

The Creative Process in 18th Century Poetics: A Prologue to Psychological Conceptualisations of the 20th Century

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ABSTRACT

Since Rhodes' 4P model, the creative process has been of great interest to the psychology of creativity. Although most psychologists were not aware of it, their conceptions of the creative process on a structural level reiterated those of 18th century poetics. To demonstrate this, the paper methodologically draws on the analytical tools of historical semantics. It proposes to broaden our approach to the creative process by studying poetic views of the past and encourages practitioners to consult these aesthetic texts as inspiration for the development of creativity techniques. Above all, the paper sees itself as a contribution to understanding the history of a concept that is inscribed in our contemporary culture.

Keywords: History of Creativity, Creative Process, Poetics, Aesthetics

1 Introduction

Since Rhodes (1961) directed psychological research to the mechanisms and operations of inventive thinking with his 4P model, the creative process has been of greatest interest to science. This interest is due in part to the fact that abstract approaches to the creative process function as a theoretical legitimation for numerous test batteries.

The paper shows that various theoretical conceptions of the creative process (psychoanalysis, associationism, evolutionary epistemology, and others) have been influenced on a structural level by 18th century aesthetics and poetics of the pre-Romantic phase. Cohen Cole (2009, 241) convincingly pointed to the fact that creativity researchers “constructed psychological theory directly on top of a foundation of popular wisdom about creativity”. It is, of course, popular wisdom that creativity owes much to aesthetics. Concepts such as genius have at least implicitly structured common knowledge about innovative behavior – this may have been a door opener for the diffusion of aesthetic ideas into the heart of theoretical and applied psychological creativity research.

However, with respect to theoretical investigations into creativity, and only these are of interest here, the deeper causes of poetic influence have not been investigated with a few exceptions¹ – a glance at relevant handbooks of philological and philosophical provenance, at journals or anthologies proves this desideratum.² Although some creativity researchers acknowledged such influences (cf. e.g., Ghiselin, 1952) most psychologists never explicitly appreciated aesthetics or poetics, either out of ignorance, or because they wanted to distance themselves from disciplinary precursors in an attempt to emphasize the novelty of their own research program. The latter applies to Guilford. It was in his presidential address to the APA in which he (1950, 451) distinguished creativity psychology as a historical caesura from poetics and its “vague

¹ Cf. Mahrenholz, 2011; Blamberger, 1991; Reckwitz, 2013.

² The *Ästhetische Grundbegriffe* (Aesthetic Key Concepts), the *Historische Wörterbuch der Rhetorik* (Historical Lexicon of Rhetoric), the *Metzler Lexikon Ästhetik*, and the *Princeton Encyclopedia* have no entry on the lemma creativity. The *Historische Wörterbuch der Philosophie* (Historical Lexicon of Philosophy) neglects non-psycho-logical creativity research i.e., aesthetics and poetics.



concepts such as 'genius', 'intuition', 'imagination'. Blumberger (1991, 7) puts this neglect of the poetic heritage in pathetic words: the "Vorrecht, über den Ursprung und das Wesen menschlichen Schöpfungstums nachzudenken, wurde Künstlern, Philosophen und Geisteswissenschaftlern 1950 genommen."

This paper proposes broadening our approach to the creative process by including aesthetic and poetic views of the past. It wants to encourage practitioners to consult these texts as an inspiration for the development of alternative creativity techniques. And above all, it sees itself as a contribution to understanding the history of a concept that has inscribed itself in the everyday life of our contemporary culture.

2 Methodological Remarks

It is a methodological challenge to compare conceptions of the creative process from domains as diverse as poetics and psychology, and even more so over a 200-year period in which terminologies, research paradigms and sociopolitical contexts have changed profoundly. To meet this challenge, the paper draws on the analytical tools of historical semantics, i.e., on a formal approach to conceptual history. Two premises secure the comparability between 18th and 20th century thinking about the creative process.

First, the pre-Romantic phase can be understood as a catalyst for "Sattelzeit" developments³ that, according to Koselleck (1972, XIV), mark the "Auflösung der alten und die Entstehung der modernen Welt". With regard to poetics, this can be seen in terms of a general valorization of sensual faculties that have been oppressed by Rationalism (cf. Pfothner, 1987; Košenina, 2016; Dürbeck, 1998), and more specifically in terms of an affirmative integration of these faculties (imagination, phantasy, memory) and of unconscious work as well as of analogical thinking, and alternative states of the mind such as (lucid) dreaming into the process of poetic creation.

Second, comparability between 18th and 20th century thinking about the creative process is secured in terms of structural parameters.⁴ In general, the creative process is defined as the interplay of two (cognitive) types of operation that differ in terms of their respective i) functions, ii) modes and iii) rules, to produce creative artifacts. The two types are referred to as *agglomerative* and *discriminative*. While *agglomeration* refers to paradigmatic structuring of ideas, *discrimination* points to syntagmatic structuring. The functions of the two types of operation point to their respective outcomes, i.e., to the specific qualities of the creative product they bring about. This paper does not inquire into the predicates constituting the creativeness of an artifact. Much could be learned from the history of poetics at this point. However, the paper confines itself to a simple notion of the creative product. It is generally accepted (Guilford, 1950; MacKinnon, 1970; Rothenberg & Hausman, 1976; Sternberg, 1988; Simonton, 1988; Feist, 1998) that such an artifact must be a) novel and b) valuable, where value not only denotes utility (which is omitted here since economics remind us that utility is not an objective quality but a certain marginal relation between a desired artefact and a person desiring it), but also a kind of consistency and flawlessness. Against this background, the two types of operation function by bringing about a new and valuable output. The modes refer to the way they proceed, i.e., to their quantity of output, their goal directedness (teleological/non-teleological) as well as to the state of mind (conscious/unconscious) in which the operations are performed. The rules regulating the

³ The concept goes back to Koselleck and is widely acknowledged by now. According to Koselleck (1972, XV), with the beginning of the "Sattelzeit" in the middle of the eighteenth century, as is well known, "ein teigreifender Bedeutungswandel klassischer topoi" took place, that lay the foundation of modern conceptual reasoning.

⁴ Introducing them at this point might give the impression that these parameters were worked out as ideal constructs beforehand in order to impose them on the source material. However, this is not the case. Rather, it will become clear in the course of the paper that they are cautiously derived from the sources.

operations can be logical/analogical. Agglomeration and discrimination, then, proceed according to a set of rules and modes in order to function with regard to value/novelty, one through paradigmatic accumulation of ideas, the other through their syntagmatic structuring.

The point being argued for in this paper is that pre-Romantic poetics arrive at the same description of the creative process as 20th century creativity psychology not only in terms of these types, but also in terms of how they define the interplay between these types.

3 The Creative Process

3.1 Processing the novelty condition

The dual-typological process is introduced in 18th century poetics with reference to the concept of genius. Genius encompasses a broad and a narrow meaning. In the broad sense, it incorporates various faculties, including imagination, judgement and taste. The narrow sense, which is of interest now, refers to the imagination as its primary faculty.

The tertium between genius and imagination is creation. Duff (1994, 6) claims that it is “universally acknowledged”, that “imagination is the quality of all others most essentially requisite to the existence of genius” and stresses it as an “active and creative power” (ibid., 129). Kant, in turn, emphasizes the inventive function of productive imagination on various instances in his third Critique (1983b, 414) as well as in the Anthropology (1983a, 544) where he determines the “eigentliche Feld für das Genie” as the “Einbildungskraft; weil diese schöpferisch ist”. His Scottish predecessor Gerard, whom Kant owes much in terms of his concept of genius, calls fancy “a source of invention” (Gerard, 1966, 32) as well as the “faculty of invention” (ibid., 8) and underpins it as the primary, though not sufficient, cognitive constituent of genius (ibid., 36f.):

Mere imagination, it is true, will not constitute genius. [...] As fancy has an indirect dependence both on sense and memory, from which it receives the first elements of all its conceptions, so when it exerts itself in the way of genius, it has an immediate connexion with judgement [...]. But still, it is true that imagination invents, and judgement only scrutinizes [...]. It is imagination that produces genius; the other intellectual faculties lend their assistance to rear the offspring of imagination to maturity.

The function of imagination, fancy or “Dichtungskraft”, then, is to bring about an output that meets the requirements of the novelty condition. It does this by performing combinatorial operations according to analogical laws, i.e., rules of association, of which similarity is among the most important (Gerard, 1966, 109ff.; Duff, 1994, 6f.; Kant, 1983a, 479; Schiller 1992a, 1019), but also according to proto-gestalt psychological principles (Tetens, 1777, 117). That imagination is thus “far from being capricious or irregular” but “observes general and established rules” (Gerard, 1966, 39f.) secures its products a certain roundedness (not to be confused with the value condition but to be regarded as a prerequisite for it), since a wholly unregulated imagination produces novel but almost only “false and fallacious systems”, “irregular and illegitimate performances” (Duff, 1994, 7).

The belief that combinatorial operations governed by analogical principles function particularly well with respect to the novelty condition reappears in various theoretical strands of 20th century creativity psychology. Prominent representatives of associationism, such as Mednick, as well as several other intellectuals, including Ghiselin, who refers extensively to Poincaré’s introspections, occasionally follow Wallas’ (1926) phase model and locate inventive ideation in the incubation period⁵, which is characterized

⁵ The “function of the incubation period must be to introduce new associative elements” (Mednick & Mednick, 1964a, 85).

precisely by its analogical processing. According to Ghiselin, the production of an original output cannot be reduced to any sort of logical calculation (Ghiselin, 1963, 359). Poincaré (1952, 28), in turn, stresses that a novel output is “not merely a question of applying rules”, but explicitly links free association to the novelty condition when positing that only “disorder itself permits unexpected combinations.” (ibid., 31) The French mathematician is a prominent reference point in 20th century creativity research. Campbells evolutionary theory of the creative process, for instance, draws extensively on Poincaré’s *Mathematical Creation*. In his process-model, he sees the novelty condition as a function of blind variation, which Campbell then attempts to sharpen, but in a descriptive rather than an analytical manner. Initially referring to possible antonyms of “blind” such as “wise, designed, prescient, informed”, he proceeds stating blind variation operates “beyond [...] adaptive recipes” (Campbell, 1974, 147) and “beyond existing knowledge”, followed by synonyms such as “chance, random”, “spontaneous, haphazard” (ibid., 147). Ghiselin, joining Campbell in his attempts, also remains on a descriptive level when he refers to the procedural rules as “spontaneous” (Ghiselin, 1952, 6), and “free” (Ghiselin, 1963, 364). Nevertheless, they all indicate that the laws governing inventive operating must be of a more flexible nature than those of rigid logic. Mednick (1962, 227) therefore assumes they are “strictly associative rather than being of a sort that follows elaborate rules of logic” and points to three associative principles that guide the combinatorial process: serendipity, mediation and similarity (ibid., 222). Similarity also plays a crucial regulative role in primary process thinking, which is described in psychoanalysis as “loose, illogical and highly subjective” (Suler, 1980, 144) as “irrational” (Arieti, 1976, 13), “analogical, autistic, and free associative” (Martindale, 1997, 258). It comes into play because the underlying “associative process” in inventive primary process thinking is “essentially metaphoric” insofar as it does not compare ideas but identifies them based on a “rudimentary similarity” (Suler, 1980, 144f.; Arieti, 1976, 69f.) The flexibility of primary process thinking is also due to the fact that, within the framework of Freuds structural model of the psyche, it is active in the unconscious and attributed to the id. That inventive ideation is unconscious is not limited to psychoanalysis (Campbell, 1974, 152) and certainly not to 20th century psychology. Ingenious imagination is classified on a scale of unconsciousness, which include predicates such as instinctive, intuitive, automatic, or mechanical, all of which signify a withdrawal of conscious activity in favor of a flexible passivity of cognition. This is so obvious, that this paper limits itself to pointing out examples (Kant, 2006, 194; Sulzer, 1792, 92f.; Goethe, 1986, 732f.; Gerard, 1966, 123ff.). On the modal level, a desired effect of automation and analogical regulation is fertility of creative ideation. To Abel (1955, 27), “ungezählte Empfindungen“ penetrate the soul of genius, „Gedanken strömen auf Gedanken“ so that there is a „nie versiegende Quelle von Erfindungen“. Fertility is not merely a contingent addition to the faculty of imagination, but “von der größten Wichtigkeit” (ibid.). That is why also to Platner (2000, § 795), inventive genius requires an imagination, which produces “eine große Menge einzelne Ideen”. Gerard (1966, 41, 43f.) analogously estimates association being “so strong”,

that it bestows a sort of cohesion on several separate ideas, and makes them start up in numberless combinations [...] and thus produces a new creation. [...] Thus, when the association principles are strong and have an extensive influence, they naturally form, in proportion to the degree of their strength, that boundless fertility, [...] which is not only one necessary ingredient in true genius, but the first and most essential constituent of it. [...] A work of real genius always proclaims, in the clearest manner, that immense quantities of materials have been collected by fancy.

Duff (1994, 168), in his Essay on Original Genius, also calls the imagination “fertile”. According to the Scot, it produces an “inexhaustible variety” of “most distant connections of [...] ideas” (ibid., 128f.). The same mode of fertility is attributed to inventive thinking by Kant (1983a, 478; 1983b, 417), Schiller (1859, 382f.) and many others. The reason for this is secured by the dual-typological process and only becomes apparent when contemporaries address imagination in its relationship to the other faculties of the genius –

the paper will come to this later. For now, however, it is striking how 18th century poetics thus preconceived the most essential mode of divergent thinking (DT).

Since Guilford's DT-tests, which ask for responses to either verbal or figural prompts, there has been a score for fluency, which is operationally defined "as the number of responses to a given stimuli" (Plucker & Makel, 2010, 52; Runco, 2011, 400). "The idea that 'more is better' is a key component of ideation" (Plucker & Makel, 2010, 51) and is widely accepted in test batteries for DT not only in Guilford's Structure of the Intellect (SOI) divergent-thinking tests, but also in the Torrance Tests of Creative Thinking (TTCT) in the versions of Wallach and Kogan as well as in Jackson's and Getzel's test variants (cf. *ibid.*, 52ff.), furthermore in associative ideation (Mednick & Mednick & Jung, 1964b, 511), blind variation (Campbell, 1960, 391) and primary process thinking (Arieti, 1976, 86).

Thus, imagination, blind variation, primary process thinking and incubated association as well as divergent thinking⁶ belong to the agglomerative type, because they refer to paradigmatic structuring in the sense that they cluster an abundance (mode) of semantically similar (rule) ideas. These ideas are loosely organized into complexes that meet the novelty condition (function) and can potentially be organized into a fixed and valuable syntagm.

3.2 Processing the Value Condition

Agglomeration understood as paradigmatic structuring of ideas does not function with respect to the value condition. It is limited to inventive ideation. At best, among the many combinations generated by imagination, divergent as well as primary process thinking, and blind variation, some are at least potentially valuable in the sense that they are not simply "originale[r] Unsinn" (Kant, 1983b, 406) but suitable for further elaboration. Therefore, the search space must be limited, i.e., paradigmatic clustering must proceed goal-oriented. If it wouldn't, it would be highly unlikely that such a process could produce any original idea with some degree of consistency (cf. du Sautoy, 2021, 242ff.).

Both 18th century poetics and 20th century creativity psychology are aware of this⁷ and the specific problem it poses: Cognitive processes of the agglomerative type are fertile and flexible, and for this very reason capable of invention – Kant (1983a, 543f.) thinks of imagination as a "Talent zum Erfinden" precisely because it is "weniger, als andere Vermögen, unter dem Zwange der Regeln [...], dadurch aber der Originalität desto fähiger". To direct them to a goal should therefore not limit their inventive potential. If "fertility be wanting", Gerard (1966, 49) reminds us, "the correctest imagination will be confined within narrow bounds [...]; there can be no penetration or copious invention", but also, if "regularity be absent, an exuberant invention will lose itself in a wilderness of its own creation."

According to Kant (1983c, 110), understanding, which brings about "Einheit unter unseren Vorstellungen", guides the imagination through the search space towards the value condition without disturbing it. He claims that inventive imagination operates "zwar noch immer nach analogischen Gesetzen, aber doch auch

⁶ Other parameters of divergent production are also perfectly in line with 18th century poetics, this is true especially regarding flexibility and originality. Guilford, Torrance, and others measure flexibility as "the number and/or uniqueness of categories of responses to a given stimuli" (Plucker & Makel, 2010, 52) i.e., as the degree of variance of each response. Originality is operationalized as the "uniqueness" of the response. (Runco, 2011, 400).

⁷ Gerard (1966, 49) is aware that, "[a]s the same idea bears some relation to an infinite number of other ideas, the associating principles may lead us, after a few steps, to such ideas as are connected with the last that was present, yet have no connexion either with the former ones, or with the main design." Analogous remarks can be found, for instance, in Kant (1983a, 478), Poincaré (1952, 29f.), Wallas (1926) and others. Therefore Gerard (1966, 46) claims that genius must possess a power that "enables the associating principles" to "connect the design of the whole with every idea that is introduced. [...] Any conception that is present will introduce [...] those ideas which are related to the main design, as well as to itself, though there should be a thousand other bearing the same relation to itself, but unconnected with the general subject."

nach Prinzipien, die höher hinauf in der Vernunft liegen”, where we feel “unsere Freiheit vom Gesetz der Assoziation” (1983b, 414). Schiller (1992b, 670) agrees with his colleague and constructs a “Spieltrieb” as a balance of the faculties of imagination and understanding. It is of importance, however, to note that Schiller does not conceive of the Spieltrieb as a third faculty (cf. Dod, 1985, 57) but rather defines it as the interplay between imagination and understanding (Schiller, 1992b, 608). In (inter)play, “mischt sich der gesetzgebende Geist in die Handlungen eines blinden Instinkts” and directs “das willkürliche Verfahren der Einbildungskraft” (ibid., 670), but it does so without limiting inventive imagination. Both faculties interact⁸, to say it with Kant, “zweckmäßig” without “Zweck” and thus freely. “Es muss immer ein Thema sein“, claims Kant (1983a, 479),

an welches das Mannigfaltige angereihet wird, mithin auch der Verstand dabei wirksam sein; aber das Spiel der Einbildungskraft folgt hier doch den Gesetzen der Sinnlichkeit, welche den Stoff dazu hergibt, dessen Assoziation, ohne Bewusstsein der Regel, doch derselben und hiermit dem Verstande gemäß, obgleich nicht als aus dem Verstande abgeleitet, verrichtet wird.

Schiller (1992c, 683) comes to the same conclusion. However, so far neither Schiller nor Kant nor any other 18th century intellectual managed to define the mechanisms structuring the interaction between both faculties, nor did they present an explanation that fully answers the question how a valuable output is brought about (goal-orientation simply cannot satisfy the value condition). Therefore, even against the background of a potentially valuable output, Gerard (1966, 60ff.), emphasizes that “invention is not completed” by

merely depositing a sufficient quantity of proper materials, in any order, as in a magazine or store-house. [...] [S]o in the arts and sciences, a huge collection of conceptions which bear some relation to one another and to the main subject, will form only a confused heap, if they be not, by a proper disposition, united into one regular work. [...] If therefore imagination contribute nothing to the disposition of the materials, it will follow that genius must [...] derive its origin from some other power of the mind.

The “other power of the mind” is judgement, which Gerard differentiates into judgement in the broad sense, applied primarily but not exclusively to scientific questions, and taste, which the Scot traditionally reserves for art. Both are strongly value-oriented. Duff, in his *Essay on Original Genius* (1994, 71.), repeats the proposition of his fellow countryman:

In fact, the proper office of Fancy is only to collect the materials of composition; but, as a heap of stones, thrown together without art or design, can never make a regular and well-proportioned building; so the effusions of Fancy, without the superintending and directing powers above-mentioned [i.e., judgment], can never produce a masterly composition in Science or in Art. Judgement therefore must arrange in their proper order the materials which Imagination has collected; and it is the office of Taste to bestow those distinguishing graces, which may give DIGNITY and ELEGANCE to the several parts, as well as EXCELLENCE and ACCURACY to the whole.

Within the concept of genius, then, the function of understanding, judgement, or taste is to realize the value condition (cf. Kant, 2006, 200; Herder 1998, 843; Duff, 1994, 10). They do this qua evaluation of the output produced by the imagination, by selecting the most promising combinations and elaborating them (Gerard,

⁸ The interaction between imagination and intellect means that the “Wirksamkeit des einen die Wirksamkeit des andern zugleich begründet und begrenzt“, and that „jeder einzelne für sich gerade dadurch zu seiner höchsten Verkündigung gelangt, dass der andere tätig ist.“ (Schiller, 1992b, 606)

1966, 392ff.; Schiller, 1859, 382f.). On a modal level, these operations are characterized by goal-orientedness and consciousness, further by a reflexive component, a certain intellectual saturation, which does not exclude such logical principles, which, in part, can be learned and followed (Kant, 2006, 201; Duff, 1994, 8f.). Thus, judgement and taste belong to the discriminative type: They refer to syntagmatic structuring in the sense that they arrange an ideational paradigm teleologically (mode) and intellectually saturated (rule) into a semantically and syntactically correct complex that meets the value condition (function). Duff (1994, 8ff.) describes this discriminative processing by judgement and its interplay with imagination as follows:

It is evidently necessary therefore, in order to render the production of Genius regular and just, [...] that the discerning and coercive power of judgement should mark and restrain the excursions of a wanton imagination [...]. The proper office of JUDGEMENT in composition, is to compare the ideas which imagination collects; to observe their agreement or disagreement, their relations and resemblances; to point out such as are of a homogenous nature; to mark and reject such as are discordant; and finally, to determine the truth and utility of the inventions or discoveries which are produced by the power of imagination. This faculty is, in all its operations, cool, attentive, and considerate. It canvasses the design, ponders the sentiments, examines their propriety and connection, and reviews the whole composition with severe impartiality. Thus it appears to be in every respect a proper counterbalance to the RAMBLING and VOLATILE power of IMAGINATION. The one [...] is apt to deviate into the mazes of error; while the other arrests the wanderer [...] and compels it to allow the path of nature and of truth.

Gerard (1966, 309), also pointing to the aesthetic interplay between judgement and imagination, shows himself convinced that “[g]enius takes very few steps in any investigation, in any train of sentiment and thinking, or in forming any design, without receiving an impulse from judgement through its whole progress”, so that “conclusions and determinations are intermixed closely and at very short intervals, with the suggestions of fancy”. He then analyzes the exact principles of relation between discriminative and imaginative operations during the creative process. The very conclusions Gerard (*ibid.*, 91f., 392ff.) arrives at indeed make his approach “a theory with distinctively modern features” (Fabian, 1966, XX), especially with respect to 20th century creativity psychology:

In the exertion of genius, judgement not only regulates imagination, in the ways which have been hitherto pointed out, but often likewise supplies it with new materials. Judgement cannot by its own power suggest a train of ideas, but its determinations often put fancy into a new track, and enable it to extend its views. Imagination can introduce ideas only by means of their connexion with some present perception [...] and this perception is in many cases no other than a decision of judgement. Every review that judgement takes of the productions of genius, discovers some relation of the parts. This relation is a new perception which may transport fancy to others that are connected with it, and thus conduct it into regions which it did not formerly think of exploring, and from which it may bring home many conceptions fit for perfecting its work. [...] In the artist, taste exerts itself continually, restraining, regulating, and directing fancy [...]. Without this exercise of taste, the first rude conception of a design could never be improved, nor any finished work produced. [...] When taste has condemned what the artist had imagined, he will of course endeavour to set imagination again a working, and to direct it into another track [...]. Often it is taste itself that in this case instigates imagination.

As with any relation there are at least two sides to the interplay between judgement and imagination, i.e., between discrimination and agglomeration. On a typological level, Duff, Gerard, and others point out that in poetic creation, discrimination (referent) maintains a deterministic relationship qua output minimisation to agglomeration (relatum) in order to secure the value condition. This is also emphasized in 20th century psychology.

Value-oriented processes, according to Mednick (1962, 224), are teleological problem solving “methods” to judge whether an original product is potentially valuable by comparing it with previously established solution conditions of a problem. If “the set of consequents of a new combination achieves a close fit with the set of problem requirements, this combination is selected.” (ibid., 225) The combination identified can then either be elaborated or handed over again to the agglomerative processing as a “stimulus set which is determining which associative elements are being elicited and thus becoming eligible for entering into combination with other elements” (ibid.). As such, discrimination determines agglomeration by reducing the large number of original ideas through selection and elaboration. Campbell perfectly agrees here. In his evolutionary model knowledge processes, termed “selective retention”, run parallel to blind variation⁹ and distinguish potentially valuable variations from original nonsense by means of (logical) testing procedures, thus reducing the number of original products. By means of “feedback circuits” (Campbell, 1960, 381) they report their results to inventive agglomeration. In this way, they ensure that agglomerative processes (blind variation) only operate on an output that has already been judged and elaborated to be appropriate. (ibid., 393) This “strategy of cumulating selected outcomes from a blind variation, and then exploring further blind variations only for this highly select stem” (ibid.) determines the variation procedure, through constant logical evaluation processes. A similar rationale underlies secondary process thinking. To ensure the value condition, an “elaborational phase in creation” (Kris, 1967, 313) is required, which is regulated by “the laws of logic” and characterized by “deduction, induction, and the formation of concepts” (Arieti, 1976, 84). Here “thinking becomes logical, practical” (Suler, 1980, 145), and “goal-oriented” (Martindale, 1997, 258). The secondary process functions by selecting and elaborating the potentially valuable products from original mass-output: “The primary process may offer a series of hypothetical” original products “but only one of them is the real, or desired [...] and it must ultimately be chosen by the secondary process” (Arieti, 1976, 86).

Now the creative process is likely to function only if agglomeration transfers as many potentially valuable combinations to its discriminative counterpart as possible. The “blind-variation-and-selective-retention model unequivocally implies that *ceteris paribus*, the greater the heterogeneity and volume of trials the greater the chance of a productive innovation.” (Campbell, 1960, 395) The rationale underlies a variety of creativity techniques, such as brainstorming (cf. Jaumotte, 1976, 317), and is as simple as it is compelling: “Doubling the number of efforts very nearly doubles the chance of a hit” (Campbell, 1960, 395), the “more numerous and the more varied such trials, the greater the chance of success.” (ibid., 391) Similarly Mednick, Mednick and Jung (1964b, 511) argue that the “sheer number of associations” is “directly related to the probability of reaching a creative solution”. The higher the output of original products by the agglomerative process, the more likely discrimination finds those among them that can satisfy the value condition. (cf. ibid.) On a typological level, then, agglomeration (referent) qua output maximisation probabilistically refers to discrimination (relatum) to satisfy the novelty condition.

This has already been perfectly described in 18th century poetics. For Gerard (1966, 78), the fact that a “FERTILE imagination is apt to overload a work with a superfluity of ideas” is precisely the strength of imagination, provided that “an accurate judgement rejects all that are unnecessary.” In a letter of December 1, 1788, Schiller (1859, 382f.) describes this rationale paradigmatically:

Der Grund Deiner Klagen liegt, wie mir scheint, in dem Zwang, den Dein Verstand Deiner Imagination auflegte. Ich muss hier einen Gedanken hinwerfen und ihn durch ein Gleichnis versinnlichen. Es scheint nicht gut und dem Schöpfungswerke der Seele nachteilig zu sein, wenn der Verstand die zuströmenden Ideen, gleichsam an den Thoren schon, zu scharf mustert.

⁹ They are “imposed at every step”. (Campbell, 1960, 393)

[...] Bei einem schöpferischen Kopfe hingegen, deucht mir, hat der Verstand seine Wache von den Thoren zurückgezogen, die Ideen stürzen pêle-mêle herein, und alsdann erst übersieht und mustert er den großen Haufen. [...] Daher Eure Klagen über Unfruchtbarkeit, weil Ihr zu früh verwerft und zu strenge sondert.

4 Conclusions

It has been shown that both 18th century poetics and 20th century creativity psychology conceptualized the creative process on a structural level as dual-typological, i.e., as a specific interplay between two process types called agglomeration, and discrimination, which have been analysed in terms of their respective functions, rules, and modes. Agglomeration is understood as paradigmatic structuring in the sense that it loosely clusters an abundance (mode) of semantically similar (rule) ideas into novel complexes (function). Discrimination refers to syntagmatic structuring in the sense that it arranges an ideational paradigm teleologically (mode) and logically (rule) into a semantically and syntactically correct, i.e., valuable (function) product. Since for a product to be creative, it must meet the novelty and the value condition, agglomeration and discrimination must interact. Both process-types interact without limiting each other. On the contrary, they reinforce their respective work. It was shown that this is realized as follows: Agglomeration (referent) relates probabilistically qua output maximisation to discrimination (relatum) to meet the novelty condition (i.e., it transfers as many original combinations as possible to increase the chance for discrimination to find among them those that are also potentially valuable). Discrimination (referent) maintains a deterministic relation qua output minimisation to agglomeration (relatum) to secure the value condition (i.e., it evaluates, selects, and elaborates novel ideas generated by agglomeration and occasionally transfers some of them back to its typological counterpart for further inventive ideation).

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