engram and that engram is still, or again, activated in the following moment, then two states exist at once, and difference, comparison, change, a “gradient of perception” (*Wahrnehmungsgefälle*) arise. This requires, however, that the ecphorised function and the actual function fuse into a single unity — and the central nervous system is precisely such an apparatus.

The conditions of consciousness are therefore two, and only two: memory and functional unity. From this comes Bleuler’s sharpest formulation.

*Nicht das Geschöpf, nicht das Gehirn besitzt Bewußtsein, sondern ein Komplex von zentralnervösen Funktionen, die wir bei den Säugetieren in die Hirnrinde lokalisieren. Es gibt keine *Res cogitans*, sondern eine *Functio cogitans*.*

It is not the creature, not the brain, that possesses consciousness, but a complex of central nervous functions, which in

mammals we localise in the cortex. **There is no *res cogitans*, but a *functio cogitans*.** (S. 41)

The Cartesian formula is carried back through three stages: *memini*, *ergo mutor* — *mutor*, *ergo comparo* — *comparo*, *ergo cogito* — *cogito*, *ergo sum*. “I remember, therefore I change. I change, therefore I compare. I compare, therefore I think. I think, therefore I am” (S. 47).

A caution about the sequence of memory images matters as much. Memory is not a string of isolated events like a necklace of pearls. The pearls are secondary figures cut out by a later work of abstraction; in fact there is only *one* unworked engram, spun continuously from the first function of the cortex until death. Every new experience is therefore a change in the self, not a second curve running alongside but a deformation of a single continuous curve. Section F takes this up and constructs the conscious ego as “the group of engrams most frequently activated, and always activated in connection with one another”; degrees of consciousness are defined by the number and closeness of associations with the ego, the unconscious as function not associated with the ego. Bleuler adds that for forty years he searched almost daily for a refutation of this idea and never once found a contradiction or a difficulty in applying it.

3-4 The great gap

There is one gap in the book that the author himself acknowledges.

Haben wir uns die Natur der Psyche inkl. Bewußtsein als zentralnervöse Funktion vorstellbar gemacht, so fehlt uns doch noch eines zum fertigen Verständnis: Woher stammen die Qualitäten? Warum kommt der dem Ich sich assoziierende Schallreiz als Ton, der Lichtreiz als Farbe zur inneren Anschauung?

Even if we have made the nature of the psyche, consciousness included, conceivable as central nervous function, one thing is still lacking to a finished understanding. **Whence come the qualities?** Why does the acoustic stimulus that associates itself with the ego come to inner intuition as tone, and the light stimulus as colour? (S. 54)

Bleuler states plainly that before this question he is powerless, adding that he cannot prove it a false question either, nor an insoluble one. For pleasure and pain alone there is a prospect: they must be conceived as the inward aspect of the “acceptance” and “rejection” that constitute the essence of objective affect, the furtherance and the checking of the ego. Hence one can conceive a reversal of black and white, but never a reversal of pleasant and unpleasant. Before the qualities of sensation, however, one stands before an apparent absolute arbitrariness. He discloses his own failed attempts — the example of bees and blue flowers, the comparison of the structural differences between sight and hearing — expressly, he says, both as a warning and for use; and he closes the section thus: “In any case, here too one must not utter a haughty *Ignorabimus* without proving that one is entitled to it” (S. 58).

That this gap does not endanger the argument as a whole has been provided for in the preface: “If, for instance, my explanation of the coming-to-consciousness is not accepted, that circumstance renders none of the other expositions doubtful. [...] There is simply one question more left to answer” (S. 3).

3-5 The unity of function

Section H dissects five different things to which the word “unity” is applied: the unity of the basal psychic functions (one of the two conditions of consciousness); spatial and temporal unity; the temporal unity of the person; the simultaneous unity of volition; and the “unity of consciousness.” The second, and above all its temporal side, is the hardest. Nervous function is not a state but an incessant oscillation, subject to the all-or-none law and the refractory period. The velocity of conduction must therefore be very great in relation to the duration of a single neuropsychic process — and what can carry this unity is not matter but function.

Ich denke mir, daß wohl nur die Funktion, die Energieform eine solche Einheit darstellen könne. [...] Es ist aber gleichgültig, ob wir diese Forderung zur Erklärung der nervösen oder der psychischen Erscheinungen stellen: die Ansprüche sind genau die nämlichen.

I imagine that only the function, the form of energy, could constitute such a unity. [...] But it is a matter of indifference whether we raise this requirement in explanation of nervous or of psychic phenomena: **the demands are exactly the same.** (S. 62)

As to the fourth unity — the simultaneous unity of volition — Bleuler says, against the theorists, that it is never complete. Antagonistic pairs of drives — love and hate, aggression and fear, pugnacity and love of peace, pity and cruelty — are as necessary to the regulation of the mind as antagonistic muscles, or the dilators and constrictors of the vessels. Unity is achieved only where a single tendency commands the whole of the switching. And in schizophrenia this unity, incomplete from the start, is often torn apart altogether. Seen phylogenetically, a multitude of apparatus divided by segment and by function is merely brought under some degree of control by the higher centres and finally by the cortex; if unification is the goal of phylogeny, then man stands not at its end but at its beginning (S. 65).

3-6 The limits of the psychic: below the nervous system

Section J is decisive for the last chapter of this commentary. Bleuler begins by rejecting panpsychism expressly. To the argument that if man has consciousness then atoms and electrons must have it too, he replies that since we cannot think memory into an atom we cannot ascribe consciousness to it. Then he writes:

In der Entwicklung unseres Nervensystems ist das Bewußtsein eine Funktion, die ähnlich wie die Fähigkeit des Hustens auftritt, wenn die betreffenden Organe vorhanden sind, vorher

aber auch nicht ‚im Keim‘ vorhanden ist. Das Neue liegt in der Komplikation.

In the development of our nervous system, consciousness is a function which appears — much as the capacity to cough does — when the organs in question are present, but which before that is not present even “in germ.” **What is new lies in the complication.** (S. 66)

Immediately afterwards, however, three steps are taken which stand in tension with that proposition.

Können nicht auch ältere Einrichtungen als das Nervensystem Bewußtsein hervorbringen? Der Nerv ist ja nur eine Spezialisierung der dem Protoplasma eigentümlichen Fähigkeit, Reize aufzunehmen und in Reaktionen zu verwandeln und weiterzuleiten.

Might not arrangements older than the nervous system also bring forth consciousness? The nerve is, after all, only a specialisation of the capacity proper to protoplasm — to take up stimuli, transform them into reactions, and conduct them onward. (S. 67)

Wenn nun aber eine phylogenetische Überlegung existieren sollte und so viel Zeit und so viele Erfahrungen zur Verfügung hat, braucht es dazu ein Gehirn? Genügen denn nicht die Engramme und die Leitungsfähigkeit der Körperzellen?

But if a phylogenetic deliberation should exist, and if it has so much time and so many experiences at its disposal, does it need a brain for that? Are the engrams and the conductive capacity of the body cells not enough? (S. 69)

And in a long note discussing the phenomena of regeneration — the arms of the hydra, the fragments of the planarian, the lens formed from the iris — he writes:

Jede einzelne Zelle muß also irgendeine Art Kunde davon haben, was in jeder andern vorgeht, und was das für die Gesamtheit des Körpers für eine Bedeutung hat. Und noch mehr: diese Nachrichten müssen irgendwie zu etwas integriert werden, das analog ist den Gesamtvorstellungen und den Zweckhandlungen der Psyche.

Every single cell must therefore have some kind of tidings of what is going on in every other, and of what significance that has for the totality of the body. And more than that: these tidings must somehow be integrated into **something analogous to the total representations and the purposive actions of the psyche.** (S. 69, note)

This is the *Psychoide*, wanting only the name: a functional principle, endowed with memory and integration, that orders the organism as a whole, that precedes the nervous system and includes it. But Bleuler keeps it throughout within the modality of what is possible, what cannot be excluded, what is in principle an answerable question; and in the preface he himself calls these things “not hypotheses, not even conjectures, but merely possibilities.”

4. Part III A: memory (S. 75–112) — the body of the engram doctrine

4-1 The three conditions of memory, and creatures without nerves

The introduction to Part III starts from a definition of living things in general. To preserve itself an organism must exploit its environment and avoid danger; for that it must receive stimuli specifically and return different reactions according to their quality and quantity. Phylogenetic adaptation can adapt only to “states of affairs that recur through the generations,” and can do nothing with situations that only the individual meets. The spider springs again and again at the head of a nail; the moth flies into the flame and burns. It is individual memory that overcomes this defect.

Bleuler formulates three conditions of the engram (*Engramm*): that the experience lay down a change, the engram; that the change persist; and that under certain conditions it be capable of being set working again, ecphorised. And everything experienced — conscious or unconscious, attended to or not — is fixed as an engram. Failure to recall is not a limit of registration but a matter of the mechanism of ecphory.

The concept of the engram, on his account, is in itself entirely neutral theoretically.

Der Begriff der Engramme an sich ist weder ein hirnphysiologischer noch ein psychologischer; er ist einfach der Ausdruck der Tatsache, daß durch ein Erlebnis eine Veränderung gesetzt wird, die einen dem Erlebnis gleichen oder ähnlichen Ablauf erleichtert oder ermöglicht.

The concept of engrams as such is neither a brain-physiological nor a psychological one; it is simply the expression of the fact that by an experience a change is laid down which facilitates or makes possible a course of events identical with, or similar to, that experience. (S. 82)

The first evidence adduced is learning in creatures that have no nerves.

Stentor und Vorticellen, nervenlose Geschöpfe, kürzen, wenn ihnen mehrfach in gleicher Weise Futter geboten wird, die Bewegungen, die zur Aufnahme führen, ab.

Stentor and the vorticellae, creatures without nerves, shorten the movements that lead to ingestion when food is repeatedly offered them in the same manner. (S. 81)

That the terminology derives from Semon is stated in a note on the same page: “Nomenklatur nach SEMON.” (S. 81, note).^[7]

4-2 The identity of phylogenetic and individual memory

This is the first part of the theoretical core of the chapter. Having confirmed that psychic memory is a function of the central nervous system (S. 82), Bleuler says that it is an error to think of the reflex as mere anatomical wiring. The reflex has

plasticity (*Plastizität, Bildsamkeit*), and plasticity can rest only on the cooperation of many *Neurokym* functions, not on anatomical structure. The plasticity of the reflex and the plasticity of the mind are in principle identical as *Neurokym* processes; the difference between them is only the presence or absence of individual memory. From this an intermediate proposition follows.

Die angeborene zentralnervöse Anlage bestände also nicht nur in einer bestimmten anatomischen und chemischen Organisation, sondern auch in einer Mitgift von Engrammen. Damit ist auch gesagt, daß die Engramme nicht aufgespeicherte Energie (WERNICKE), sondern eine Disposition für eine bestimmte Funktion sind.

The innate central nervous constitution would thus consist not only in a certain anatomical and chemical organisation but also in a **dowry of engrams**. And this says at the same time that engrams are not stored-up energy (Wernicke) but a disposition towards a definite function. (S. 83f.)

4-3 Genes are engrams: *omnis cellula ex engrammatophoro*

If phylogenetic memory too rests on engrams, then inherited characters are engrams, and therefore the genes are engrams. Here Semon's name appears in the text for the first time.

Gibt es ein phylogenetisches Gedächtnis in dem Sinne, daß die Gleichheit der Funktion von Eltern und neuen Generationen auf einer Ekphorie phylogischer Engramme beruht, so sind auch die Gene Engramme [...] Auf solchen und noch anderen Wegen kommt man zu Ansichten, wie sie SEMON in seiner Mneme, ohne auf das Wie näher einzugehen, entwickelt hat.

If there is a phylogenetic memory in the sense that the sameness of function in parents and in new generations rests on an ecphory of phylic engrams, then **the genes too are engrams**. [...] By such roads, and by others besides, one arrives at views like those Semon developed in his *Mneme*, without going more closely into the how. (S. 85)

The note that formulates this generalisation as a rewriting of cell theory itself goes further than anything else in the book.

Es würde dann nicht mehr heißen: omnis cellula e cellula, sondern omnis cellula ex engrammatophoro, d. h. aus einer Substanz, die Engrammträger ist. Dabei wäre das gestaltende Prinzip das Engramm.

It would then no longer read *omnis cellula e cellula*, but ***omnis cellula ex engrammatophoro*** — that is, from a substance which is a bearer of engrams. And in that case **the formative principle would be the engram**. (S. 87, note)

A tentative sketch of organ formation by memory follows. If in an undifferentiated mass of cells two separate points are repeatedly stimulated simultaneously or in succession, engraphic and associative connections arise; the connection takes the line of least resistance; and a site that secretes frequently becomes “a kind of gland” (S. 90). Then comes the sentence that states the scope of the book's theory of memory most plainly of all.

Es wurde früher hervorgehoben, daß das Gedächtnis eine allgemeine Funktion des lebenden Protoplasmas ist, die nur in

unserer Hirnrinde eine besondere Ausbildung erlangt hat. [...] Jedenfalls können wir unsere jetzigen Kenntnisse so ausdrücken: das Leben ist eine Äußerung von Eigenschaften des Kolloids, die wir nicht abzugrenzen vermögen von den mnemischen Eigenschaften.

It was emphasised earlier that memory is a **general function of living protoplasm**, which has attained a special development only in our cortex. [...] In any case we may express our present knowledge thus: **life is a manifestation of properties of the colloid which we are unable to demarcate from the mnemonic properties.** (S. 90)

Nota bene — S. 82 and S. 90 are not in contradiction

The sentence at S. 82, that psychic memory too is a function of the central nervous system, must not be read as a statement about the range over which engraphy applies. It is a statement of the **identity thesis, that is, of anti-psychologism**: the psychic engram is identical with the physical engram. It is not the claim that memory exists only in the nervous system. On the same page Bleuler states expressly that the concept of the engram is itself neither brain-physiological nor psychological, and at the head of the chapter he adduces the learning of nerveless ciliates as evidence (S. 81). What S. 82 says, in short, is that psychic memory is not some other substance lying outside the nervous system — not that memory is found nowhere but in the nervous system.

4-4 The indestructibility of the engram, and the palimpsest

Once laid down, an engram persists as long as the brain that bears it. Engraphic change in a colloid is irreversible (S. 91). The common notion of “fading” is wrong: what fades is not the original engram but the representation later constructed by means of it. The evidence adduced is that in the organic psychoses, where recent memory is lost, images of early childhood return with hallucinatory vividness; hypnosis; dreams; the representations of artists; and the saving in relearning nonsense syllables, still measurable a year afterwards. Bleuler adds a self-observation: a hypnagogic hallucination so vivid that he could count the leaves of a pear tree, its original being a reflection seen in a window the day before.

Ecphory, however, is not the mere re-activation of a disposition. It is on each occasion the formation of a new connection out of the material of past engrams. The memory image is accordingly not a copy of the original experience but “a report” (ein Bericht) — one that reproduces a small part as a specimen and replaces the rest with signs. Strictly speaking there is no such thing as “repetition” either: a second experience, precisely because it ecphorises the engram of the first, is already a different experience.

Sie sind eher wie ein Palimpsest, das immer wieder neu überschrieben wird, zwar mit dem nämlichen Worte, aber jedesmal in anderen Zusammenhängen.

They are rather like a palimpsest that is written over again and again — with the same word, to be sure, but each time in other connections. (S. 99)

Ecphory always goes by way of association (S. 102). The more associative paths there are, the easier the ecphory; but where a

selection is required it becomes, on the contrary, harder. Ranschburg’s law — that similar functions not sharing the same goal inhibit one another — governs forgetting. The vocabulary here is mechanistic through and through: facilitating (*bahnen*), inhibiting (*hemmen*), paths (*Wege, Bahnen*), blocking off (*Absperrung*), short circuit (*Kurzschluß*), resistances (*Widerstände*), switching (*Schaltungen*). And practice is at once the laying down of new associations and the blocking off of others.

Wie bei den Assoziationen des Denkens ist bei den körperlichen Fertigkeiten die Absperrung der unrichtigen und unnötigen Bahnen mindestens so wichtig wie die Auffindung der richtigen. [...] Durch Übung gewinnt man nicht nur neue Fähigkeiten, sondern man verschließt sich auch andere.

As with the associations of thought, so with bodily skills: the blocking off of the wrong and superfluous paths is at least as important as the finding of the right ones. [...] By practice one not only gains new capacities but also closes off others to oneself. (S. 98)

Forgetting is not the extinction of the engram but the failure of ecphory (S. 110). Wernicke’s concept of retentiveness (*Merkfähigkeit*) ought to be replaced by engraphy (*Engraphie*), and the chapter closes with a violent rejoinder to Becher’s “psychologistic hypothesis of memory.”

5. Part III B–F: perception, thought, the necessities of thought (S. 112–229)

5-1 Perception is elaboration: the premise of the theory of hallucination

Chapter B was originally written as a separate paper, and its method is stated openly: to start from the pathology of hallucination and let it illuminate the nature of perception and representation. The existing theories of hallucination are refuted in turn — retrograde excitation of the sense organ; localisation in the sense organ; a cortical “perceptual centre”; Wernicke’s theory of blockage and damming; and the intensity theory running from Aristotle to Hume.

The positive claim is that the very way the problem is posed — how can the mind project an inner process outwards? — is mistaken. The contents of psychic process divide of themselves into two series, and we simply call the series that stands in strict relation to kinaesthetic sensation the external world, and the series that does not, the inner world. For the newborn what exists first is chaos, and out of it units of reaction, “things,” are cut. The mother is at first a complex of warmth, the stilling of hunger, smell, touch, a particular patch of colour; only later are the parts belonging to the infant’s own reactions — the sensations of sucking, for instance — separated out, leaving the concept “mother.”

Perception itself is already elaborated to a high degree. Seeing one face of a pocket watch, we supply the concept of the whole; we add — at first illegitimately — that the far side of a sphere is convex.

Unser Wahrnehmen ist überhaupt viel mehr, als man sich denkt, ein Illusionieren.

Our perceiving is, on the whole, far more of an illusioning than one supposes. (S. 136)

Das psychische Gebilde, mit dem die Erkenntnis der Welt beginnt, ist also die Wahrnehmung, nicht die Empfindung.

The psychic formation with which knowledge of the world begins is therefore perception, not sensation. (S. 138)

This result becomes the theory of hallucination directly. Sensory character, completeness, liveliness, vividness, intuitiveness — none of these is decisive; they are merely conducive. What is decisive is the psychic environment, that is, the associative context (S. 146). At the core stands a thought-experiment of Bleuler's own, about a great sequoia outside his window. The tree is no longer there; but if the image appears only when he looks out of the window in that direction, and if it has not been called up by association, then it cannot be recognised as a representation and gives the impression of a perception. Hallucination of voices is easier still: because voices rise from the unconscious, they are as alien to the patient's train of thought as words actually heard.

5-2 The doctrine of association: what governs the selection?

This is the section that matters most for the theme of the main article. Bleuler begins by detaching the concept of association from anatomy.

Es ist durchaus falsch, einen anatomischen Begriff daraus zu machen.

It is thoroughly false to make an anatomical concept of it. (S. 178)

Next, that the establishing of an association is always at the same time a blocking off.

Die Assoziationsstiftungen sind nicht bloß etwas Positives, sondern ebenso sehr etwas andere Wege Verschließendes. Jede beliebige Gewöhnung (Aussprache, Schrift, und tausend andere) erschwert alle Reaktionen anderer Richtung.

The founding of associations is not merely something positive; it is just as much **something that closes off other paths**. Any habituation whatever (pronunciation, handwriting, and a thousand others) makes all reactions in another direction more difficult. (S. 179)

Association by similarity is not a special case of association by contiguity; the relation runs the other way. And what underlies association by similarity is older than the mind, and older than the nervous system.

Das Elementare, das der Assoziation durch Ähnlichkeit zugrunde liegt, ist älter als die Psyche, ja älter als das Nervensystem.

The elementary thing that underlies association by similarity is older than the psyche, indeed older than the nervous system. (S. 181/182)

And then comes the heart of the section — probably of the whole book. From the totality of associations, taken by themselves, no thinking arises.

Aus all diesen Assoziationen aber kann noch kein brauchbares Denken entstehen. Die vorgestellte Rose kann mich auf Dornen oder eine Kamelie oder ein Mädchen, das ich mit der Rose gesehen oder verglichen habe, und noch auf tausend andere Gedanken bringen. Es muß noch die Auswahl und die Richtung des Denkens bestimmt werden.

Out of all these associations, however, no usable thinking can yet arise. The rose I represent may bring me to thorns, or to a camellia, or to a girl I saw with the rose or compared to it, and to a thousand other thoughts besides. **The selection and the direction of thought have still to be determined.** (S. 184)

Auf die Auswahl hat in erster Linie das Denkziel Einfluß, die im gegebenen Moment herrschende Strebung.

Upon the selection it is in the first place the aim of thought that has influence — the striving that rules in the given moment. (S. 185)

Wir sehen in der Konstellation wieder eine Wirkung der Schaltung, die jeder psychische Vorgang, eine Idee, ein Trieb, vor allem ein Affekt auf das ganze Assoziationsgefüge ausübt [...] Diese Art Schaltung ist nicht nur ein Ausdruck, sondern geradezu die Ursache der Einheit der obersten zentralnervösen Funktionen.

In the constellation we see once again an effect of the switching which every psychic process — an idea, a drive, above all an affect — exercises upon the whole associative fabric. [...] This kind of switching is **not merely an expression of the unity of the highest central nervous functions but precisely its cause.** (S. 187)

Then the general formula is laid down.

Die Gesetze des Denkens sind die der Assoziation; diese sind die der Ekphorie; die Ekphorie ist in Art und Inhalt bestimmt durch die Engraphie, in ihrer Auswahl durch die angeborenen lebenserhaltenden Reaktionen des CNS.s (Reflexe, Triebe, affektive Einstellungen); die Engraphie wiederum ist eine überdauernde Erfahrung.

The laws of thought are those of association; these are those of ecphory; ecphory is determined in kind and content by engraphy, and in its **selection** by the innate life-preserving reactions of the CNS (reflexes, drives, affective sets); and engraphy in turn is an experience that endures. (S. 188)

Connections are ordered in a hierarchy. The connections inside a concept are far more solid than the connections between concepts (S. 176). Hence in dreams the concepts themselves break down; and in pathology, whereas disturbance of logic is found in every psychosis, the dissolution of concepts (*Begriffsauflösung*) is found in schizophrenia alone (S. 177). The claim, in other words, is that **the depth of the loosening is what separates the diagnostic units.**

5-3 *Dereierendes Denken: the renaming of autistic thinking, and its reason*

In this book autistic thinking is renamed *dereierendes Denken*. The note giving the reason is an important document for establishing that the two are the same thing.

Ich habe es bis jetzt „autistisches Denken“ genannt, weil es im Autismus der Schizophrenie zuerst gesehen wurde und dort am ausgesprochensten in die Erscheinung tritt. Der Name wurde aber mißverstanden (sogar von Jaspers in seiner Psychopathologie). So war ich gezwungen, einen andern vorzuschlagen: Dereieren kommt von reor, ratus sum (ratio, res, real), logisch, der Wirklichkeit entsprechend denken. Dereieren wäre also wörtlich: Denken, das von der Wirklichkeit absieht oder abweicht.

Until now I have called it “autistic thinking,” because it was first seen in the autism of schizophrenia and appears there most pronouncedly. But the name has been misunderstood (even by Jaspers in his *Psychopathologie*). I was therefore compelled to propose another. *Dereieren* comes from *reor*, *ratus sum* (ratio, res, real) — to think logically, in accordance with reality. *Dereieren* would thus be, literally, thinking that looks away from, or deviates from, reality. (S. 191/192, note)

It is worth remembering that Jaspers’s name appears here, inside this book, as the named object of criticism. The exchange between Bleuler and Jaspers did not run in one direction only.

The definition itself runs as follows. When we let fantasy run in play, in mythology, in dreams, in certain morbid states, thinking will not or cannot concern itself with reality; it pursues goals given by instincts and affects. What characterises this *dereierendes Denken* — Stransky’s “logic of feeling” — is that it takes no account of contradiction with reality (S. 191/192). It arises where reality cannot satisfy inner needs (myth, magic, daydream, poetry), and where **associative tension is diminished** (dreams, schizophrenia, fever, certain intoxications) (S. 156).

And there is one sentence that bridges the pathological and the normal.

In seiner vollen Ausbildung scheint das dereierende Denken prinzipiell anders als das Erfahrungsdenken; in Wirklichkeit aber gibt es alle Übergänge von der geringen Loslösung von den erworbenen Assoziationen, wie sie bei jedem Analogieschluß notwendig ist, bis zu der unbändigsten Phantasie.

In its full development, *dereierendes Denken* seems to differ in principle from thinking based on experience. In reality, however, there are all the transitions from **that slight detachment from acquired associations which every argument by analogy requires**, up to the most unbridled fantasy. (S. 194)

All thinking, that is, contains a trace of loosening; schizophrenia is the quantitative extreme of it. The symptomatological concept of 1911 has here been recast as a continuous magnitude of general psychology.

5-4 *Intelligence: where “loosening” is theoretically placed*

Intelligence, Bleuler says, is not a unitary function but a practical concept. What determines it is the number of possible associations, the speed with which associations arrive, the state of attention, affectivity and suggestibility — and:

Ein zweites mehr allgemeines Erfordernis guter psychischer Leistungen ist eine gewisse Leichtigkeit, durch die Erfahrung erworbene Assoziationen wenn nötig lösen zu können.

A second, more general requirement of good psychic performance is **a certain facility in being able, when necessary, to dissolve associations acquired through experience**. (S. 200)

And this dissolubility may also be excessive.

Die Lösbarkeit der Assoziationskomplexe kann aber auch zu groß sein. [...] besitzt bei nur zu viel Assoziationsmöglichkeiten eine zu geringe Festigkeit der Erfahrungsassoziationen.

But the dissolubility of associative complexes can also be too great. [...] with all too many associative possibilities, the associations of experience have too little firmness. (S. 200)

Beim Schizophrenen (Dementia praecox) ist, wie im Traum des Gesunden, der Weg von einer Vorstellung zur andern nicht mehr durch die Gewohnheit und Erfahrung gebunden; es kommt in Begriffen und Ideen zu unzusammenhängenden, bizarren, unsinnigen Produkten.

In the schizophrenic (dementia praecox), as in the dream of the healthy, **the path from one representation to another is no longer bound by habit and experience**; in concepts and ideas there arise incoherent, bizarre, senseless products. (S. 202)

Nota bene — the phrase “loosening of associations” does not occur in this book

A negative finding worth recording. In chapter C of Part III — the theory of thought — none of the words *Lockerung*, *gelockert*, *Zerfahrenheit* or *Assoziationsstörung* occurs. The index at the end of the volume has only two entries, “Lockerung 308/9” and “Lockerung der Schaltungen 308/9,” and both point to chapter J of Part III, on tension (see 6-3 below).

What Bleuler in 1911 called *Lockerung der Assoziationen*, the Bleuler of 1921 states, on the side of the theory of thought, in an altogether different vocabulary: “the dissolubility of associative complexes can also be too great” (S. 200); “no longer bound by habit and experience” (S. 202); “diminution of associative tension” (S. 156). The word *Lockerung* itself he assigns **not to the associations but to the switchings**. This migration of vocabulary is not a mere stylistic fluctuation. It is the consequence of a theoretical claim: what slackens is not association itself but the mechanism that selects among associations.

5-5 *Causality, space and time naturalised: Kant transposed*

Chapters D to F attempt to handle the themes of epistemology inside an elementary psychology. Causal thinking is nothing other than the repetition of a connection given from without, by the same analogy and abstraction that are found everywhere in the psychic field. “Necessity” likewise derives

from experience and reaches no further than experience reaches. The decisive passage stands at S. 208.

Noch eine andere apriorische Kausalität neben dieser aposteriorischen, sicher vorhandenen anzunehmen, ist sinnlos, da dazu kein Grund besteht. Wäre übrigens die Kausalform des Denkens angeboren, so müssten wir sie wieder in der nämlichen Weise ableiten, nur aus Erfahrung und Gedächtnis der Art statt des Individuums. Eine Kategorie im Kantschen Sinne wäre sie deswegen doch nicht.

To assume yet another, a priori causality alongside this a posteriori one, which certainly exists, is senseless, since there is no ground for doing so. And in any case, were the causal form of thought innate, we should have to derive it once again in the very same way — only **from the experience and memory of the species** instead of the individual. It would not on that account be a category in Kant's sense. (S. 208)

With space it is the same. In the stimulus itself there is nothing spatial and nothing temporal. A stimulus at some point of the skin releases a reflex movement, and the kinaesthetic sensation of that movement is connected centrally with the fresh sensation of the stimulus; the elements of space and of time lie in that connection. "Space is an abstracted relation" (S. 219). "The abstraction of these relations is time" (S. 223). The retina is only a special organ for palpating outer space, and stands on the same footing as the blind man's stick.

Chapter F states the epistemological position of the book in its most concentrated form.

Tendenzen (Instinkte, Triebe, Affektivität) und das leere Gedächtnis, die Fähigkeit der Engraphie und Ekphorie sind in der Organisation begründet, angeboren, wenn man will apriorisch. [...] „Erkenntnisse“ a priori, d. h. solche, die in der Hirnorganisation liegen, gibt es nicht.

Tendencies (instincts, drives, affectivity), and empty memory — the capacity for engraphy and ecphory — are grounded in the organisation, innate, a priori if you like. [...] But "cognitions" a priori, that is, such as lie in the organisation of the brain, do not exist. (S. 228)

Nota bene — the interlocutor is Kant, not the British empiricists

Kant appears in this book at S. 163, 189, 196–199, 208, 215 and 229 — and on each occasion he is named as an opponent. Hume, by contrast, appears exactly once, at S. 207, and then only in a **gesture of dismissal**: "since Hume, many others have derived causality from experience, so this much indication will suffice." Locke does not appear as a proper name at all, and the word *Assoziationspsychologie* does not occur in the book. What is referred to at the head of S. 178 is an anonymous body of writers on "laws of association."

The claim advanced at 3-4 of the main article — that Bleuler stands on the side of the continental-rationalist reception rather than the British-empiricist one — is therefore strongly supported by this book. One point, however, requires correction. **Herbart is never named in the book and has no entry in the index.** The genealogy Kant–Herbart–Griesinger is amply supported as a homology of argumentative structure — the facilitation and inhibition of ideas, a subliminal dynamics of ideas, the concept of "tension" — but it is not borne out as an explicit self-ascription on Bleuler's part. Honesty requires that the distinction be made plain whenever the genealogy is invoked.

6. Part III G–L: force, switching, tension, psychic flux (S. 229–322)

6-1 Ergie: a new word binding affectivity and drive

Every living thing stands in ceaseless interaction with its environment: it draws to itself and holds what is useful, repels what is harmful, and does not react to what is indifferent. This whole function is a single unity, and yet no concept existed that would grasp it in one word (S. 229). The new word introduced for it is *Ergie*. Bleuler weighs "activity" (*Aktivität*) as a candidate and rejects it: for many readers that word would exclude affectivity, and it would import the connotations of the "activity psychology" then in vogue.

The core of *Ergie* is taking up a position: "in all affectivity there lies a taking of position, an acceptance or a rejection, towards what happens to present itself and towards what is done or sought from within" (S. 230). And that acceptance and rejection, seen from inside, are pleasure and displeasure (S. 237). There is therefore no such thing as a "negative drive"; there is only a negative taking of position.

Ergie is not drive, nor will, nor *conatus*. It is the superordinate concept that gathers all of these together with affectivity. What other psychologists call drive is the centrifugal half of *Ergie*; affectivity is the same *Ergie* perceived from within: "drives and instincts are nothing but the active side of the same *Ergie* we have already come to know as affectivity, which is why the greater part of functions of this kind are described now as drives, now as feelings" (S. 261). Nor is it energy itself. Energy lies on the side of the *Psychokym*; *Ergie* is the function that determines at once the employment and the quantity of that energy (S. 230).

Buried in this section is a note to which the final chapter will return.

Es scheint mir übrigens, daß es im Naturbetrieb eine noch höhere Tendenz gebe: die Erhaltung von Leben überhaupt, gleichgültig, welcher Individuen und sogar gleichgültig welcher Genera.

It seems to me, moreover, that in the workings of nature there is a still higher tendency: **the preservation of life as such** — no matter of which individuals, and indeed no matter of which genera. (S. 242, note)

Ethics is grounded naturalistically as an affect serving not self-preservation but the preservation of the species, and virtue lies neither in altruism nor in egoism alone but in “the right balance of the two drives, and the exercise of them in the right place” (S. 242). Kant’s categorical imperative is mercilessly derided, and then, in Part IV, accepted again “in so far as it is understood as an instinct for the preservation of the species” (S. 331). On the will a thoroughgoing determinism is professed: “science is deterministic (even where it does not fully admit as much)” (S. 276); “one could describe the whole of the mind without a gap and without using the concept of will” (S. 277).

This section also contains the place where Bleuler most nearly loosens his own naturalistic restraint: the passage on the artistic drive. Utilitarian explanation, he says, explains neither aesthetic feeling nor birdsong nor the colours of flowers nor nuptial plumage, and he asks:

Warum sollen uns nicht auch ganze große Prinzipien, die das Leben überhaupt leiten, noch unbekannt sein? [...] Auch da scheinen sich im physischen und im psychischen Organismus Prinzipien auszudrücken, die über das biologisch ‘Nützliche’ hinausgehen.

Why should whole great principles that govern life as such not also be still unknown to us? [...] Here too there seem to be expressed, in the physical and in the psychic organism alike, **principles that go beyond the biologically “useful.”** (S. 267–268)

6-2 Schaltungen: “of course only an image”

The action of psychic functions upon one another is not that of physical forces compounded by the parallelogram of forces; it resembles rather the making and breaking of contact in an electrical installation. The engine driver does not act on the engine directly; he only switches the admission of steam. Two strivings may contend, but once one of them has turned the switch the machine runs in a direction and with a force that betray no trace of the competition (S. 287). There are two differences from an electrical installation, however: organic strivings are at once driving forces and agents acting upon the switch; and a striving that has been blocked does not vanish but persists and seeks to influence the switching again, so that a decision already taken may suddenly be reversed.

From this the most general formula follows.

[...] jede beliebige Strebung, jede Funktion überhaupt stellt nicht nur ihren eigenen Schalter so, daß die Strebung ausgeführt wird, sondern durch entsprechende Schalterbeeinflussung bahnt sie alles gleichsinnig Wirkende und hemmt oder sperrt sie alles

andere. Das ist ein allgemeines Gesetz im ganzen CNS., nicht bloß ein psychisches.

[...] any striving whatever, indeed any function whatever, not only sets its own switch so that the striving is carried out; by acting correspondingly on the switches it also facilitates everything working in the same sense and inhibits or blocks everything else. This is a **general law throughout the CNS**, and not merely a psychic one. (S. 293f.)

The unity of the ego itself is held to be a product of this switching force; without it we should be no more than “an aggregate of strivings.” But about the standing of the concept Bleuler is perfectly clear.

Der Begriff der Schaltung ist natürlich nur ein Bild, dem keine andere Bedeutung zukommen soll, als daß es uns hilft, die einleitend genannten Eigenschaften dieser Funktionen uns vorzustellen und diese Vorstellung durch eine einfache Bezeichnung festzuhalten und zu übermitteln.

The concept of switching is of course **only an image**, to which no other significance should attach than that it helps us to represent to ourselves the properties of these functions named at the outset, and to hold fast and transmit that representation by means of a simple designation. (S. 305)

Was hinter den Schaltungsvorgängen steckt, weiß wohl bis jetzt noch niemand.

What lies behind the processes of switching, no one as yet, presumably, knows. (S. 306)

The crude materialist reading — cell equals idea, synapse equals association — is expressly declared false (S. 288). As an alternative, a model of vibration and resonance, taking Semon’s “homophony” (*Homophonie*) literally, is put forward tentatively; but he breaks it off himself almost at once.

6-3 Spannungen: the one place in the book where *Lockerung* appears

A short chapter, but conceptually important. Although in the cortex any point is in principle reachable from any other, in the normal state associations follow laws and are, for practical purposes, univocally determined. What maintains this determinacy is the switching tension, *Schaltspannung*.

Es ist also irgendeine Kraft tätig, die die Schaltungen in der richtigen Lage hält, die überwindbar ist und nachlassen kann wie die Spannung einer Feder; läßt sie nach, so lockern sich die Schaltungen, folgen anderen Einflüssen, schlottern hin und her.

Some force, then, is at work which holds the switchings in the right position; a force that can be overcome and can slacken like the tension of a spring. **If it slackens, the switchings loosen, follow other influences, and wobble to and fro.** (S. 308/9)

This is the only place in the book where the word *Lockerung* occurs. What loosens is not the associations but the switchings, and even this is said within the framework of the theory of tension. Bleuler goes on to set a self-critical alternative beside it: instead of a “loosening,” one might suppose that the

switching force of each individual representation fails to carry far enough.

Für die Theorie dieser Vorgänge mag es nicht unwichtig sein, daß man sich dieselben statt als „Lockerung“ der Schalteinrichtung auch als eine ungenügend in die Ferne wirkende Schaltkraft jeder einzelnen Vorstellung denken kann.

For the theory of these processes it may not be unimportant that one can also think of them, instead of as a “loosening” of the switching apparatus, as a switching force of each individual representation that acts insufficiently at a distance. (S. 309)

He adds that he finds the newer image easier to grasp and likes it better, but that the older one has been tested on thousands of cases whereas the newer has been tried on only a few hundred. This lowering of tension is made to account for the dissolution of the ego in falling asleep and in schizophrenia, for the breaking of concepts into partial components, and for the intrusion of clang associations. Automatic functions such as orientation and motor coordination are on the whole spared. Perceptual tension (*Wahrnehmungsspannung*) falls independently of intrapsychic tension, at least in degree, and from that arise hallucinations and illusions.

6-4 *Psychokym: a posit that is real and empty of content*

The definition is a single sentence: “the psychic flux of energy we call the *Psychokym*” (S. 310) — the name, that is, of the flow of nervous energy that forms the substrate of psychic process. What requires attention here is its ontological standing. Bleuler intends the *Psychokym* as a real physico-chemical and physiological process, and immediately confesses that its nature is entirely unknown.

Über die Natur des physikalisch-chemisch-physiologischen Vorganges, der der Psyche zugrunde liegt, wissen wir nichts. Es muß sich wohl um eine Spezialisierung einer allgemeinen funktionellen Eigenschaft des lebenden Kolloids handeln.

Of the nature of the physico-chemical-physiological process that underlies the psyche we know nothing. It must presumably be a matter of **a specialisation of a general functional property of the living colloid.** (S. 311)

The contrast is decisive. Of switching it is expressly said that it is “of course only an image”; of the *Psychokym* no such reservation is ever entered. On the contrary: this energy must be liberated principally in the brain itself, and the view that the brain, as with Bergson, merely transforms a force arriving from outside is said to have “not the slightest natural-scientific ground (that is, one logically derived from observation)”; all that stands behind it is “a *dereierend* need which will not be satisfied with a soul unless it can show a more distinguished pedigree” (S. 311). Throughout, the *Psychokym* is given neurophysiological predicates: the all-or-none law, the refractory period, the discontinuity of tetanus, the determination of quantities of energy by the number and size of ganglion cells.

Its relation to consciousness is stated in the form of a prohibition against separation.

Am wenigsten Grund haben wir, dasjenige Neurokym, dessen Funktion bewußt ist, von dem übrigen Psychokym abzutrennen; ich kenne nur Gründe, die dagegen sprechen.

Least of all have we ground to separate off that *Neurokym* whose function is conscious from the rest of the *Psychokym*; I know only grounds that speak against it. (S. 311)

The problem of sensory quality is not solved here either. Pleasure and displeasure can be understood functionally without any qualitative change in the *Psychokym*; colour and tone cannot. “We must therefore still think of various qualities of the *Psychokym*” (S. 313). Since physics knows no force possessing quality in addition to intensity, multidimensionality or a modification of vibration may be considered; but he restrains himself: “as long as the nature of the qualities of the *Psychokym* is unknown, there is no sense in going into details” (S. 315).

The doctrine of localisation in chapter L takes a temperate position: the essential psychic processes are diffuse, and only the afferent and efferent transitional functions (aphasia, apraxia) are circumscribed. Judgment is suspended both on theories that localise “psychic energy” or “activity” in the brainstem alone and on those that place “the highest functions” in the frontal lobe, and the chapter closes: “since we still know nothing about these matters, I think it better not to say very much yet” (S. 322).

7. Part IV: the view of life and of the world (S. 323–338)

7-1 *The prohibition of the concept of purpose*

Part IV stands on its own. It is not psychological description but a defence of the view of the world that may be drawn from the description. The starting point is provocatively brief: “natural-scientific psychology is a part of biology, no more and no less” (S. 323). He at once enters a proviso: “a view of life is not merely a consequence of knowledge; beyond that it is also the satisfaction of an affective need” (S. 323). Where logical deduction gives out, what follows is not knowledge but faith and will; it can claim no universal validity, and it must fit the individual.

The theoretical core of this part is the passage that limits the range of application of the concept of purpose. The question “what purpose, after all, does our life, does man, have?” is as wrongly framed, he says, as “what is the water content of justice? are my shoes satisfied?”

Zweck ist ein Begriff, der nur im Zusammenhang mit einem nach bewußten Zielen handelnden Wesen, wie es der Mensch ist, existieren kann. Man mag ihn einem menschlich gedachten Gott zuschreiben, nicht aber einem Weltall, einer Weltordnung.

Purpose is a concept that can exist only in connection with a being that acts according to conscious goals, as man does. One may ascribe it to a god conceived in human terms, but not to a universe, to a world-order. (S. 326)

Objectively, a bacterium is the equal of a man. Bleuler therefore entreats his colleagues not to raise the question of purpose, and not to make any conduct depend on the answer to it. To ask after “the purpose of consciousness” in the natural-scientific sense — whether it is of use for the preservation of the species — is a different matter; but on that point, he says, nothing whatever is at present known that would indicate such a use, and there is little prospect of finding it.

7-2 Determinism, ethics, religion, death

The mind is a function of the brain; that is proved to the same degree as anything else. Therefore the mind dies with the brain (S. 325). The consolation that individual consciousness dissolves into a general consciousness is dismissed with the remark that we should then be dead all the same. Determinism follows directly from the biological standpoint; and to the objection that if everything is predetermined then effort is futile, he answers that in a kingdom of causality, if a process is predetermined, then for exactly the same reason so are its causes and its conditions (S. 328). The real character of the indeterminist’s demand is megalomaniac: “he does not want to be ‘merely’ a link in a causal chain. He wants to begin a causal chain, to posit a first cause; he wants to be God” (S. 329).

The charge that morality is undermined by materialism and determinism is held to be empirically false. “Morality is an instinct; it must exist in every creature that lives socially, and it existed millions of years before *Homo sapiens* tried to give it so ingenious a foundation” (S. 331). If anything, the concept of guilt is made more severe. For the determinist there is no absolution: “for him forgiveness does not exist, any more than it does anywhere else in nature. Neither remorse nor atonement gives back to a man the part of his brain, or of his health, that he has drunk away” (S. 331f.).

The last sentence of the book is, for a systematic work, an unusual act of self-relativisation.

Dabei weiß ich, daß die Wahrheit etwas Relatives ist. Für den jetzigen Stand unserer naturwissenschaftlichen Kenntnisse halte ich das Gesagte im großen und ganzen für Wahrheit, nicht aber für die Wahrheit.

In all this I know that truth is something relative. For the present state of our natural-scientific knowledge I hold what has been said to be, by and large, **truth** — but not **the truth**. (S. 338)

8. The verdict: Ey’s praise and Jaspers’s critique held against the text

With this we can turn to the object of the commentary: the examination of the two verdicts.

8-1 Ey’s verdict examined

In his lecture of 1940 Ey said of this book:^[8]

Certes une telle psychologie reste essentiellement atomiste, associationniste et, somme toute, assez peu intéressante. Aussi les critiques n’ont-elles pas été ménagées. On connaît la sévère analyse que Jaspers a faite de cet ouvrage. Mais le monisme bleulérien est cependant de caractère nettement dynamiste et on peut dire à cet égard qu’il consiste moins à réduire la psyché au cerveau qu’à faire pénétrer la psyché dans l’organisation même du cerveau.

Certainly such a psychology remains essentially atomistic, associationist and, all in all, of rather little interest. And so criticism has not been spared. The severe analysis Jaspers made of this work is well known. But Bleuler’s monism is nevertheless of a distinctly dynamist character, and one may say in this respect that it consists less in reducing the psyche to the brain than in making the psyche penetrate the very organisation of the brain.

The verdict has three parts: a concession, a report at second hand, and an adversative. Take them in order.

The first part — “essentially atomistic, associationist.”

As applied to the book’s theory of memory, the concession holds. The vocabulary of chapter A of Part III is mechanistic through and through, written in terms of facilitation, inhibition, paths, blocking off, short circuit, resistance (S. 98–107). The explanation of concept formation by the analogy of the composite photograph (S. 131ff.) is likewise a textbook atomism, building the complex by superposing elements. Ey’s observation does not miss.

As applied to the theory of thought, however, it does miss. What stands at the centre of the book’s doctrine of association is not the existence of associations but their **selection**. The sentence “out of all these associations no usable thinking can yet arise” (S. 184) is precisely a declaration of the limits of association psychology. What governs the selection is the aim of thought, the striving, the constellation, the switching — and “this kind of switching is not merely an expression of the unity of the highest central nervous functions but precisely its cause” (S. 187). This is not an atomism that assembles a unity out of a set of elements; it is a structure in which the unity determines the behaviour of the elements. Ey either failed to read this stratum, or had no room to touch on it in the setting of a lecture in 1940.

The second part — “the severe analysis Jaspers made of this work is well known.” Ey gives no reference. One fact should be recorded here. In this book there are at least two places where Bleuler criticises Jaspers by name: the note on the reasons for renaming autistic thinking, where “the name has been misunderstood (even by Jaspers in his *Psychopathologie*)” (S. 191, note); and the rejoinder to the view that the distinction between causal explanation and the understandable is a difference in principle (S. 215). The exchange between the two men, in other words, did not run in one direction. When Ey wrote that the analysis was “well known,” it is possible that what he had in mind was not one particular passage but this relation of mutual criticism as such.

The third part — “less reducing the psyche to the brain than making the psyche penetrate the very organisation of the brain.” As a summary of the book this sentence is

remarkably exact. “There is no *res cogitans*, but a *functio cogitans*” (S. 41); “the psyche is neither a thing nor a substance nor an essence, but a complex of nervous functions which, by virtue of its own properties of memory and integration, knows its own changes” (S. 54); “only the function, the form of energy, could constitute such a unity” (S. 62). That Bleuler’s monism is a monism not of substance but of **function**, and that the direction of the reduction is not “mind to the thing called brain” but “mind and brain alike to function” — Ey hits both in a single clause. This is exactly what he took from the book; and it is exactly this that became the philosophical ground of his own organo-dynamism.

8-2 Jaspers’s list of three as the key

Jaspers’s criticism stands at the head of chapter 3 of Part I of the *Allgemeine Psychopathologie*, where the relation of body and mind is discussed.^[9]

So zuletzt in den „Psychoiden“ Bleulers. Er wollte im Begriff der Psychoiden das dem somatischen Leben und der Seele Gemeinsame zusammenhalten: die mnemischen Funktionen, die Integration und die Zweckhaftigkeit der Strukturen und Kräfte. Der Mangel aber ist hier, wie jedesmal bei solchen Entwürfen, daß mit der Totalanschauung wohl ein Schema der Idee, aber nicht ein erforschbarer Gegenstand wirklicher Erkenntnis gewonnen wird.

Most recently so in Bleuler’s “Psychoide.” In the concept of the *Psychoide* he wanted to hold together what is common to somatic life and to the soul: the mnemonic functions, integration, and the purposiveness of structures and forces. The defect here, however, as every time with such designs, is that what is gained by the total intuition is indeed a schema of the idea, but not an investigable object of real knowledge.

This paragraph contains a key that has hitherto been overlooked. **Jaspers lists what is bound together in the *Psychoide* as three separate items** — the mnemonic functions, integration, and the purposiveness of structures and forces. Held against the *Naturgeschichte der Seele*, these three fall at once into a clear division.

Collatio — Jaspers’s three items and the text of 1921

Item one, the mnemonic functions. Present in 1921 in fully developed form — and not as a doctrine about the nervous system but as a principle of living things in general. “It was emphasised earlier that memory is a general function of living protoplasm, which has attained a special development only in our cortex” (S. 90). “*Omnis cellula ex engrammatophoro*. [...] And in that case the formative principle would be the engram” (S. 87, note). “The genes too are engrams” (S. 85).

Item two, integration. Present in 1921 in fully developed form. Chapter H of Part II, “the unity of function,” is given over to it entirely (S. 58–66), and integration is one of the book’s central concepts, one of the two conditions of consciousness alongside memory. Nor is it confined to the nervous system: “every single cell must have some kind of tidings [...] these tidings must somehow be integrated into something analogous to the total representations and the purposive actions of the psyche” (S. 69, note).

Item three, the purposiveness of structures and forces. Not present in 1921. Far from being absent merely, it is expressly forbidden: “Purpose is a concept that can exist only in connection with a being that acts according to conscious goals, as man does. [...] It cannot be ascribed to a universe, to a world-order” (S. 326).

This division cannot be an accident. Two of the three items Jaspers gave as the content of the *Psychoide* were already written into the book of 1921. What Jaspers’s criticism actually engages, therefore, **is the continuum of Bleuler’s late thought from 1921 to 1925, and not the single volume of 1925**. When Ey wrote of “the severe analysis Jaspers made of this work” and named the *Naturgeschichte der Seele*, he was bibliographically inexact but substantively on target.

8-3 What 1921 forbade and 1925 stepped over

Cautela — on the standing of the statements in this section

As recorded in the editorial note, the present writer has not been able to obtain the original of *Die Psychoide* (1925). What is said below about the work of 1925 is an inference drawn from the collation of Jaspers’s summary, Ey’s remarks, and the text of 1921, and has not been checked against the original.

What makes the inference possible is the circumstance that Jaspers’s critical paragraph is itself cast as a list, dividing the content of the *Psychoide* into three items. An inventory drawn up by a hostile critic is sometimes better suited to identifying content than the author’s own summary, since both exaggeration and omission would damage the force of the criticism. That, however, means only that the ground is firm; it does not mean that the matter has been verified. The judgment that follows should be read as provisional.

Are the two works, then, the same? They are not. The difference is concentrated in the third item.

The Bleuler of 1921 allows that there may be unknown principles governing life as such, goes so far as to call them “principles that go beyond the biologically useful” (S. 268), and discerns in the workings of nature a “still higher tend-

ency,” the preservation of life as such (S. 242, note). But every one of these remarks is placed in a note, or within so peripheral a topic as the artistic drive; and above all, Part IV forbids the application of the concept of purpose altogether. What was permitted in 1921 was **an epistemological blank** — there may be principles of life not yet known — and not the filling of that blank with the name of an entity.

What *Die Psychoide als Prinzip der organischen Entwicklung* added in 1925 was therefore not new material. Two things were added. First, **unification**: in 1921 the *Psychokym* stood inside the physiological chapter and the “general principle of the organic world” inside the aesthetic chapter, and no exposition connected the two. Indeed the first was introduced with a reductionist intent and the second as a confession of the limits of reductionism, so that they even pointed in opposite directions. Second, **a reversal of attitude towards purposiveness**: in so far as the *Psychoide* is conceived as a principle of organic development, that is, as the bearer of the purposiveness of structures and forces, it steps over the line that Part IV of 1921 forbade anyone to cross.

The two changes are not independent. The very operation of binding scattered material into a single principle requires that a unified directedness — that is, a purposiveness — be attributed to what has been bound. The price Bleuler paid in 1925 was precisely the prohibition he had imposed on himself in 1921.

8-4 Implications for the main article

Four consequences follow from this reading for the main article.^[10]

First, the reservation at the end of section 4-2 can be lifted. Where the text said only that “Ey comments on the *Naturgeschichte der Seele*, and Jaspers, in the *Allgemeine Psychopathologie*, comments on the *Psychoide*,” it can now be carried further on the strength of Jaspers’s list of three: the two men are looking at a continuum of one body of thought, and of the three items Jaspers enumerates, two belong to 1921 and only one to 1925.

Second, the degree to which Jaspers’s criticism strikes the book of 1921 is limited. The verdict — a schema of the idea, not an investigable object — holds of the problem of the qualities of the *Psychokym* (S. 313–315) and of the speculation about the “Idea” in the section on the artistic drive (S. 267–268), and of little else. Moreover, Bleuler did not need Jaspers to tell him: he states repeatedly and expressly that his own constructions are schemata (S. 305, 306, 314, 315, 322, 338). The presence of that self-awareness makes it hard to draw the opposition between the two men as one between a dogmatic system-builder and a critical methodologist.

Third, one bibliographical statement in section 4-1 requires correction. The main article describes the engram theory of this book as “the engram theory of Ewald Hering and Richard Semon,” but **Hering’s name occurs nowhere in the book and has no entry in the index.** The same is true of Haeckel. The only author on whom the book expressly relies

is Semon, and the note at S. 81 states it plainly: “Nomenklatur nach SEMON.” To name Hering as a precursor in the history of theories of memory is entirely legitimate; to list him alongside Semon as a source on which Bleuler drew is not accurate.

Fourth, the account of the phrase “loosening of associations” admits of a further refinement. The phrase *Lockerung der Assoziationen* does not occur in this book. *Lockerung* occurs in one place only, where the slackening of switching tension is discussed (S. 308/9); on the side of the theory of thought the vocabulary used is “the dissolubility of associative complexes” (S. 200), “no longer bound by habit and experience” (S. 202), “diminution of associative tension” (S. 156). What this migration of vocabulary shows is that for Bleuler what slackens is not association itself but **the mechanism that selects among associations**. The claim made at 3-4 of the main article — that the loosening of associations is a claim about the collapse of the very condition that makes human thought possible — is borne out by this book to the letter. What breaks down is not the stock of associations but the power to choose among the stock. And that power is, in this book, held to be the cause of the unity of the ego itself (S. 187).

Notes and References

- [1] Bleuler, E. *Naturgeschichte der Seele und ihres Bewußtwerdens. Eine Elementarpsychologie*. Berlin: Julius Springer, 1921; 2nd ed. 1932. (The text underlying this commentary. 338 pp. + index. The copy consulted is the Internet Archive scan of the first edition, identifier naturgeschichted00bleu. Printed page N = digital page N + 12. Cited throughout.)
- [2] Bleuler, E. *Dementia praecox oder Gruppe der Schizophrenien*. In: Aschaffenburg, G. (ed.) *Handbuch der Psychiatrie*, Spezieller Teil, 4. Abteilung, 1. Hälfte. Leipzig/Vienna: Franz Deuticke, 1911. (French translation: Viallard, A. *Dementia praecox ou Groupe des schizophrénies*. Paris: E.P.E.L./G.R.E.C., 1993. Cited at 1-1.)
- [3] Bleuler, E. *Lehrbuch der Psychiatrie*. Berlin: Julius Springer, 1916; 3rd, revised ed. 1920. (Cited at 1-1. Chapter A of the third edition is read in detail in Paper I of this English edition, *The Loosening of Associations*.)
- [4] Bleuler, E. *Die Psychoide als Prinzip der organischen Entwicklung*. Berlin: Julius Springer, 1925. (Original not seen. The opening pages can be viewed on Springer’s site; beyond that no full text is public, and the book is not obtainable through the ordinary channels of the trade. What this commentary says about the content of 1925 is an inference drawn from Jaspers’s summary [ref. 9] and Ey’s remarks [ref. 6] collated with the text of 1921. See the editorial note and the caveat at 8-3. Cited in the editorial note and in chapter 8.)
- [5] Bleuler, E. *Mechanismus, Vitalismus, Mnemismus*. Berlin: Julius Springer, 1931. (Original not seen. No digital edition is public, and the book is not obtainable through the ordinary channels of the trade. This commentary says nothing of it beyond placing it in the articulation of Bleuler’s five works. Cited in the editorial note and at 1-1.)
- [6] Ey, H. « La conception d’Eugen Bleuler. » In: Bleuler, E. *Dementia praecox ou Groupe des schizophrénies*. Trans. A. Viallard. Paris: E.P.E.L./G.R.E.C., 1993, pp. 642–658. (The manuscript is the last of the lectures on “contemporary tendencies in psychiatry” given in September–October 1940; first mimeographed 1945. Ey’s testimony that Bleuler himself, in a letter of 1932, rated this book above the monograph on schizophrenia is at p. 655. Cited at 1-1 and 8-1.)

- [7] Semon, R. *Die Mneme als erhaltendes Prinzip im Wechsel des organischen Geschehens*. Leipzig: Wilhelm Engelmann, 1904. (The terms *Engramm*, *Engraphie*, *Ekphorie* and *Homophonie* all derive from this work. Bleuler states as much in the note at S. 81, “Nomenklatur nach SEMON,” and names Semon in the text at S. 85. Cited in chapter 4.)
- [8] Ey, H., op. cit. [ref. 6], pp. 655–656. (The verdict on the *Naturgeschichte der Seele* quoted at 8-1. Cited at 8-1.)
- [9] Jaspers, K. *Allgemeine Psychopathologie*. Berlin: Julius Springer, 1913; 9th ed., Berlin/Heidelberg/New York: Springer, 1973, S. 189. (The passage stands at the head of Part I, chapter 3, “Somatic accompaniments and consequences in the symptomatology of psychic life (soma-toppsychology),” within the preliminary considerations on body and mind. English translation: *General Psychopathology*, trans. J. Hoenig & M. W. Hamilton, Baltimore: Johns Hopkins University Press, 1997, vol. 1, p. 224. The English version was made from the 7th German edition (1959); since the typesetting is unchanged from the 7th edition onward, the German pagination is the same in the 8th and 9th. Cited at 8-2.)
- [10] Matsuishi, T. *Anri Ē to Oigen Buroirā — Buroirā no seishin'igaku taiki to sono gokai sareta juyō* アンリ・エーとオイゲン・ブローラー——ブローラーの精神医学体系とその誤解された受容 [Henri Ey and Eugen Bleuler: Bleuler's psychiatric system and its mistaken reception]. *Bulletin of YRIDEI*, 1, 2026 (in Japanese). (The Japanese original. The English edition appears in three papers: The Loosening of Associations [the system], The Cradle of Delusions [the reception], and the present commentary. Section numbers cited here — 3-4, 4-1, 4-2 — are those of the Japanese original; the corresponding discussions in the English edition are at §5 and §7 of Paper I. Cited at 8-4.)

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