

# The Crystalline

1.

Hans Sedlmayr was not the first to ascribe the predominance of elementary geometrical forms in the architecture of the Revolution and the tendency to linear two-dimensionality in the painting of the period around 1800 to a penchant for the inorganic. However, what he saw as a cause of decline was interpreted by the Romantics, starting from similar premises, as the deciding factor in a universal advance. In the various strategies designed to endow the rigid forms of art with the certainty of a solid centre in a living nature pervaded by the Divine, the leitmotif was the organic crystal, symbolizing the 'monism of the cosmos', for which Ernst Haeckel attempted to supply a scientific justification a century later.<sup>1</sup> The idea of the inorganic infused with organic life entered above all into Expressionist notions of a German 'will to art' (*Kunstwollen*).<sup>2</sup>

It is not surprising, then, that this *topos* combined with 'German' Gothic and first took shape in an architectural fantasy that Friedrich Schlegel wove into his description of the unfinished cathedral of Cologne. Imagining what it would look like when completed, he compared towers, pillars and buttresses with a natural growth that shoots upwards, and so took up Goethe's earlier reflections of Gothic architecture. Seen from afar the whole complex resembled a wood, but 'when one moves closer it appears more like an enormous crystalline formation'.<sup>3</sup>

Here Schlegel modifies the credo of his friend Wilhelm Heinrich Wackenroder in order to accommodate it to his programme of German Christian art. Whereas Wackenroder had seen nature and art as 'wonderful languages'<sup>4</sup>, existing independently of each other and comprehensible only through feeling, the two now fused in a symbol that combined the crystalline with the vegetable. At least we have the 'impression'<sup>5</sup>, says Schlegel, that it is all one whether we are dealing with works of art or with the works of Nature. This fiction, masquerading as perception, anticipates Alois Riegl in differentiating

between a tactile near view and an optical distant view and lends conviction to the 'obscure feelings' that Wackenroder had described as 'the genuine God-sent witnesses of truth'.<sup>6</sup> This was the beginning of the art history of perception; it followed the discovery of a 'new organ' in which the mind and the senses act in unison without having to resort to conceptual thought. Through the modernization of the 'outpourings of the heart' in a Gothic without God – secularized as an 'imitation of nature's abundance'<sup>7</sup> – the restorative tendency of Romantic thought gains ground. The crystalline cathedral bids farewell to the 'new church' of the French Revolution that had earlier been welcomed<sup>8</sup> and inaugurates the path that leads inwards to a 'German form' whose Nordic character is assured by the Gothic and the crystalline, though as yet without any social connotations. The republican notion of universal poetry gives way to a religious apprehension of art; the crystalline, defined by Friedrich Wilhelm Schelling as 'the spiritual within the material',<sup>9</sup> preserves the metaphysical basis of Christian art. Moreover, the new science of crystallography (the teachings of René Just Haüy, its founder, had probably become known in Germany in the early nineteenth century) could be used in support of this idea deriving from natural philosophy and so verify the Platonic bodies, as it were. As 'symbols of mathematics',<sup>10</sup> crystals supplied material evidence of the 'spirit of Nature', though only by way of a generalization from mineralogy. It thus seemed possible to derive the world as a whole from formulas: a technological conception, ultimately dedicated to the artificial reproducibility of existing reality, became the content of salvation.

This restoration of the metaphysical prime cause from the spirit of natural science perpetuated the Classical idea that Nature was raised to a higher plane in art. Just as Wackenroder, in a monk's dream, declared Albrecht Dürer and Raphael to be friends, in order to celebrate the union of Nature and 'heavenly beauty', so too Schlegel's imagination aimed at a reconciliation. The

crystalline element in Gothic architecture relates it to the Classical ideal, defined by Winckelmann as 'noble simplicity' and already echoed in connection with the unfinished cathedral.<sup>11</sup> Also evoked by mineralogy is the Classical image of man in ancient sculptures, which could also be found in the earth and were in modern times assigned to the same inorganic sphere.<sup>12</sup> They already occupied a symbolic position between 'the power of Nature to form and the power of man to create',<sup>13</sup> which was now depersonalized, so to speak, and attributed to crystalline Gothic. In its imagined fossil character Schlegel tried to justify once more the necessary link between the external and the internal, form and content, beyond the beautiful. After all the criticism of faith in the age of Enlightenment and the overthrow of clerical authority, it was only in the illusion of sensual certainty – as a phantasmagoria – that the infinite could be directly perceived and represented, as it were, 'even without reference to the ideas and mysteries of Christianity'.<sup>14</sup> The historical end of iconography is contradicted by the feeling for form as a symbol.

The situation in which artistic crystalline Nature is viewed is thus so designed that the aesthetic boundary is not accessible to the eye. The viewer surrenders his real self and immerses himself in the other – aesthetic – reality, which can no more be taken in than the reality of living Nature.<sup>15</sup> In this pseudo-transcendancy – the putative reality of art<sup>16</sup> – lies the basis of the idea of the total work of art (*Gesamtkunstwerk*). Self-deception, which is inherent in the modern conception of art, is preserved, though not yet essentially tied to reproducibility. The experience of art as experience of the world is now envisaged as a receptive act that is at the same time productive. The symbolism arises in the moment of contemplation and in the moment of creation.

It is hardly fortuitous that in some of his works Caspar David Friedrich, the most advanced artist of his age, came close to Schlegel's backward-looking utopia, as if to mitigate the radical innovation of his painting. Gothic architecture, as a transparent phenomenon in *Vision of the Christian Church* (Schäfer Collection, Schweinfurt), also implies that the experience of the total work of art is essentially religious. In the formal analogy between fir-trees and the churches in the London *Winter Landscape* (cat. 20) Friedrich symbolizes his art as a 'crystalline

growth'; through this allegorization of the abstract compositional figure as spiritual Nature he unintentionally conforms to Friedrich Wilhelm von Ramdohr's criteria. Christian iconography is no longer the primary message, but raises artistic production itself to the status of a cult activity, as in the *Wanderer's Prayer*. Moreover, Friedrich's practice of transforming existing churches into ruins or, conversely, 'crystallizing' ruins into idealized cathedrals, has the same effect as Schlegel's change of perspective, in that it gives form to an idea current in the eighteenth century: that the destruction of a building that had a utilitarian purpose could arouse interest in its aesthetic form.<sup>17</sup> Crystalline Gothic embodies, as it were, an architecture that arises from the symbiosis of ruin and Nature and acquires aesthetic form in the depiction. Moreover, when it is said that the 'inner geometry of Nature' underlies the Gothic cathedral in the form of 'the triangle and the square, as well as the sphere (!) and the cross', it is possible to understand the covering of the elementary forms with the 'blossoming fullness of life' as a form of disguise. These forms were probably revealed less by the 'old church style' than by the architects of the Revolution.<sup>18</sup> Schlegel here plans the synthetic style of which not only historicism, but the avant-garde will dream.<sup>19</sup>

## 2.

Eternal values, formerly personalized in God and the prince, could now re-emerge as bourgeois values in an impersonal and empty whole. The natural cycle, represented by Philipp Otto Runge's *The Times of Day* for instance, acquired the status of a Christian eschatology, though now its sole aim was the aesthetic experience – the total work of art. Crystalline stones are the source of *Night* (cat. 9); inorganic nature brings forth the organic and is in turn the aim of the latter. Utopia lies here in the mythology, the eternal changelessness embodied in the structure of the crystal,<sup>20</sup> The name of God is replaced by the 'effective principle'<sup>21</sup> itself. The demonstration of this principle in the formation of crystals is designed to unite history, Nature and art as manifestations of a single urge and to preserve the Christian notion of creation by transferring it to artistic creativity. In Schelling's view the regularity of organic and inor-



Fig.1 Caspar David Friedrich, *Sea of Ice* c.1823-24, Hamburger Kunsthalle

ganic structures stood not only for 'science, through which Nature works', but also for the 'artistic impulse'.<sup>22</sup> The creative act itself consequently becomes the transcendental goal; the work is transfigured as the symbol of this process, since there is no longer any other transcendency it can relate to. Schlegel was not considering the product of artistic creativity, which was for him only the expression of a universal law of movement. The merging of the work into the universal process through which it comes into being creates a unity between the artistic form and its material content, the loss of which was diagnosed by Georg Wilhelm Friedrich Hegel.<sup>23</sup>

However, the emphasis placed on the processual aspect contained something quite modern: to invoke the infinite variability of natural forms implied a new awareness of the historicity of human society; this awareness also reveals the incipient sense that the sphere of production is the basis of society. In the image of crystallization, however, productivity remains one-dimensional. In promoting the bourgeois notion of development as a linear process, it is conceived as an original renunciation, as the expression of natural laws, and thus adheres to the static constitution of society. The temporal straight line leads to the Romantic notion of Nature and history as cyclic and denies the negative factor that is inherent in Nature too. Movement and cessation of movement become opposing poles. The antithetical categories employed in writings on the history of art took up this non-historical sense of the image of the crystal.

Conversely, the avant-garde element in Romantic art can be seen, by contrast with such a cessation of movement, in the dialectic tension between natural and artistic forms. Friedrich's *Sea of Ice* (fig. 1 and colour plate, p. 97) transforms motionless Nature into a monument of art, without equating the abstract form with Nature or, like Runge's arabesque, establishing a congruence between the two. The threshold position between construct and picture, between congealed movement and the work of art, is the artistic statement, which lies beyond traditional iconography. The mountain range, architecturally constructed out of a pile of snowy blocks, like the ornamental crests of the waves, shows the cessation of movement, a temporal factor that at the same time reveals a constructive potential, which is by no means the productive law of Nature, as Friedrich's motto 'Through death to new life' suggests. The opaque density of the water, which can be observed in many of Friedrich's other sea pieces, causes movement to congeal, so that one can experience the change to another movement, not identical with the previous one. The painting *Chalk Cliffs on Rügen* (Oskar Reinhart Collection, Winterthur) shows the same turning-point in the two male figures, both of which probably represent the artist's self. The citizen's gaze, fixed on the abyss, is not taken up in the longing gaze of the patriot. The distance remains empty; the fossil nature of the cliffs offers no relief from their terrible aspect, such as is promised by the contemplation of visionary Gothic.

### 3.

More effective was the anti-Enlightenment potential of the symbol of the crystal. It was not by chance that it became widely known through the building of the Crystal Palace, the 'glass monster'<sup>24</sup> that took over the heritage of crystalline Gothic. An 'infinite' perspective, inwardly related to Schlegel's, finally made it possible to pass an artistic judgement on the scandalous nudity of the technical construct – disguised as Nature: 'Here too, as in the case of a crystal, there is no real interior and exterior ... . We are in a piece of the atmosphere that has been cut out,' wrote Richard Lucae.<sup>25</sup> The 'almost non-existent' boundary between Nature and construct did not refer to the actual transparency of the glass wall; this



Fig.2 Wenzel Hablik, *Crystal Castle in the Sea* 1914, National Gallery, Prague

only lent credibility to the idea. Rather, the crystal created a symbolic identity between casing and kernel, between frame and ornament, whose divorce in the course of industrial mass production had led to a crisis in the world of arts and crafts and plunged architecture into a serious conflict with engineering technique. Gottfried Semper wished to apply his theory of original social needs and natural 'types' of arts and crafts as a remedy for this crisis and to purify the degenerate stylistic forms by means of aesthetic archetypes. Snow crystals, together with organic structures, illustrate the natural law of 'style in the technical and tectonic arts'<sup>26</sup>. This was an early attempt to justify a 'necessary' ornament in an imaginary society, which, conceived as instinct, natural law or need, anticipates the later theories of form and function that led to the rejection of ornament.

Thus the adoption of the crystal as the leitmotif of the avant-garde had its origin in the Arts and Crafts movement, which set itself the impossible task of replacing the eclecticism of historical stylistic choice by a synthesis of 'artistic endeavour' and practical living. This was of course possible only in the imagination, that is, through

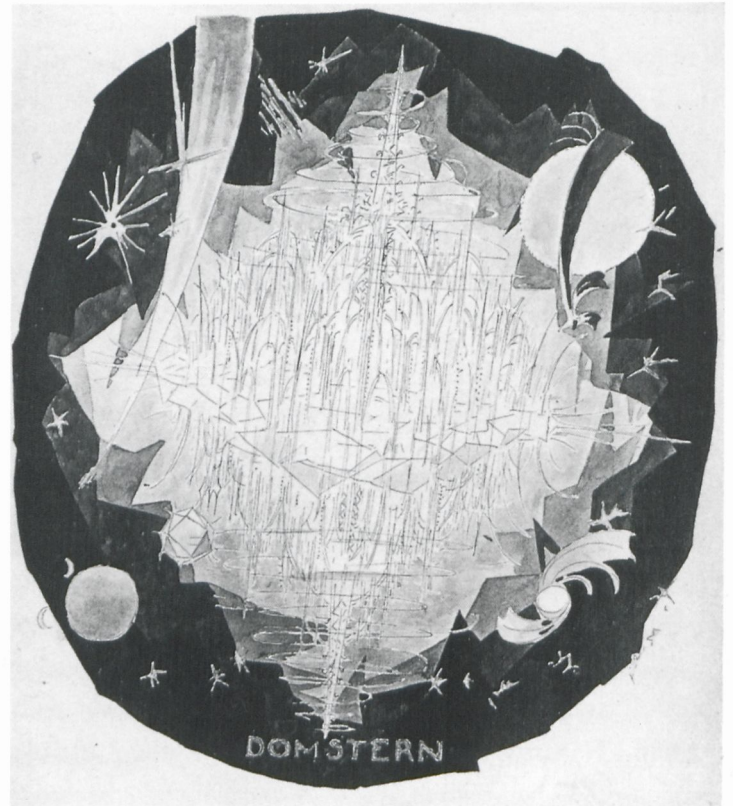


Fig.3 Illustration from Bruno Taut *Alpine Architektur*, Hagen 1919

the formula of the nature of the crystal. When Peter Behrens, in the role of artist as prophet, solemnly unveiled a diamond crystal on the Mathildenhöhe in Darmstadt, he held out the promise of an art that would give true expression to the life of the citizen, 'as coal-dust, seized by the force of the elements, is transformed into the pure, brilliant and clearly formed diamond crystal ...'<sup>27</sup>

The social aspect of the new architecture necessarily remained a stage play, linked to the idea of a new theatre building that was to unite the stage and the auditorium as a representation of art and life.<sup>28</sup> In the socially utopian dimension of the crystal fantasy we no doubt have to see the intention of defending autonomous art as an ideal way of life. In Marx's appreciation of the value of the commodity as 'crystallized work' we see the 'common social substance'<sup>29</sup> whose idealistic inversion means utopia. The 'artistic endeavour' of the avant-garde confronts the objectifying of human work as a commodity with the model of an abstract, non-alienated mode of working, which cannot fail to seem somewhat arcane, with its denial of both the producing subject and the produced and appropriated object. When Behrens, in an

advertisement for an electric lamp, inscribed the brand name AEG on the facets of a crystal<sup>30</sup>, he was visualizing not only electric light, but also the precious crystals as a combination of art and nature in the aesthetic of design.

The representative claim of the crystal as a symbol lies in 'making the invisible visible'. This is an aspect of the Divine, which could no longer be formulated in authoritative terms. Hence, the place formerly occupied by the Divine must have been taken over by the metaphysics of the valuable form (*Wertform*). It is the model for the transformation of material, and this in turn characterizes the way in which classical Modernism saw itself as a force for social renewal. Yet the 'precious crystal', as the container of a new community, must also represent the place of the monarch. Not for the first time in the princely foundation of the colony on the Mathildenhöhe, which predates artistic communities right down to the *Gläserne Kette* (Glass Chain), the aesthetic of existence symbolized by the crystal is seen as expressing the historial reconciliation between the aristocracy and the middle class. The crystal symbolism of Expressionism always points to the supreme authority – whether this reveals itself as a castle (fig. 2), as a 'city crown' or as an 'Alpine Architecture' that reaches to the stars (fig. 3). Here the Alps, like Gothic architecture, are seen in their fossil character, in their symbolic function, which points to a sacred archetype. At the beginning of the eighteenth century, Scheuchzer's *Physica sacra* had taken the Alps as a proof of Genesis, as remnants of the flood. This notion was adapted to the cult of art in the nineteenth century. Viollet-le-Duc saw in the Alps only the deformation of a regular crystalline 'original form'; the notion can still be discerned in Taut's building project, which is in fact a prayer.<sup>31</sup>

In Expressionism the transformation of coaldust into diamonds – symbolizing the purification of 'raw' life and its transformation into beauty – is often taken over by modern technology. Electric light, which turns into day, acquires a transcendental significance. The building as a lamp or a shining heavenly body is a recurrent motif in the crystalline fantasies of architecture. Wenzel Hablik's flying settlements illustrate the crystalline 'growth' of buildings, their self-motion underlining the Futurist craze for technology. Electrical machines can for

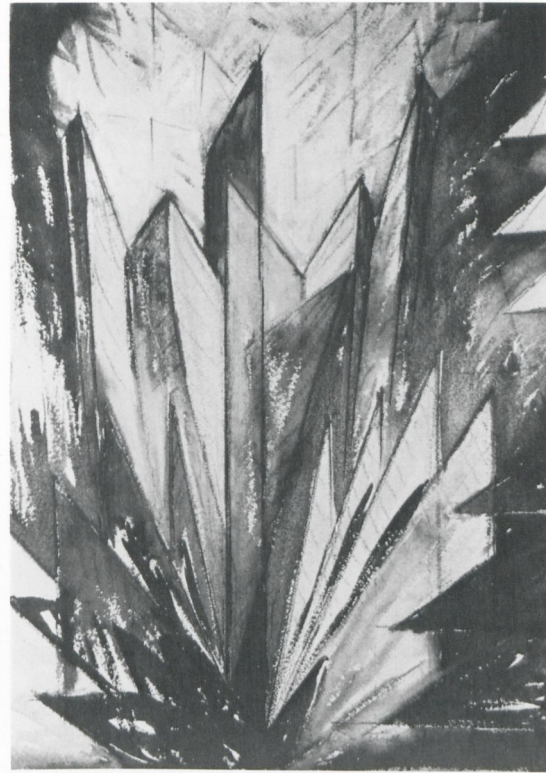


Fig. 4 Hans Scharoun, *Principles of Architecture* c.1919, Akademie der Künste, Berlin

instance turn sand into glass, and this, as a self-forming substance, assumes the form of a giant glass house.<sup>32</sup> Hans Scharoun's drawing *Principles of Architecture* (fig. 4) – a crystal plant dynamically shooting up – presents the new architecture as a second nature, sublimated by technology. Just as Schlegel, with his crystalline Gothic, 'experienced' his own construct, so Scharoun's idea of a people's house turns 'I' and 'I' into 'you'.<sup>33</sup> The desired social meaning of modern building, seen as the origin of aesthetic form, is nothing other than the 'inner geometry' of nature, now filled with life.

Bruno Taut's fantasies unintentionally reveal the futility of the underlying historical concept, which always started from the 'pure' form, detached from all syntax, and supposed it possible to invest it with a content. The Expressionist crystal no longer conveys a message. The universal building project of *Alpine Architecture* ends in the *Great Void*; the last picture of *The World Architect*, a cinematographic series of 1920, shows the crystalline interior of the new architecture congealing with night and the universe to form an abstract structure of facets. Reduced to cosmic emptiness, the cyclic model of the Romantics still provides Taut with the wherewithal for



Fig.5 Erich Heckel, *Day of Glass* 1913, Staatsgalerie Moderner Kunst, Munich

an affirmative turning-point, for absolute negation can equally well be total affirmation. With the help of Master Eckhart, the void can become a vessel for the Divine.<sup>34</sup> The crystalline form as an expression of the ‘many-sidedness’ of relations – and here it already refers to serial production – can serve any function; in this sense the emptiness of the ‘new apartment’ (1924) is propagated as a guarantee of real living. With the ‘omnisignificance’ of his architecture Taut established a recurrent pattern of interpretation that assigns the function of a universal equivalent to the abstract from spanning the genres.

#### 4.

‘We do not display personal experience. We shape the primeval image, hard, bronze, crystalline ...’<sup>35</sup> Under this motto Wilhelm Worringer’s concept of a ‘primitive urge to abstraction’, oriented to ‘regular crystalline composition’, was advanced as the metaphysical legitimation

for the new abstract painting. The anti-French rejection of the ‘subjective oversensitivity’ of Impressionism<sup>37</sup> was echoed in the German reception of Cubism. At the same time the concept of an essentially crystalline art found its way into painting too. In Erich Heckel’s *Day of Glass* (fig. 5) sky and water crystallize into prismatic structures without affecting the conventional picture space. The Cubist destruction of a space unified by perspective is reinterpreted as a way to make the subject dynamic. Lyonel Feininger began with the same prismatic simplification of pictorial subjects, as shown by *Gelmeroda III* (cat. 158), yet although he went on to a much higher degree of abstraction, he adhered to an objective realization of the aesthetic form in the architectonic elements. Although the picture space undergoes a degree of fragmentation, inspired by Cubism, the fragmentation acquired a symbolic character through the transparency of the surfaces, which always convey a ‘literal’ impression. In the stylized cathedral on the title-page of the first Bauhaus manifesto, Schlegel’s total work of art re-emerges ‘as the crystalline symbol of a future faith’.<sup>38</sup>

It was Paul Klee who most vehemently opposed the Cubist deformation of the pictorial subject and was all the more consistent in realizing it artistically. At the start of his abstract phase he developed a creative doctrine in which the pictorial means themselves were credited with vital energy; he was thus able, at least in theory, to ensure the organic status of the picture.<sup>39</sup> The water-colour *Crystal-Gradation* (fig. 6) can be fitted into his doctrine of the ‘movement’ of colours on the colour circle, which Klee conceived in musical terms as crescendo and diminuendo.<sup>40</sup> But his drawing *Genesis of the Constellations* relates also to the genesis of the work; the interpretation of the spots of colour as constellations – which the title suggests – is thus linked with the ambitions of the star-like glass architecture of Taut. Klee’s understanding of movement as the ‘proper nature of the work’<sup>41</sup> is reflected in the recurrent motif of the arrow, although the synthetic intention of his theory is subverted by his practice. Only in Klee’s Bauhaus doctrine did Schlegel’s equation of the perception of art with the perception of nature undergo a thorough systematization, the fantastic nature of which has still hardly been appreciated. The essay on ‘Ways of Nature Study’, for instance, develops the Romantic model of perception

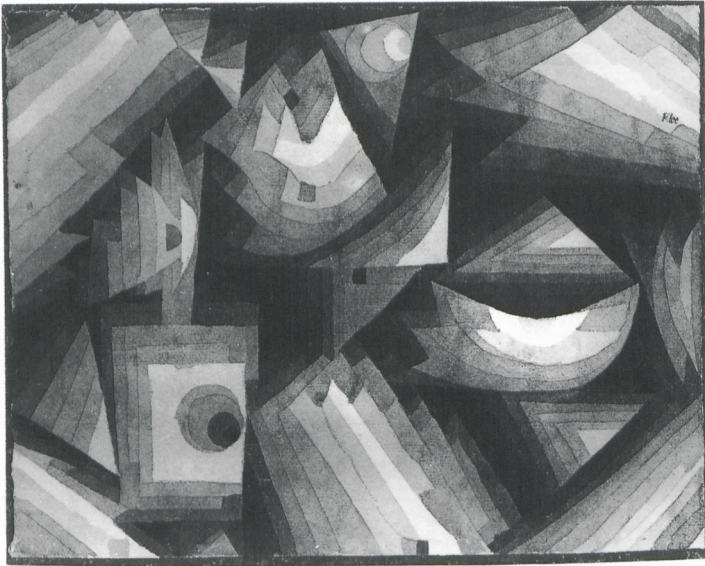


Fig.6 Paul Klee, *Crystal-Gradation, under the Spell of the Stars* 1921, Kunstmuseum Basel, Kupferstichkabinett

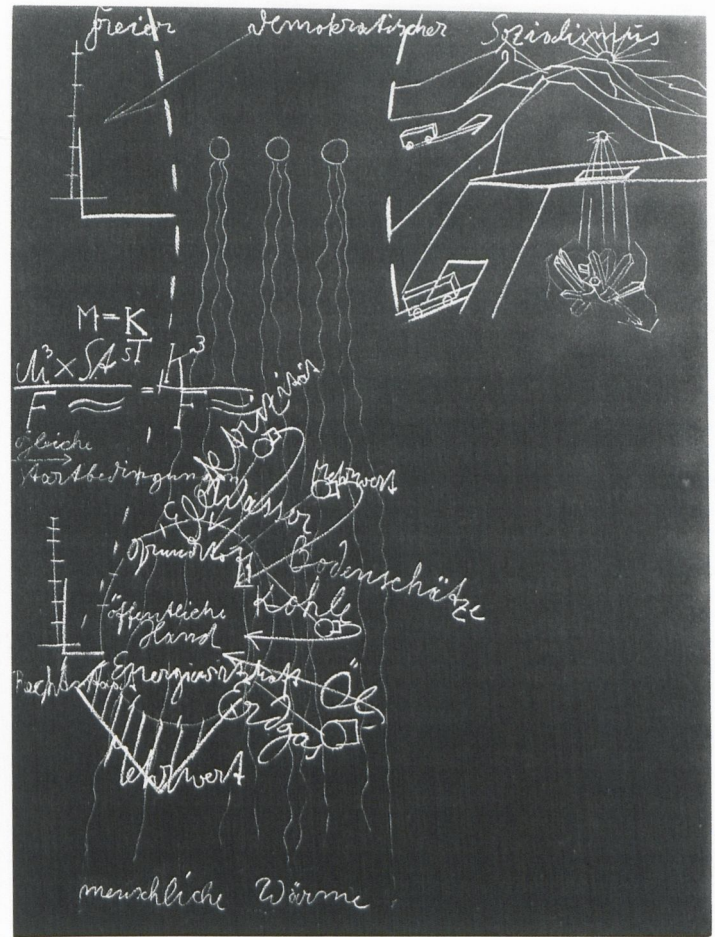


Fig.7 Joseph Beuys, One of the blackboards from *Das Kapital Raum* 1970-77, Hallen für neue Kunst, Schaffhausen. Note the drawing of crystals.

into a 'synthesis of outward seeing and inward contemplation', in order to make the transformation of the artefact into nature and the creation of works credible as a 'simile of the work of God'.<sup>42</sup> The theoretical precondition for the 'total view' of the eye that is visualized here (see cat. 165 *Eye – Centre – You*) is the artist's self-stylization as a 'transcendental subject'. In this way Klee sets himself apart from the 'earth-bound' artists Alfred Kubin and Franz Marc<sup>43</sup> – despite the fact that Marc's view of war as a preliminary to a new spiritual art – of which we find a reflex in the drawing entitled *Conflict* (in the *Sketchbook from the Field*, cat. 157) – was not far removed from Klee's theory of abstraction.<sup>44</sup> His symbolic death in the crystal, evidently dramatized in reference to Worringer in the diary of 1914, defines the abstract 'artistic endeavour' as a kind of self-begetting, which brings back the artist as the creator of a second existence that unified art and life. A parallel is afforded by Dadaist dandyism, whose aesthetic existence culminates in suicide.<sup>45</sup> Schwitters's *MERZbau*, (colour plate,

pp. 360-1), as the first step towards the 'collective shaping of the world, a universal style', updates the subjectless nature of crystalline Gothic.<sup>46</sup>

The advent of Expressionism did not put an end to the crystal boom. The Surrealist idea of an 'automatic' record of the unconscious came into its own. The reference to mineralogy could still prove useful. 'It grows on me like my toe-nails. I have to cut it, but it repeatedly grows back' – this is how Hans Arp described his work as an artist.<sup>47</sup> At the end of the 1930s, as if to complement his organic formal language with inorganic nature, he created a crystal sculpture.<sup>48</sup>

## 5.

Only postwar art has given up the formal vocabulary of Cubism and Surrealism, which could be united in an organic crystalline whole with its analogue in nature.<sup>49</sup> Informal art developed the process of materialization that began in abstraction and deprived the picture of all



Fig.8 Joseph Beuys, *Das Kapital Raum* 1970–77, Hallen für neue Kunst, Schaffhausen

its linguistic character. The materialization of the artistic object was probably taken farthest by Joseph Beuys, who was nevertheless strongly influenced by the Romantic theory of ‘*natura artifex*’. The growth of crystals on a blackboard of his installation *Das Kapital Raum* 1970–1977 (figs.7 and 8) and the early drawing *Lady’s Cloak* (1948), which cites Runge’s plant studies<sup>50</sup>, represent a refraction of the idea of unity deriving from natural philosophy; in other words it is a ‘didactic piece’ that admits of no immediate emotional approach. Moreover, the title of the installation refers unequivocally to Marx’s chief work and thus directly reflects the connection between crystallization and the formation of values. The chalk drawing shows a mine, a traditional symbol of alchemy. Sunlight streams into the mine and so guarantees the formation of crystals, which according to esoteric teachings is the final stage before the extraction of the stone. Tunnels and waggons indicate that the treasures of nature will be appropriated. The chalk drawing – part childishly naïve, part scientific – clearly relates to the diagram on the left, which illustrates the production of energy and expressly leads to ‘added value’. Yet no economic model answering to the title ‘Free Democratic Socialism’ and the aim of ‘human warmth’ can be discerned as the theme. The ‘blackboard pictures’ of Beuys defy any attempt to interpret them. The content of the work is not present in the object itself, but lies rather in a temporal factor that can be grasped only in the reflection of the form. The chalk

drawings, like the other objects in the installation, present themselves in a condition that oscillates between *objet d’art* and utilitarian object. The hastiness of the writing, the combination of signs and blackboards, which can hardly be brought into order and related to one another, and the traces of earlier inscriptions that have been obliterated – all these challenge us to see them as fortuitous, invalid, dispensable. The historical element is linked to the present. This also occurs in Friedrich’s *Sea of Ice*, though within the subject, in the insoluble contradiction between planes and in the ordering of space. Now it lies solely in the artistic form. Whereas conservative crystal symbolism created a synthesis of movement and non-movement as an eternal process of becoming, and consigned history to the fossil character of the form. Beuys displays the relic as a trace of past action and potential future action. The ruin returns as an image that has been used before and perhaps used up, but whose historicity is not extinguished in the alternative world of crystallized nature. On the contrary, the aesthetic presents itself as the *end* of transcendency; it involves a challenge to destruction, such as we find in the *Fat Corner* and other works. Beuys may show the solid crystal, but only in order to have it melt and revert to liquid form.

Regine Prange

Translated from the German by David McLintock

- 1 Ernst Haeckel, *Die Lebenswunder. Gemeinverständliche Studien über Biologische Philosophie. Ergänzungsband zu dem Buche über die Welträtsel* (Leipzig, 1906), 16.
- 2 Above all we should mention Worringer, who defined Nordic artistic endeavour as a ‘movement intensified on an inorganic basis’: Wilhelm Worringer, *Abstraktion und Einfühlung. Ein Beitrag zur Stilpsychologie* (Munich, 1908, 14th ed. 1987), 151.
- 3 Friedrich Schlegel, ‘Briefe auf einer Reise durch die Niederlande, Rheingegenden, die Schweiz und einen Teil von Frankreich’, *Kritische Friedrich-Schlegel-Ausgabe*, vol 4 (‘Ansichten und Ideen von der christlichen Kunst’), ed. Hans Behler (Paderborn and Munich, 1959), 178f.
- 4 Wilhelm Heinrich Wackenroder and Ludwig Tieck, *Herzensergießungen eines kunstliebenden Klosterbruders*, Berlin, 1797 (Stuttgart, 1979), 64–69.
- 5 Schlegel (as note 3), 179.
- 6 Wackenroder (as note 4), 62.
- 7 Schlegel (as note 3), 180.
- 8 On Schlegel’s justification of the aesthetic in terms of historical philosophy see Karl-Heinz Bohrer, ‘Friedrich Schlegels Rede über die Mythologie’, id. (ed.), *Mythos und Moderne. Begriff und Bild einer Rekonstruktion* (Frankfurt, 1983), 52–82.



- 9 F. W. Schelling, 'Über das Verhältnis der bildenden Künste zur Natur' (1807), *Schellings Werke*, ed. Manfred Schröter, 3. Ergänzungsband (Munich, 1959), 388–429. The passage quoted appears on p. 400.
- 10 Franz von Kobell, *Über Fortschritte der Mineralogie seit Häüy* (Munich, 1832), 6.
- 11 Schlegel (as note 3), 178.
- 12 Horst Bredekamp, *Antikensehnsucht und Maschinenglaube. Die Geschichte der Kunstammer und die Zukunft der Kunstgeschichte* (Berlin, 1993), 19.
- 13 Bredekamp (as note 12). The synthesis of the rigid crystal of the pyramid with the naturalistic artistic endeavour of the Greeks is envisaged by Worringer too in his vision of Gothic architecture. See Worringer (as note 2), 157f.
- 14 Schlegel (as note 3), 180. Within the concept of universal poetry ('Athenäum-Fragment 116') infinity was still understood as a category of reflection.
- 15 Schlegel (as note 3), 179.
- 16 The continuity of this idea can be seen in Dagobert Frey, 'Der Realitätscharakter des Kunstwerkes' in *Kunstwissenschaftliche Grundlagen. Prolegomena zu einer Kunstphilosophie* (Vienna, 1946; Darmstadt, 1992), 107–49.
- 17 Cf. Bruno Reudenbach, *G. B. Piranesi. Architektur als Bild. Der Wandel der Architekturauffassung des 18. Jahrhunderts* (Munich, 1979), esp. 92.
- 18 Schlegel (as note 3), 179.
- 19 Cf. Schinkel on the ideal form of the religious building, which, since 'art itself is religion', is the 'starting point for the whole definition of architecture' and hence for the new style at which is aimed. 'The whole should give the impression of an infinitely variable nature that constantly seeks to purify itself.' 'Through the substructure the earth should be shown in its crystallization, above which the plant strives towards the sky ...' Karl Schinkel, *Briefe, Tagebücher, Gedanken*, selected by Hans Mackowsky (Berlin, 1922), 195ff.
- 20 Cf. Claude Lévi-Strauss, *Strukturelle Anthropologie* (Frankfurt, 1967), 253: 'If a daring image is permitted, the myth is a linguistic construct that occupies a similar place in the sphere of spoken language to that of the crystal in the world of physical matter. In relation to language on the one hand and to spoken language on the other, its position would resemble that of the crystal: an object between a statistical aggregate of molecules and the molecular structure itself.'
- 21 Schelling (as note 9), 399.
- 22 Schelling (as note 9), 404. This notion from natural philosophy underlies Riegl's term 'artistic intention'.
- 23 See Werner Busch, *Die notwendige Arabeske. Wirklichkeitsaneignung und Stilisierung in der deutschen Kunst des 19. Jahrhunderts* (Berlin, 1985), 21f.
- 24 A. Welby Pugin, in an unpublished letter cited by Nicolaus Pevsner, *Wegbereiter moderner Formgebung von Morris bis Gropius* (Cologne, 1983), 13.
- 25 Richard Lucae, 'Die Macht des Raumes in der Baukunst', excerpt from a special number of the *Zeitschrift für Bauwesen* 19 (1869), quoted by Julius Posener, *Berlin auf dem Wege zu einer neuen Architektur. Das Zeitalter Wilhelms II.* (Munich, 1979), 485f.
- 26 Gottfried Semper, *Der Stil in den technischen und tektonischen Künsten oder Praktische Ästhetik. Ein Handbuch für Techniker, Künstler und Kunstfreunde, vol. 1: 'Textile art viewed on its own and in relation to architecture'* (Frankfurt am Main, 1960), XXV.
- 27 Alexander Koch, Grossherzog Ludwig und die Ausstellung der Künstlerkolonie in Darmstadt vom Mai bis Oktober 1901 (Darmstadt, 1901), 60. The celebratory play for Georg Fuchs was staged in accordance with an idea of Peter Behrens.
- 28 On the theatrical idea, see Regine Prange, 'Das kristalline Sinnbild' in *Moderne Architektur in Deutschland 1900–1950. Expressionismus und Neue Sachlichkeit* (Frankfurt: Deutsches Architekturmuseum, 1994).
- 29 Karl Marx, *Das Kapital. Kritik der politischen ökonomie*, vol. 1 (Hamburg, 1867; Berlin, 1983), 19.
- 30 Tilmann Buddensieg, *Industriekultur – Peter Behrens und die AEG 1907–1914* (Milan, 1978), 61f.
- 31 On the tradition of architectural theory, see Werner Oechslin, 'Architecture and Nature. On the origin and convertibility of architecture', *Lotus International* 31 (1981), 4–19. Reproduction of Viollet-le-Duc's scheme of evolution on p. 11, ill. 12.
- 32 Wenzel August Hablik, 22 July 1920, in Romana Schneider and Iain Boyd Whyte (eds), *Die Briefe der Gläsernen Kette* (Berlin, 1986), 134f.
- 33 Hablik (as note 32), 4, ill. no. 12.
- 34 Bruno Taut, 'Das Haus des Himmels', in Ulrich Conrads (ed.), *Bruno Taut. Frühlicht 1920–1922. Eine Folge für die Verwirklichung des neuen Baugedankens* (Berlin and Frankfurt, 1963), 33.
- 35 Kurt Liebmann, 'Lebt!', *Der Sturm* 13 (1923), 183–86, quotation p. 184.
- 36 Worringer (as note 2), 79.
- 37 Wilhelm Hausenstein, *Die Kunst in diesem Augenblick* (Munich, 1920), 2.
- 38 Walter Gropius, *Programm des staatlichen Bauhauses in Weimar 1919*, quoted from Ulrich Conrads, *Programme und Manifeste zur Architektur des 20. Jahrhunderts* (Berlin and Frankfurt, 1964), 47.
- 39 Paul Klee, *Beiträge zur bildnerischen Formenlehre*. Facsimile edition of the original manuscript of Paul Klee's first lecture cycle at the Bauhaus in Weimar 1921/1922, ed. Jürgen Glaesemer (Basle and Stuttgart, 1979), 5. The genesis of the work 'begins at the point that sets itself in motion'.
- 40 Paul Klee, *Unendliche Naturgeschichte. Form und Gestaltungslehre*, vol II, ed. Jürg Spiller (Basle and Stuttgart, 1970), 313.
- 41 Paul Klee, *Pädagogisches Skizzenbuch*, Bauhausbücher 2 (Munich, 1925), 23: 'The work as human action (genesis) is *movement*, as regards both production and reception.'
- 42 Paul Klee, *Wege des Naturstudiums* (1923), quoted from Christian Geelhaar (ed), *Paul Klee. Schriften, Rezensionen und Aufsätze* (Cologne, 1976), 125f.
- 43 Paul Klee, *Tagebücher 1898–1918*. New critical edition for the Paul-Klee-Stiftung Kunstmuseum, Berne, by Wolfgang Kersten (Berne, 1988), no. 958: 'Kubin ... longed for the crystalline, but could not free himself from the tough mud of the world of phenomena'. On Klee and Marc, see O. K. Werckmeister, 'Klee im Ersten Weltkrieg' in exh. cat. *Paul Klee. Das Frühwerk 1883–1992* (Munich: Städtische Galerie im Lenbachhaus, 1980), 166–226, esp. 173–88.
- 44 On this thematic complex, see Regine Prange, 'Hinüberbauen in eine jenseitige Gegend. Paul Klees Lithographie "Der Tod für die Idee" und die Genese der Abstraktion', *Walraf-Richartz-Jahrbuch* 54 (Cologne, 1994), 281–314.
- 45 Cf. William S. Rubin, *Dada und Surrealismus* (Stuttgart, s.a.), 13.
- 46 The spread of the Merz idea. *Merz I Holland Dada* (Hanover, 1923), 9. *Castle and Cathedral with Fountain* appeared as an illustration and with explanatory text in Taut's *Frühlicht* (as note 34), 166. Entirely in the spirit of Taut, Schwitters here designs the transformation of Berlin into a Merz work made up of light and colour.
- 47 Quoted from Hans Richter, *Dada-Kunst und Antikunst* (Cologne, 1964), 44.
- 48 Ex. cat. *Arp 1886–1966* (Stuttgart: Württembergischer Kunstverein, 1986), 219 (ill.).
- 49 'The crystal is the symbol of geometric-abstract art, the pebble the symbol of organic-abstract ...' (Georg Schmidt, 1938, quoted from Stefanie Poley, 210).
- 50 Theodora Vischer, 'Beuys und die Romantik', in 7 *Vorträge zu Beuys* 1986, publ. by the Museumsverein Mönchengladbach (Mönchengladbach, 1986), 81–106, esp. 98f.

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