

NOVALIS' COMBINATORIAL POETICS

Louise Fabian

Die Combinatorische Analysis führt auf das Zahlenfantasiren – und lehrt die Zahlen compositionskunst – den mathematischen Generalmaß. (Pythagoras, Leibnitz.) Die Sprache ist ein musikalisches Ideen Instrument. Der Dichter, Rhetor und Philosoph spielen und componieren grammatisch.

Novalis

The encyclopaedic project and the romantic aesthetic

Friedrich von Hardenberg (1772-1801) is mostly known under the pseudonym Novalis as a poet and a philosopher. But beside his philosophising and his literary writing Novalis also intensively studied a variety of fields in the natural sciences. From 1798-99 Novalis studied at the Freiburger Bergakademie. Alongside subjects concerning mineralogy and mining Novalis studied chemistry, physics, mathematics and medicine.

Novalis' epistemological considerations form a basis for a creative adaptation of concepts taken from the natural sciences. In this process of adaptation a poetological reinterpretation of scientific concepts takes place. At the same time scientific concepts from chemistry, physics, mathematics and mineralogy leave traces in his epistemological and poetological considerations and terminology.

My motivation for the following work has been a desire to research in which manner philosophical, scientific and poetological modes of thought reciprocally inspire each other in the works of Novalis. With the purpose also of characterising Novalis' own writing praxis, which I will call his combinatorial poetics, I will examine how he links together language, music and mathematics.

Novalis' corpus of texts dealing with the natural sciences is composed to a large extent of excerpts of and comments on other scientists' works. It is often difficult to determine where Novalis' paraphrasing stops and his own independent reflection and critical adaptation begins. Novalis' originality lies amongst others in his

attempt to bring together the different fields in an encyclopaedic dialogical reflection. This attempt is made primarily in *Das Allgemeine Brouillon* (from now on referred to as AB). AB is made up of a collection of 1151 texts. Some of these are merely short notes, others longer discourses. AB alternates between a systematic discipline and an apparently playful series of associations. AB has the subtitle *Materialien zur Encyclopädistik*. Already the choice of the word "Materialien" reveals that the work consists of provisional outlines for an encyclopedic project.

The word encyclopedia has its origin in the Greek expression "enkyklios paidei" meaning general learning. AB considers themes of mathematics, epistemology, physics, chemistry, mineralogy, medicine, psychology, sociology, moral philosophy, history, politics, poetics, music, aesthetics, even heraldry and the monetary system. Novalis' interest spans the different sciences methodology and process of cognition. In the encyclopedic project the different sciences are ideally supposed to rest on the same foundation. The goal of AB is to constitute the science of science. One of the premises for Novalis' encyclopedic project is the assumption that every individual science bears the seeds of the joint sciences. Novalis speaks repeatedly about a "Potensierung" and "Poetisierung" of the individual sciences. In mathematics the concept "potenzieren" refers to the process of multiplying a number with itself one or more times. That science should be multiplied with itself such that it becomes the science of science is a gesture that is repeated in Friedrich Schlegels¹ (1772-1829) claim that poetry should be "zugleich Poesie und Poesie der Poesie" and in Novalis' term "Logologie". The pattern of this self-reflexive mode can already be found in the explicit intention expressed in Johann Gottlieb Fichte's *Wissenschaftslehre* of being the science of science ("die Wissenschaft von der Wissenschaft überhaupt"²). In this gesture Fichte (1762-1814) understood himself as thinking in the tradition of Immanuel Kant. (1724-1804) Kant claimed that attention must be turned towards the conditions that make knowledge possible

¹ From now on when I write Schlegel it is Friedrich Schlegel, not his brother August Wilhelm Schlegel (also a member of the innercircle of the Jenaromantics) I am referring to.

² p. 117 in Fichte's *Ueber den Begriff der Wissenschaftslehre* (1794) and *Grundlage der gesamten Wissenschaftslehre* (1794/5) Studentenausgabe, Friedrich Fromann Verlag, Stuttgart 1969.

at all. Kant differentiated between our experience of the object and the transcendental conditions for something being experienced as an object. By giving Romantic poetry the predicate 'transcendental', Schlegel expresses the intention that the Romantic writing in the tradition of Kant has to reflect the conditions of its own production. For Novalis the qualitative quantum leap that characterizes the Romantic mode is borne exactly by the afore mentioned term "to square". "Die Welt muß romantisiert werden. So findet man den ursp[rünglichen] Sinn wieder. Romantisieren ist nichts, als eine qualit[ative] Potenzierung." (Novalis bd. 2 p. 334 nr. 105).

The encyclopedic project can be seen as subscribing to the Romantic aesthetic and poetology as it is propagated by Schlegel in the famous Athenäum fragment 116:

Die romantische Poesie ist eine progressive Universalpoesie. Ihre Bestimmung ist nicht bloß, alle getrennte Gattungen der Poesie wieder zu vereinigen und die Poesie mit der Philosophie und Rhetorik in Berührung zu setzen. [...] Die romantische Dichtart ist noch im Werden; ja das ist ihr eigentliches Wesen, daß sie ewig nur werden, nie vollendet sein kann.³

Schlegel announces the utopia of the early German romantics as that of bringing together politics, natural science, religion and art in a "progressive universal poetry" (*Progressive Universalpoesie*). "Poesie" appears as the modality that can bring together that which is split. Novalis writes "Durch Poesie entsteht die Höchste Sympathie und Coactivität, die innigste Gemeinschaft des Endlichen und Unendlichen" (Novalis bd. 2 p. 322 nr. 31)

Schlegel and Novalis repeatedly reflect on a possible form that is potentially able to realise the demand of a romantic aesthetic. The ideal, not yet realised form is often referred to as "the novel" or as "a romantic book". Like the Athenäum fragments and the Lyceum fragments a number of the "fragments" in AB contains considerations as to which aesthetic form romantic writing should take in order to live up to the ideal of "Universalpoesie". The fragments relate to this ideal by being fragments of that, which, by definition, can only be in

³ p. 114-115 nr. 116 in: Friedrich Schlegel, *Kritische Schriften und Fragmente* Studienausgabe bd. 2, Ferdinand Schöningh, Paderborn 1998. From now on referred to as: (Schlegel bd. X p. X nr. X)

the making. Novalis repeatedly uses the word Bible to describe his encyclopedic project. "Mein Buch soll eine wissenschaftliche Bibel werden - ein reales und ideales Muster - und Keim aller Bücher" (my underlining; Novalis bd. 2 p. 599 nr. 557). In the above quotation the romantic imperative "Soll werden" is activated. The Romantic modus "soll werden" is hypothetical, imperative and hyperbolic. The crowning feature is Novalis' statement that "Die Welt muß romantisiert werden" (Novalis bd. 2 p. 334 nr. 105), but language too must "wieder Gesang werden." The formulated intention, that language must be turned in to song, is interesting to note in relation to Novalis' repeated stressing of the inherent similarities between music and language. (I will comment on this connection later.)

The romantics dreamed of representing the unrepresentable. The only way they could deal with this unrealizable goal was to present it negatively, as being unrepresentable. Novalis writes: "Wenn der Character des gegebenen Problems Unauflöslichkeit ist, so lösen wir dasselbe, wenn wir seine Unauflöslichkeit darstellen" (Novalis bd. 2 p. 613 nr. 612). With a romantic sense of the paradoxical one could say, that the truly romantic work is the absence of the work. Schlegel and Novalis examine possible rhetorical strategies to compensate for the impossibility of representing the absolute. Schlegel, with whom Novalis was in close contact, reflects this in his elaborations on the redefinitions of irony, allegory and "Witz".

Schlegel reflects the impossibility of representing the absolute in his announcement of romantic irony as rhetorical strategy. Schlegel writes on irony that: "Sie enthält und erregt ein Gefühl von dem unauflöselichen Widerstreit des Unbedingten und des Bedingten, der Unmöglichkeit und Notwendigkeit einer vollständigen Mitteilung" (Friedrich Schlegel bd. 1 p. 248 nr. 108). The exemplary model for Schlegel's reflections on the term irony is Socrates. In the Socratic dialogue Schlegel finds a classic example of a process of thinking in which the answer to one question leads to the next question in what is principally an infinite process. Schlegel stresses that this process aims at a higher target - a target that is unknown to the reader (the "pupil" in the Socratic dialogue). Socrates' irony lives in the breadth of his vision of the process and his restrained unstated certainty as to its final goal. Plato's dialogues end in unresolved silence (gr. *aporia*). Language is in the end insufficient. Socrates can lead the pupil to a

certain point, but the possibility of realising the final insight is left to the pupil. Parallel to this, the romantic fragment ends in an incompleting questioning silence that ideally points towards the unachievable absolute. The irony's unending hovering between construction and deconstruction should, seen from an ideal point of view, create an unending movement that remains silently pointing to an unachievable goal.

Irony as a critical strategy reflects the subject's view as being final and limited. But at the same time it has a progressive potential in its pointing beyond the single horizon. In its form irony reflects the dilemma between on the one hand the knowledge of the consciousness of the single subject being fragmentary and conditioned and on the other the longing for the absolute. The reader of *Das Allgemeine Brouillon* has to keep the romantic irony in mind, in order to understand how the work's claimed correspondences might be understood. Novalis' outline of a romantic encyclopedia is structured as a prelude, whereby it places itself in a romantic ironic aesthetic, according to which thinking is always in the process of becoming.

Being and Signifying

Since G. W. F. Hegel's (1770-1803) critique of the Romantics it has been a widespread simplification that the Romantics broke with Fichte simply by using his philosophical principals in relation to art. This misunderstanding has contributed to Schlegels' and Novalis' work almost exclusively being understood in terms of an aesthetic viewpoint. The Romantic research of the last decades, thanks to a large degree to the work of Manfred Frank, dealt with this and pointed out that Schlegel and Novalis - from the perspective of an immanent critique of Fichte's idea of the absolute I - develop a new conception of transcendental philosophy.

German Idealism tried to redefine reality as a system. Karl Leonhard Reinhold (1758-1823) formulated the first assignment that should be decisive for German Idealism - to search for an absolute principle that could explain reality as a system. Reality is conceived as saturated with this principle. Kant had described reason as a systematic attribute that strives towards unity and order. Inspired by Kant it was also a system of reason - with absolute reason as the acting principle - the German Idealists tried to work out. Kant had also claimed that a determination of reality as a totality could never be

given in experience and thereby that a determination of reality as a system was merely a regulative idea.

According to Schlegel the idealist ambition to conceive reality as a system is impossible because it presupposes that the absolute can be grasped by the subject. Schlegel writes in Athenäum fragment 53: "Es ist gleich tödlich für den Geist, ein System zu haben, und keins zu haben. Er wird sich also entschliessen müssen, beides zu verbinden." (Schlegel bd. 2 p. 109 nr. 53) Novalis places himself in an ambivalent relation to the search for the system, as does Schlegel. The primary difference between German Romanticism and Idealism consists in Idealism having a concept of consciousness as a self-sufficient phenomenon, that through its own power is able to make its own conditions tangible, whereas the early German Romantics maintain that self consciousness is founded in an unattainable transcendental foundation, that cannot be made accessible to the conditioned consciousness.

The absolute foundation is in the terminology of Novalis also named "Seyn" or "das Unbeschränkte".

Knowledge, according to Novalis, originates in the I's reflective relation to the absolute being. The I is a part of, but not equal to absolute being. Novalis writes in *Fichte-Studien*

Was für eine Beziehung ist das Wissen? Es ist ein Seyn außer dem Seyn, das doch im Seyn ist.

/Theilen - vereinen/

Das Bewußtseyn ist ein Seyn außer dem Seyn im Seyn.

Was ist aber das?

Das außer dem Seyn muß kein rechtes Seyn seyn.

Ein unrechtes Seyn außer dem Seyn ist ein Bild - Also muß jenes außer dem Seyn ein Bild des Seyns im Seyn seyn.

D[as] Bewußtseyn ist folglich ein Bild des Seyns im Seyn.

Nähere Erklärung des Bildes./ Zeichen/ Theorie des Zeichens.
/Theorie der Darstellung oder des Nichtseyns im Seyn, um das Seyn für sich *auf gewisse Weise da* Seyn zu lassen (Novalis bd. 2 p. 10)

The I experiences itself as mere picture of being, as only a sign of being. Because the I is nothing more than a picture of being, Novalis is

able to call it "non-being" (Nichtseyn). The I is for Novalis defined by its **lack** of being.

That the I experiences itself only as a representation of being leads to its finding itself in a longing for its own absolute reason. Novalis identifies in *Fichte-Studien* this search for absolute reason as being the core problem philosophy is dealing with:

Filosofiren muß eine eigne Art von Denken seyn. Was thu ich, indem ich filosofire? Ich denke über einen Grund nach. Dem Filosofiren liegt also ein Streben nach dem Denken eines Grundes zum Grunde (Novalis bd. 2 p. 180 nr. 566).

But the single human being, caught in the finality of its own perspective is unable to assume "Gods' point of view". The reflection - in its being only a reflection - is unable to define its own absolute foundation. Novalis continues: "Dies uns gegebne Absolute lässt sich nur negativ erkennen indem wir handeln und finden, daß durch kein Handeln das erreicht wird, was wir suchen" (ibid. p. 181).

Of the primordial foundation we can have no knowledge. But Novalis points to another faculty alongside knowing namely "Gefühl" (feeling). Via reflecting on what is given to us in "Gefühl" we can logically reconstruct the necessity of the absolute foundation. Novalis describes a reciprocal dependence between "Gefühl" and reflection. Reflection is described as a mirroring: "Das erste Bezeichnende wird unvermerkt vor dem Spiegel der Reflexion sein eignes Bild gemahlt haben, und auch der Zug wird nicht vergessen seyn, daß das Bild in der Stellung gemahlt ist, daß es sich selbst mahlt"(Novalis bd. 2 p. 15 nr. 11). But the mirror reveals the reflected reversed. Novalis uses the mirror image to describe the relationship between the conditional and the unconditional as it is experienced by the individual. Novalis maintains that in "Gefühl" absolute being is in a sense revealed, that is to say a movement from the unconditioned to the conditioned takes place. (Novalis bd. 2 p. 19-20, nr. 17) But in reflection this movement is experienced in reverse. In the finite consciousness of a person it is as if this movement goes from the conditional to the unconditional: "Sobald das Absolute, wie ich das Ursprünglich Idealreale und realideale nennen will, als Accidens, oder halb erscheint, so muß es verkehrt erscheinen das Unbeschränkte wird beschränkt et vice versa" (my underlining; Novalis bd. 2 p. 19 nr. 17). I have earlier

pointed out that Novalis describes philosophical thinking as a never ending search, but in the horizon of Novalis this search also becomes a search "home" - a search back to the lost identity, even though this identity was never realised in the individual human being.

The earlier philosophy of Novalis revolves around consciousness' lack of ability to reflexively access its own absolute fundament. The only way the finite I can grasp its own absolute being is by understanding itself as a sign of it. The next step in this line of thought is that the finite I itself plays the role as the constructor of meaning. The I produces its own relation to the absolute being in that it understands itself as a sign. The words "Repraesentation" and "Darstellung" play a very important role in the thinking of Novalis. Being can only be experienced if it is presented as signs in time and space. As Novalis writes in the beginning of *Fichte-Studien*: "Wir verlassen das Identische um es darzustellen" (Novalis bd. 2 p. 8 nr. 1). Consciousness is described as stated above, as a picture of being in being. The consciousness of the I realises itself in the construction and use of pictures and signs. Inspired by Fichte, Novalis imagines that the I is first realised in the determination of the non-I (In the following quote Novalis uses the term non-I in accordance with Fichte, although it must be kept in mind that the empirical world has a complete other status in Novalis). To achieve representation the I and the surrounding empirical world are in a reciprocal dependency on each other:

Deutlich wird etwas nu[r] du[rch] Repraesentation. Man versteht eine Sache am leicht[este]n, wenn man sie repraesentiert sieht. So versteht man das Ich nur insofern es vom N[icht] I[ch] repraesentiert wird. Das N[icht]I[ch] ist das Symbol des Ich, und dient nur zum Selbstverständniß des Ich. So versteht man das N[icht]I[ch] umgekehrt nur insofern es vom Ich repräsentiert wird, und dieses sein Symbol wird. (Novalis bd. 2 p. 478 nr. 49)

One of the most difficult notions of Novalis' thinking is contained in the question of how Novalis attempts to unite an idealistic and a realistic approach. Novalis calls in *Fichte-Studien* the absolute: das Ursprünglich Idealreale und Realideale. In order to obtain representation the I and the non-I are reciprocally dependent on each other. Novalis attributes new meaning to the old philosophical and theological idea that the I is unable to create something out of

nothing. There has to be a something available providing the material of recognition: "Es muß ihm alles *Gegeben* werden - Aber es kann nur ihm etwas gegeben werden und das Gegebene wird nur durch Ich etwas." (Novalis bd. 2 p. 185). The consequence of this premise is, that it places the experiencing individual in an internalising relation to the external world.

The spirit ("Geist") will determine that which affects it. It wants to make that which is foreign its own. In this determination language plays a defining role. Words, signs and letters are the tools of the determining subject. The famous first Blütenstaub-fragment "Wir *suchen* überall das Unbedingte, und finden immer nur Dinge" (Novalis bd. 2 p. 226 nr. 1) speaks not only of the infinite search, it can also be interpreted as an assertion that people realize themselves in their turning towards the world: "In der Welt muß man mit der Welt leben" (Novalis bd. 2 p.221 nr.12) as Novalis in *Kant-Studien* would have it. The I that imagines itself as productive becomes the dynamo in Novalis understanding of "Poesie" as a creative activity.

The musicality of thinking.

When thinking is described as the use and production of signs, language as a consequence hereof takes on a very central and important role. "Der Mensch spricht nicht allein - auch das Universum spricht - alles spricht - unendlichen Sprachen/ Lehre von Signaturen." (Novalis bd. 2 p. 500 nr.143) Not only the human being but the whole universe speaks. It could be tempting to interpret such a statement as a symptom of a nature-mystic tendency in the thinking of Novalis. No doubt this tradition is also present in the thinking of Novalis. But it is here that the theory of being and sign developed in *Fichte-Studien* must be kept in mind. In *Fichte-Studien* Novalis described, how every being, that is not the absolute being, relates to the absolute being as the sign to the designated. Everything in the world is a sign of the absolute being and can be read as such.

A potential tension can be registered in Novalis' reflections on language, between on the one hand a neoplatonic sensibility for a communicating world and on the other hand a description of language as an act and as an arbitrary system of signs. "Die ganze Sprache ist ein Postulat" (Novalis bd. 2 p. 347 nr. 141) writes Novalis in *Vorarbeiten* from 1798. One of the differences between Novalis and the medieval mysticists is obviously that for Novalis the signs are

dependent on recognition by the deciphering subject. When Novalis gives expression to the idea of a speaking universe in the above quote he places himself in a long tradition. The metaphor "the book of Nature" had its time of greatness from the late Middle Ages up to Enlightenment. This metaphor carries with it a heavy theological inheritance in the form of the idea that human beings are able to see signs of Gods existence and capabilities in his creation. The following introduction to *Die Lehrlinge zu Sais* can illustrate how this tradition is present not least in Novalis literary works.

Mannichfache Wege gehen die Menschen. Wer sie verfolgt und vergleicht, wird Wunderliche Figuren entstehen sehn; Figuren die zu jener großen Chifferschrift zu gehören scheinen, die man überall, auf Flügeln, Eierschalen, in Wolken, im Schnee, in Krystallen und in Steinbildungen, auf gefrierenden Wassern, im Innern und Außern der Gebirge, der Pflanzen, der Thiere, der Menschen, in den Lichtern des Himmels, auf berührten und gestrichenen Scheiben von Pech und Glas, in den Feilspänen um den Magnet her, und sonderbaren Conjunctionen des Zufalls erblickt. In ihnen ahndet man den Schlüssel dieser Wunderschrift, die Sprachlehre derselben.... (Novalis bd. 1. p. 201)

In terms of my focus it is worth noting to what degree elements from the scientific endeavours of the time show up in the series of speaking signatures: Ernst Florens Friedrich Chladni's sound figures ("berührten und gestrichenen Scheiben von Glas und Pech"), magnetism ("in den Feilspänen um den Magnet her") and mineralogy ("Im Innern und Außern der Gebirge", "Kristallen", "Steinbildungen"). These are all areas of the natural sciences that had the attention of philosophical and aesthetic thinkers of the time.

Chladni's sound figures are a characteristic example of the dialogue that takes place between scientific, philosophic and aesthetic considerations. Chladni (1756 –1827) was an acoustic theoretician and inventor of musical instruments. He covered a metal plate with a layer of sand and send vibrations through the plate with a violin bow. By pulling the bow against the edge of the plate static electricity is produced. The vibrations shake the sand away from the areas of the plate that are in motion and place it in areas of stillness, whereby geometrical patterns are formed. Chladni was a great inspiration to the Romantics. The sound figures were interpreted as a sign that also

nature was musical - a tangible confirmation that God's creation was made up of signs, language and text. The discovery of sound figures was in aesthetic theory claimed as a confirmation that there was a fundamental kinship between the signs of nature and those produced by man. One of the fascinating things about the sound figures was that they seemed to be able to make the auditory visual. The acoustic beauty seemed to be reflected in the harmony of the sound figures and they became a symbol of the pleasurable sound the ear is able to receive.

To Novalis the sound figures were attractive not least because they united a sound tonality and a mathematically geometrical figure. Since early history we have known of a concept of music as "the essence of the physical world" and of the beauty of music as an expression of heavenly harmony. Novalis is fascinated by the structural similarity he registers between music, mathematics and language. Novalis repeatedly speaks of language, philosophy and mathematics as having rhythm, tone, beat etc.

In the poetics of the 18th century one can observe a shift from *Ut pictura poesis* to *Ut musica poesis*. By being connected to music the poetic sign is placed in a temporal structure, whereby it is made dynamic instead of static. Novalis' accentuation of the musicality of thinking and of the musicality of language implies a new understanding of what kind of truth language can express.⁴ In the second half of the 18th century one can observe a shift from an understanding of language as a symbolic representation of preconstructed objects to an understanding of language as playing a much more active role in the construction of meaning. This shift has to be seen in relation to Kant's analysis of the subject's active role in the construction of judgements. But Schlegel and Novalis also transgress Kant in their celebration of the constructing role of language. The constructing language user is in the perspective of Schlegel and Novalis the single individual (often represented by "the poet"), whereas Kant speaks of "das allgemeine Subjekt".

⁴ Andrew Bowie has amongst others in his work *Aesthetics and Subjectivity from Kant to Nietzsche*, Manchester University Press 1990 and *From Romanticism to Critical Theory*, Routledge 1997 shown how the relation between music and language in the romantic period indicates new ways in which aesthetics is linked to different concepts of truth. Bowie has convincingly argued that the period's growing interest in non-representational music is connected to the idea that subjectivity can never be fully achieved through theoretical articulation.

Novalis does not involve himself with any form of interpretation of musical works. Music appears in his thinking via the predicate musical that is given to language and mathematics. Novalis is interested in the mathematical construction and tonal qualities of the musical material. In *Monolog* Novalis compares language with mathematical formulas.

Wenn man den Leuten nur begreiflich machen könnte, daß es mit der Sprache wie mit den mathematischen Formeln sei - Sie machen eine Welt für sich aus - Sie spielen nur mit sich selbst, drücken nichts als ihre wunderbare Natur aus [...] So ist es auch mit der Sprache - wer ein feines Gefühl ihrer Applicatur, ihres Takt, ihres musikalischen Geistes hat, wer in sich das zarte Wirken ihrer innern Natur vernimmt, und danach seine Zunge oder seine Hand bewegt, der wird ein Prophet sein (Novalis bd. 2 p. 426).

According to the above quotation mathematics and language each construct their own world, where the meaning of each sign is dependent not on referring to anything outside the system but rather on its relationship to the other signs within the system. The principle of creation of meaning is difference. A is A because it is not B, C or D. (Novalis bd. 2 p. 347 nr. 141).

This concept of difference as the meaning creating principle must be kept in mind when one wants to understand what Novalis means by the rhythm of thinking:

Alle Methode ist Rhythmus. Hat man den Rhythmus der Welt weg - so hat man auch die Welt weg. Jeder Mensch hat seinen individuellen Rhythmus. / Die Algebra ist die Poësie. / Rhythmischer Sinn ist Genie. / Fichte hat nichts, als den Rhythmus der Philosophie entdeckt und Verbalacustisch ausgedrückt (Novalis bd. 2 p. 544 nr. 382).

Without rhythm no thinking - that is the claim of the quotation. The rhythm links moments whereby the individual moment gets meaning from its relationship to other moments. According to Novalis rhythm is a decisive principle in the creation of meaning not just in music but also in language and in thinking as such. Rhythm constitutes the difference between chaos and order. As stated earlier in *Fichte-Studien* Novalis developed the thesis that to be grasped, being has to appear as signs in reflection. Music is the art form of time. Without

time a collection of signs cannot be accumulated - and thereby no music or thought.

Novalis' combinatorial poetics

Novalis' understanding of the musicality of language has consequences for his own use of language. I will suggest and examine the thesis that it is the discovery of a rhythmic combinatorial principle in thinking that Novalis consciously works with in his elaboration of AB.

Novalis is an experimental thinker. He experiments in the same way as an alchemist and the modern equivalent the chemist, with his material. The alchemist tries to mix different materials in different proportions and under different conditions in the hope of making gold. The chemist analyses substances by observing how they react together under different conditions. Novalis experiments with words. Novalis' text is a chemical laboratory where the compositions in different areas of knowledge and experience are being examined by observing how they react to one another.

In his time at Freiburger Bergakademie the theory of chemistry attracted his attention and concepts taken from chemistry influenced his thinking and not least his vocabulary. The problem that chemistry worked most closely on in the 17th and 18th century was an explanation of the process of combustion. Antoine Laurent Lavoisier (1743-94) discovered the primary role of oxygen in combustion and in other chemical reactions, whereby he contributed to the development of chemistry as a modern, experimental science. The discussions around the shift in theory from G. Stahl's theory, that when a substance burns it released a substance called flogiston (*Zymotechnia fundamentalis* 1697) to Lavoisiers theory of combustion (1777) was of great inspiration to Novalis. The theorie of combustion was applied by Novalis not only to fields within the natural science but also to disciplines such as history and psychology. Novalis writes for example "Der Proces der Geschichte ist ein Verbrennen" and another place: "Der Geist ist das *Oxigène des Körpers* - die Seele ist die eindringende Basis des Oxigens" (Novalis bd. 2 p. 553 nr. 409).

The term combination is in the terminology of Novalis closely linked to the term experiment. Any act of thinking is according to Novalis an experiment in that it suggests hypotheses and postulates. In the short text *Dialog* conversational partner B expresses the

necessity and productivity of hypotheses: "Hypothesen sind Netze, nur der wird fangen der auswirft" (Novalis bd. 2 p. 434).⁵ Novalis himself makes use of a hypothetic gesture in his invention of new areas of scientific knowledge. The encyclopaedia should not just be a sidelined collection of areas of knowledge but rather a synthetic connection of ideas and concepts. Novalis hopes that the meeting between different terms and ideas from different sciences will lead to new insights - yes, even to new sciences. This motivation is expressed in his inventive suggestions of a new concept for not yet existing sciences such as "poetische Psychologie", "geistige Physik" or "pathologische Logik". By using the rhetorical device *contradictio in adjecto* in the naming of the new sciences apparently paradoxical areas of experience are launched.

Any act of thinking reaches out to the world in an experimental searching gesture. Novalis' partiality for the word "Experiment" must also be seen in the light of the development of natural science in the period. The scientific experiment plays a defining and legitimating role in the development of modern science. Novalis explicitly lets the experiment within the natural science act as a model for the experiment inherent in any act of thinking. "Ein gutes physicalisches Experiment kann zum Muster eines innern Experiments dienen und ist selbst ein gutes innres subj[ectives] Experiment mit. (vid. Ritters Experimente)" (Novalis bd. 2 p.625 nr. 647) The experiments within science are linked to the productive activity of consciousnesses in Novalis' suggestion of an "Experimentalphysik des Geistes":

Algeber und combin[atorische] Analysis sind durchaus *kritisch*. Die unbekanntten fehlenden Glieder findet man durch *Syllogistik - Combinatorische Operationen der gegebenen Glieder*- (vid. Kants Verfahren - und mein Verfahren bey d[em] oryktog[nostischen] System.) [...]

Eine sichtbare *Architektonik* - und *Experimentalphysik des Geistes* - Eine Erfindungskunst der Wichtigsten Wort und Zeichen *Instrumente* läßt sich hier vermuthen.

(Instrumente sind gleichsam *reale Formeln*)

(Ihre W[issenschaft] ist eine Algeber dcr Physik und Technologie.)

Zeichenflächenform(figuren)bedeutungskunst (my underlining; Novalis bd. 2 p. 625 -626 nr. 648).

⁵ Unfortunately I do not have space here to show how this statement is itself placed in an ironic dialogical structure.

Kant's theory of knowledge is critical, in the sense that it turns attention towards its own conditions. When the combinatorial, analytical, experimental method in the quotation is given the predicate critical, it happens with an intertextual reference to Kant's critical philosophy. That thinking can be understood as a provisional creative experiment is a gesture that is explicitly led by Novalis back Kant and to Fichte's description of the absolute I's positing activity.

Alles kann zum Experiment - alles zum *Organ* werden. Ächte Erfahrung entsteht aus ächten Experimenten. (*Versuche sind Experimente*) Fichte lehrt das Geheimniß des Experimentirens - er lehrt Tatsachen und Thathandlungen, oder wirkliche Sachen und Handlungen - in Experimente und Begriffe verwandeln." (My underlining; Novalis bd. 2 p. 630 nr. 657)

Novalis' claim that Fichte taught the art of experimentation is symptomatic of Fichte's influence on the early German Romantics. From Kant German Idealism inherited the problem of "das Ding an sich". Fichte radicalises Kant's epistemology by trying to delete the "an sich" dimension. In this ambition he conceived himself as only fulfilling what Kant had already started. Fichte claims that there are two forms of philosophy: Idealism, that understands the object as a product of the intellect and Dogmatism, that understands the object as existing outside the subject. Fichte himself argues the Idealist position, in that he understands reality as a product of the absolute I. Fichte notes that logic has given us the law of identity $A=A$. But one can not say $A=A$ until A is posited by the subject. This observation gives rise to Fichte's introduction of his decisive philosophical concept "setzen", to posit. If one puts I in the place of A, i.e. $I = I$, one has captured what is for Fichte the fundament of all thinking. The I posits itself as a positing I. With Fichte the I is not a preceding substance but instead an action ("Thathandlung"). Fichte writes in *Grundlage der gesammten Wissenschaftslehre* 1794/5

Wir haben den absolutesten, schlechthin unbedingten Grundsatz alles menschlichen Wissen aufzusuchen. [...] Er soll diejenige Thathandlung ausdrücken; die unter den empirischen Bestimmungen unsers Bewust/seyns nicht vorkommt, noch

vorkommen kann, sondern vielmehr allem Bewusstseyn zum Grunde liegt, und allein es möglich macht.⁶

This fundamental determination of consciousness as action is what Novalis refers to when he claims that Fichte teaches the art of experimentation. I have earlier pointed out that for Novalis the activity of the determining subject consists in the use of signs. The act of thinking whereby one recognises and determines something as something is for Novalis an act of combining and experimenting with words. Novalis is occupied with the mathematical aspect of the combining activity. He is fascinated by the possibility of grasping an inner logic in the outer world through combinations of letters and numbers. He thereby places himself in a tradition that is known from the Pythagoreans, alchemists and Cabbalists but also from Leibniz' attempt to develop a cosmic combinatorial analysis. Novalis is drawn to the creative aspect of math. Already Kant had identified mathematics as a creative activity. In the preface to the second edition of *Kritik der reinen Vernunft* Kant writes:

Dem ersten, der den gleichseitigen Triangel demonstrierte (er mag nun Thales oder wie man will geheißten haben), dem ging ein Licht auf; denn er fand, daß er nicht dem was er in der Figur sahe, oder auch dem bloßen Begriffe ablernen, sondern durch das, was er nach Begriffen selbst a priori hineindachte und darstellte (durch Konstruktion), hervorbringen müsse... (B XI-XII; Kant KdrV p. 22)

In Kant Novalis also finds a definition of consciousness as a synthetic activity. Kant describes the synthetising activity of the mind as a premise for the world to become intelligible for the subject.

Likewise the identity of the subject -the "Apperception" depended on an synthetic activity; "die a n a l y t i s c h e Einheit der Apperzeption ist nur unter der Voraussetzung irgend einer synthetischen möglich." (KdrV p. 137 (B134)) In the horizon of Novalis the synthetic activity is not only an activity of the mind, but radically conceived as a potential tool for the writing, perceiving, creating activity of the individual subject.

⁶ p. 255 i Johann Gottlieb Fichte, *Ueber den Begriff der Wissenschaftslehre* (1794) and *Grundlage der gesamten Wissenschaftslehre* (1794/95) Studenttextausgabe, Friedrich Frommann Verlag, Stuttgart-Bad Cannstatt 1969.

One of the premises for the expectation that it is fruitful to create connections between the concepts of different sciences can be found in the expectation of analogies present in the world. The concept of analogy plays an important role in the thinking of Novalis. The seductive power of analogy is as old as seduction itself. Thinking in analogies is known from the medicine of the Middle Ages, where it is imagined that God communicates to people via similarities inherent in the animal and vegetable kingdom. God makes beans look like kidneys, thereby signalling that this plant is good for kidney diseases. Metaphors likewise function by claiming resemblance. By claiming my love is like a rose, I transfer the qualities of the rose to my love. Analogy is consequently a powerful element in thinking. As Michel Foucault, in *Les mots et les choses* has drawn our attention to, people in western cultures orientated themselves in the world through a cosmography based on analogies up to the end of the 16th century⁷. Knowledge of the cosmological order rests on a registration and interpretation of signatures. Novalis is inspired by the Hermetic tradition, particularly by Paracelsus and Jacob Böhme. But the nature-mystic tradition implies a cosmic coherence that one cannot attribute without reservations to the thinking of Novalis. Novalis writes with a typical romantic gesture that the correspondences "are not", but that they "shall come": "Der allgemeine innige, harmonische Zusammenhang ist nicht, aber er *soll* seyn." (Novalis bd. 2 p. 680 nr. 885). The correspondences between the microcosm and the macrocosm have to be understood within the previously mentioned framework of the Romantics utopian figure "*soll werden*". The correspondences appear, according to the quotation, not realised but only negatively as something that has yet to be realized. The partiality for analogies must be seen in the light of Novalis' search for possible signs of a unity in nature. The analogies can potentially be interpreted as signs of nature's hidden unity. The concept of a postulated unity behind the infinite number of single expressions functions as what Kant would call a regulative idea. Nature's unity cannot be made into an object for experience, but that does not hinder one to search for such a unity.

⁷ p. 76 in Michel Foucault, *Ordene og tingene - en arkæologisk undersøgelse af videnskaben om mennesket*, Spektrum 1999.

The search for possible signs of a unity in nature found expression in the looking for indices that there was no absolute distinction between the organic and the inorganic. The Romantics were looking for forms of transition between the kingdoms of nature⁸. Novalis considered the stone "Karfunkel" a borderline case as did Ritter the precious stone "Turmalin". Ritter argued by noticing that it was possible to polarise this specific stone by heating it. That an object could show sensitivity to electrical stimuli was a phenomenon that caused great interest within the Romantic philosophy of nature. As a consequence Ritter claimed, with a typical romantic hyperbole, that surely the whole world worked as a turmalin.

The great interest in electricity started with a pair of jerking frog legs. Luigi Galvani (1737-98), Professor of anatomy at the University of Bologna, conducted a number of experiments with frogs legs where he noted that they kicked when connected to metal. He explained this reaction as a product of animal electricity and claimed that he had done nothing less than grasp the life force in all living beings⁹. In 1794 Alessandro Volta (1745-1827) claimed to have repudiated Galvani's thesis by a discovery of another form of electricity - contact electricity. Volta was of the opinion that the movement in the frogs legs was caused by the charge of contact electricity produced by two different metals touching each other.

Ritter is surely the physicist that has had the greatest effect on Novalis. Ritter was the first person to produce empirical evidence for the material causes of spontaneous production of electrical charges. Ritter explained this "galvanistic action" as a result of chemical processes and thereby claimed to solve the ongoing dispute between Volta and Galvani. Ritter discovered that the electric power of the Volta column is caused by a chemical process, that is to say not merely by the contact between two metals as Volta thought. Ritter claimed that the electrical current was caused by the actual touching of different materials (organic or inorganic). Ritter's explanation of the link of galvanistic current to chemistry and thereby to Lavoisier's discovery of the role of oxygen in chemical processes lays the basis

⁸ A more humorous product of this tendency is expressed in the following claim by Novalis "Wasserpflanzen sind vegetabilische Fische" (Novalis bd. 2 p. 821 nr. 382).

⁹ Irene Bark, "Steine in Potenzialen" - *konstruktive Rezeption der Mineralogie bei Novalis*, Max Niemeyer Verlag: Tübingen 1999, p. 389.

for the enormous weight Novalis places on Galvanism. Ritter's linking of Galvanism and chemistry stimulated Novalis questioning to a possible source of activity in nature, by opening up to a possible link between the organic and inorganic. Ritter's Galvanism theory allowed Novalis not only to bridge the organic and inorganic but also the material and the spiritual.

Ritter sucht durchaus die eigentliche Weltseele der Natur auf. Er will die sichtbaren und ponderablen Lettern lesen lernen, und das *Setzen* der höhern geistige Kräfte erklären. Alle äufre Prozesse sollen als Symbol und letzte Wirkungen innerer Prozesse begreiflich werden (Novalis bd. 2 p. 816 nr. 368).

We can conclude that combination is for Novalis a speculative term as well as a practical tool. Novalis writes in AB:

Manche mathem[atische] Aufgabe läßt sich nicht einzeln, sondern nur in Verbindung mit andern - aus einem höhern Gesichtspuncte - durch eine combinatorische Operation auflösen (Novalis bd. 2 p. 597 nr. 549).

The quoted description of the process in which something is elevated to a higher level by being introduced in new connections reflects his hope for his own praxis in AB. An alchemist's dream of making gold via new combinations of that which is already at hand. That Novalis has to kiss a large number of Galvanistic frogs in the process is another case.

Works cited

- Irene Bark, "*Steine in Potenzen*" - *Konstruktive Rezeption der Mineralogie bei Novalis*, Max Niemeyer Verlag, Tübingen 1999.
- Ernst Behler, *Studien zur Romantik und zur idealistischen Philosophie* bd. 1 og 2 Ferdind Schöningh, Paderborn, München, Wien, Zürich 1993.
- Andrew Bowie, *From Romanticism to Critical Theory - The philosophy of German literary theory*, Routledge, London 1997.
- Andrew Cunningham and Nicholas Jardine (edd.) *Romanticism and the sciences* Cambridge University Press 1990.
- Dan Ch. Christensen, *Fysik som kunst - romantikerne i Jena.*"Glem ikke, at vi er kunstnere" in: *Krydsfelt - Ånd og natur i Guldalderen*, Gyldendal, København 2000.
- Johann Gottlieb Fichte, *Ueber den Begriff der Wissenschaftslehre* (1794) und *Grundlage der gesamten Wissenschaftslehre* Studentextausgabe, Friedrich Frommann Verlag, Stuttgart-Bad Cannstatt 1969.

- Manfred Frank, *Einführung in die frühromantische Ästhetik - Vorlesungen*, edition Suhrkamp, Frankfurt am Main 1989.
- Manfred Frank "Unendliche Annäherung" - *Die Anfänge der philosophischen Frühromantik*, Suhrkamp Taschenbuch Wissenschaft, Frankfurt am Main 1998.
- Manfred Frank, *Philosophische Grundlage der Frühromantik* in: Athenäum Jahrbuch für Romantik 4, Paderborn Münschen 1994, p. 37-130.
- Manfred Frank, *Der Text und sein Stil - Schleiermachers Sprachtheorie*, in: *Das Sagbare und das Unsagbare*, Suhrkamp Taschenbuch Wissenschaft, Frankfurt am Main 1989 p. 15-38.
- Manfred Frank (ed.), *Selbstbewußtseinstheorien von Fichte bis Sartre*, Suhrkamp Taschenbuch Wissenschaft, Frankfurt am Main 1991.
- Novalis - *Geheimnisvolle Zeichen*, Herausgegeben von der Forschungsstätte für Frühromantik und den Novalis-Museum Schloss Oberwiederstedt, Berlin Edition, Leipzig 1998.
- Johann Wolfgang von Goethe *Werke Bd. 12* Hamburger Ausgabe, Deutscher Taschenbuch Verlag, München 1981.
- Martin Götz, *Ironie und absolute Darstellung - Philosophie und Poetik in der Frühromantik*, Ferdinand Schöningh, Paderborn, München, Wien, Zürich 2001.
- Andrew D. Jackson, *Klangfiguren* in: *Krydsfelt - Ånd og natur i guldalderen*, Gyldendal, København 2000.
- Immanuel Kant *Prolegomena zu einer jeden künftigen Metaphysik die als Wissenschaft wird auftreten können*, Felix Meiner Verlag, Hamburg 1993.
- Immanuel Kant, *Kritik der reinen Vernunft*, Suhrkamp Taschenbuch Wissenschaft, Frankfurt am Main 1997.
- Bernward Loheide, *Fichte und Novalis - transcendentalphilosophisches Denken im romantischen Diskurs*, Rodopi, Amsterdam, Atlanta 2000.
- Barbara Naumann, "Musikalisches Ideen-Instrument" - *Das Musikalische in Poetik und Sprachtheorie der Frühromantik*, Verlag J. B. Metzler, Stuttgart.
- Johann Neubauer, *Symbolismus und symbolische Logik*, Wilhelm Fink Verlag, München 1978.
- Novalis *Schriften* bd. 1-3 edd. by Hans Joachim Mähl, Wissenschaftliche Buchgesellschaft Darmstadt, Carl Hanser Verlag, München, Wien 1978.
- Günter Oesterle, *Arabeske, Schrift und Poesie in E.T.A. Hoffmanns Kunstmärchen "Der goldne Top"*, in: Athenäum Jahrbuch für Romantik 1 1991, Paderborn, München 1991, p. 69-107.
- Olaf Pedersen, *Naturerkendelse og Theologi*, Poul Kristensens Forlag, Herning 1996.
- Olaf Pedersen, *Naturens bog - strejftog omkring en metafor* in: *Naturens bog* red. Svend Andersen, Forlaget Anis 1986, p. 12-33.
- Friedrich Schlegel, *Kritische Schriften und Fragmente* Studienausgabe bd. 1- 2, Ferdinand Schöningh, Paderborn 1998.
- F. D. E. Schleiermacher, *Hermeneutik und Kritik*, ed. by Manfred Frank, Suhrkamp Taschenbuch Wissenschaft, Frankfurt am Main 1995.
- Herbert Uerlings (ed.) *Novalis und die Wissenschaften*, Max Niemeyer Verlag, Tübingen 1997.
- Herbert Uerlings, *Friedrich von Hardenberg genannt Novalis. Werk und Forschung*, Verlag J.B. Metzler, Stuttgart 1991.
- Berbeli Warning, *Statt Nicht-Ich - Du! Die Umwendung der fichteschen Wissenschaftslehre ins Dialogische durch Novalis (Friedrich von Hardenberg)*, in: *Fichte-Studien* bd. 12, Fichte und die Romantik, Hölderlin, Schelling, Hegel und die späte Wissenschaftslehre, ed. by Wolfgang H. Schrader, Rodopi, Amsterdam - Atlanta, GA 1997.
- Walter D. Wetzels, *Johann Wilhelm Ritter: Physik im Wirkungsfeld der deutschen Romantik*, Walter de Gruyter, Berlin, New York 1973.