

Soap and bones

Esther Leslie, *Liquid Crystals: The Science and Art of a Fluid Form* (London: Reaktion, 2016). 288pp., £25.00 hb., 978 1 78023 645 2

When viewed on a hot plate under a polarising microscope, liquid crystals appear as a fluctuating kaleidoscope of colour: swirling, as Esther Leslie describes them, like ‘twisting lines of silks’, ‘pearlescent baubles’ and ‘crumbled, intricate coils of lines’. Cooling and warming transforms them into fluctuating optical configurations. They enter ‘phases’. In one particular phase, the *smectic*, ‘the molecules line up in blocks and pass easily over each other’ to form ‘layers [that] curve around numerous ellipses that fan out from a common point radially, like petals from a flower such as a daisy.’ During this phase the liquid crystal forms as a slimy compound that, when combined with other substances (such as tallow, perfume and ash), are moulded to create bars of soap. The riot of colour in liquid crystals, which had been visible under a microscope, is welded together and appears instead as a drab greyish solid. When lathered with water, soapy liquid crystals are rubbed over skin, as are fats, traditionally derived from the boiled bones of animals but also occasionally from human remains.

Karl Marx, in the first volume of *Capital* (1867), places the process of congealment in relation to the commodity and abstract labour. However, as Keston Sutherland has argued in ‘Marx in Jargon’ (2008), the associations conjured by the idea of ‘*abstrakt menschliche Arbeit*’ as a ‘*bloße Gallerte unterschiedsloser menschlicher Arbeit*’ were elided when translated into English. Moore and Aveling, the first translators of *Capital* in 1886, render the indeterminate origin of human labour in commodities as if it were a ‘mere *congelation* of abstract human labour’ (emphasis added). ‘Gallerte’, Sutherland notes, is here rendered as ‘congelation’, from the Latin verb *congelare*, ‘to freeze together’, and the Latin noun *gelum*, ‘frost’. But this implies that ‘Gallerte’ is an abstract noun, whereas it is not abstract at all. In Sutherland’s words: ‘*Gallerte* is now, and was when Marx used it, the name not of a process like freezing or coagulating, but of a specific commodity. Marx’s German readers

will not only have bought *Gallerte*, they will have literally consumed it.’ As a ‘semisolid, tremulous mass gained from cooling a concentrated glue solution’, *Gallerte* was produced from ‘meat, bone, connective tissue, isinglass, stag horns’. It would have been eaten, spread on bread as a grey gloop. Marx aligns dead labour with a specific commodity composed of coagulated dead remains. As *Gallerte*, the violence of the production process and the energy exerted by the worker is, in this sense, grotesque, cannibalistically consumed over and over in a cycle of production and reproduction. As Sutherland demonstrates, Marx’s satire contains the ambivalence which the translation erases: Marx does not abstract the multiple origins of labour contained within the commodity, but makes these origins visible as a gory dehumanised tangle of flesh, hidden in plain sight, an open secret. The image of cleaning the body with soap made from liquid crystals embedded within a hellish knot of remains demonstrates the actuality of this cannibalistic cycle of dead labour sustaining the living under capitalism. In the ritualistic cleaning of the body, the worker, with the remnants of past dead labour, congealed and homogeneous, prepares to reproduce their own labour-power for another working day; at the same time, they erase the traces of the previous day’s labour.

In *Liquid Crystals* Esther Leslie re-focuses on this moment in *Capital*. As she writes, the editors of *Capital* in the *Marx-Engels Werke* edition ‘identified [*Gallerte*] as an unusual or foreign word and glossed it as “*schleimige Masse*”, or, in English, “slimy mass”.’ Like liquid crystals in their *smectic* phase, this slime or jelly enters the commodity form – not just in the form of disgust, as Sutherland emphasises, but as wonder too. Leslie cites the historian Jules Michelet who ‘observed jellied forms in the seas’; ‘jellyfish and other odd translucent and ghostly forms [that] wheedled their ways into ideas shared by these men of ghostly second nature, the commodity fetish form and the invocation of Marx’s ideas of jellied (*gallerte*) labour.’

These forms float eventually into shops and arcades as commodities of congealed death and petrified myth.

Liquid crystals are a particular phase of matter, a chemical phenomenon, but, for Leslie, they are also a principle, a dialectic of nature. Although they do not meet the specific criteria for life, the biologist and early evangelist for liquid crystal forms, Ernst Haeckel, assigned them *souls*, an organising consciousness. Recent studies have pointed to liquid crystal analogues in biological matter: in the carapaces of crabs, fish-scales, some plant cells, worms and other organisms. Here, the organic matter resembles ‘fossilised’ or ‘stabilised’ liquid crystallinity, pointing to what could be called (following Yves Bouligand) ‘liquid crystal self-assembly’ in some organic matter. Liquid crystals are not living, but their forms subsist within organic matter and prompt a discussion, just as in the use of *Gallerte* in Marx, as to where the proper noun ends and where the world of analogues, repetitions, forms and processes begins. The actual presence of liquid crystals as a lively frenetic patterning phase of matter also extends to other associations, not only in biological analogues but in historical-planetary visions too. Leslie notes, for example, that Hegel observed in the 1830s that the earth was a crystal discharging liquid, while Marx remarked that capitalism contained both fluid and crystalline moments. Leslie similarly documents the transposition of liquid crystallinity into the realm of aesthetics, where it can be found in the historical fascination with ice and the sublime on the part of the German Romantics, as well as in the processes of Surrealist poetics. Indeed, Leslie’s book itself appears as a liquid crystalline incarnation with abstract sketches (a kind of congelation, crystallisation) preceding the flowing, rangy, roaming prose of her individual chapters.

In the late 1930s, Walter Benjamin began formulating a set of theses that eventually appeared as ‘On the Concept of History’ (1940). In the additional material to these theses he had written – only to later erase – a passage headed ‘The Dialectical Image’. The passage emerges from a tension between the image and ‘the idea of prose’:

(If one looks upon history as a text, then one can say of it what a recent author has said of literary texts—namely, that the past has left in them images com-

parable to those registered by a light-sensitive plate. ‘The future alone possesses developers strong enough to reveal the image in all its details. Many pages in Marivaux or Rousseau contain a mysterious meaning which the first readers of these texts could not have fully deciphered.’ (Monglond; N15a,1) The historical method is a philological method based on the book of life. ‘Read what was never written’, runs a line in Hofmannsthal. The reader one should think of here is the true historian.)

The multiplicity of histories resembles the multiplicity of languages. Universal history in the present-day sense can never be more than a kind of Esperanto, whereas the idea of universal history is a messianic idea: not, Benjamin writes, ‘as written history but as festively enacted history. The festival is purified of all celebration. There are no festive songs. Its language is liberated prose – prose which has burst the fetters of script [*Schrift*]. (The idea of prose coincides with the messianic idea of a universal history.)’

The passage intimates that prose’s assumption of universal comprehension lends itself to ‘the messianic idea of a universal history’. The counterpoint to this evocation of a liberated prose in the passage is the *image* of history (‘If one looks upon history as a text’), an image released from the negative spaces that inhere within a positivist script, from which an image, as in photography, is later developed, via the negative. A complicated dialectic: the positivist prosetext comes to be defined, overwhelmed and released from its fetters, but the contours it had left as script provides the shape of the negative space from which the repressed history arises. We should note here a parallel with Leslie’s own account of liquid crystals in screens: ‘In installing scenes of colourful life, it mingles with, and perhaps occludes – or negates – the lives that apprehend it. What lives must instead have been led in its absence? Are these any longer imaginable or only depictable in liquid crystal?’

In the bright images of liquid crystal display (LCD) screens the world is relayed to us through the lens of the dominant class: class relations are reproduced in the images. The fantasy of the commodity is displayed through the horrors of the mode of production. This striving towards a clarity of colour, focus, definition in the progress of LCD technology has its counterpart in the obscure, abstract exhortations left

implicit by the empty reverse of this imagistic intrusiveness – the lives supplanted and erased. *There is no document of civilization*, Walter Benjamin aphorises, *which is not also a document of barbarism*. The historical materialist views every item of their culture with ‘suspicion’, as a material spoil, a product of the anonymous toil of the exploited, as past congealed labour and past oppression. As such we can read Leslie’s prose work as a pre-emptive text from which a new image of liquid crystals might emerge. In acknowledging that bright liquid crystal displays can function to *obscure* the labour and the lives that cumulatively produce such technology under capitalism, prose about liquid crystals reads as a history and a story about the past, but one inexorably indexed to the possibility of redemption in the face of ongoing catastrophe. Liquid crystals promise light, transparency, clarity, just as scientific prose promises a universal Esperanto. Leslie undermines both suppositions; the situation becomes obscure. An analogy can be found in liquid crystal technology itself: in ‘switch-glass’, a layer of glass containing liquid crystals can be kept in a certain configuration through an electrical impulse. When a switch is flicked off, the liquid crystals become disorganised and the glass becomes opaque. If glass architecture was envisioned by Paul Scheerbart, and subsequently Benjamin, as a form that would counter the clutter and possessive tracings of the bourgeois interior, liquid crystal technology now performs the opposite function: the secrecy and privation of a modern office or interior can be summoned at the flick of a switch. Through the once-utopian idea of glass architecture, the world returns through a sham transparency to the status quo.

Just as liquid crystals pervade aspects of life, they inhere too in the prose form of Leslie’s liquid crystal-line text. In the manner of Ernst Haeckel’s *Riddle of the Universe* (1899) each chapter is headed by a poetic abstract, sketching out the contents of the chapter to come, compressing and abridging the contents yet to be expounded. The book moves, utilising the same technique of foreshadowing abstracts also employed in Scheerbart’s early science-fiction work *Lesabéndio* (1913), between a congealing abstracting movement and the liquefying flow of those full sentences making

up the ‘chapter-proper’. Once again, a synecdoche is revealed: the world itself is a liquid crystal. The part stands for the whole. A particular history stands for principles pertaining to both scientific and potentially redemptive ‘universal history’. In its affinity with a poetic-scientific text (Haeckel) and a science fiction ‘asteroid novel’ (Scheerbart), Leslie’s book subjects the configuration of poetics, fiction, science-writing and history to a new approach, defying a neat reification of the function of writing, while also preserving dialectically the contradictions of this mode: it is not possible to tell a universal history about liquid crystals, and not possible to produce an account of them without the imagination they solicit, but it is also not possible to relate them as wholly utopian, emancipatory and wondrous. They are embedded within a profane context, and subsist throughout a catastrophic history. The particular history being expounded here provides another perspective on Leslie’s other histories such as those explored in *Synthetic Worlds: Nature, Art and the Chemical Industry* (2005) and *Hollywood Flatlands: Animation, Critical Theory and the Avant-garde* (2002). A particular clandestine story is being told, with fairy-tale intrigue and political urgency, because this story has hitherto been glossed over or forgotten: a story about German fascism and its post-war industrial legacy; about nature and the culture industry; a critique of the division of labour between artists and scientists.

‘Only in the messianic realm does a universal history exist. Not as written history but as festively enacted history’, writes Benjamin, imagining a utopian repetition of events. But within secular history, a different formula arises, even though the constituent elements are the same: a repetition recorded as written history by Marx in *The Eighteenth Brumaire of Louis Bonaparte* (1852), a scene in which a failure of revolution is narrated as empty re-enactment. A different kind of prosaic experience exists, however, when ecstasy is transposed into ‘the everyday spirit’. Leslie cites Marx:

Bourgeois revolutions, like those of the eighteenth century, storm swiftly from success to success; their dramatic effects outdo each other; men and things seem set in sparkling brilliants; ecstasy is the everyday spirit; but they are short-lived; soon they have

attained their zenith, and a long crapulent depression lays hold of society before it learns soberly to assimilate the results of its storm-and-stress period.

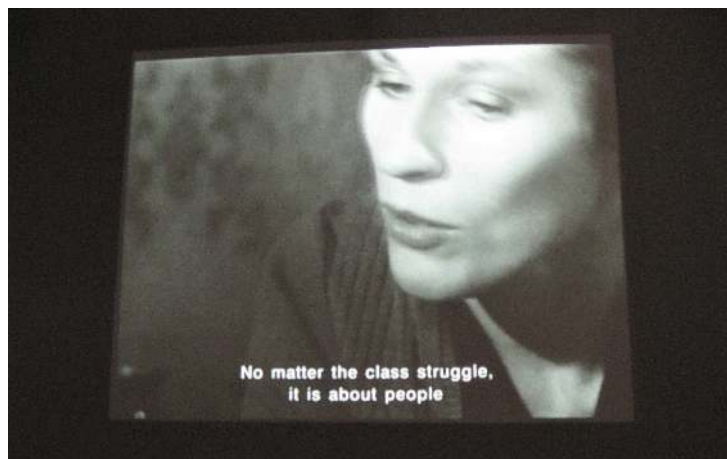
Marx paints these revolutions, in spite of their sparkling brilliance, as continuing along the same lines. Despite their colourful enactments, they perpetuate the status quo: greyness adorned in colour, soon to fade back, still bound to a tradition of class subordination. According to Leslie, Marx argued that bourgeois revolutions, like certain phases of liquid crystals, jerk and collapse back. The dialectics of liquid crystals at this point mirror a conception of revolutionary history as predetermined: revolutions follow a 'natural law', an Engelsian dialectics of nature. At stake here is, then, a fundamental riddle: how to break from the reproduction of natural-law-as-politics through to an historical interruption, one that does not congeal and reify back into the status quo?

For Benjamin, the historical materialist 'investigates the structure of history [and] performs, in their way, a sort of spectrum analysis':

Just as a physicist determines the presence of ultraviolet light in the solar spectrum, so the historical materialist determines the presence of a messianic force in history. Whoever wishes to know what the situation of a 'redeemed humanity' might actually be, what conditions are required for the development of such a situation, and when this development can be expected to occur, poses questions to which there are no answers. He might just as well seek to know the colour of ultraviolet rays.

On the level of appearance, soap, in its traditional form, is a grey mass. Under the microscope, 'parallel molecules' appear 'in a layered structure'. This 'internal structure' marks a parallel historical judgment, a piling or layering of catastrophe upon catastrophe. For Rebecca Comay, in *Mourning Sickness: Hegel and the French Revolution* (2010), the repetitive layering of grey on grey in Hegel has a moment of possible interruption, a 'minimal interval in which the spectator can find a foothold for intervention': the layering of grey on grey signifies both the accumulation of the catastrophic past, the piling of dead on dead, but also its interruption. It contains a recapitulation of the past that is simultaneously its break, a 'reenactment

(in every sense) of the thwarted futures of the past.' In this way, Comay claims that Hegel points to an enactment of history without its stratified recapitulation. It is through a politics of impossible opacity that the route to its end is contained.



For Benjamin, this layering of catastrophic history, of grey on grey, of clouds (another of Leslie's fascinations), is countered by a paradisiacal attitude to colour. In the short fragment 'Notes for a Study of the Beauty of Coloured Illustrations in Children's Books' (1918-1921), Benjamin writes: 'The grey Elysium of the imagination is, for the artist, the cloud in which he rests and the wall of cloud on the horizon of his visions. This wall opens up for children, and more brightly coloured walls can be glimpsed behind it.' The grey of the sky is interrupted by an unsuspected protrusion of colour. Just as the rainbow cuts through the clouded sky, a kaleidoscope of vibrant colour appears through a microscope view in liquid crystalline substances. From the lather of a grey bar of soap appear fluorescent landscapes unfolding upon flying globes in which petrol, neon and various minerals mix. As with Karl Blossfeldt's photographic enlargements of plants, 'an entire, unsuspected horde of analogies' opens up. Colour momentarily appears as paradisiacal in an explosive moment of revelation, aided by the new optics opened up by technology.

This is also mirrored in Leslie's documentation of the glass architecture of Scheerbarth and Bruno Taut. Through the coloured glass of their constructions, the greyness of the sky is transformed. The interior of the Glasshaus becomes the inside of a kaleidoscope. The cosmos and nature, mirroring the aspirations of bourgeois revolution, appear as a phantasmagoria

of a transformation. The long historical tradition of colour theory continually emphasises the ephemerality and fragility of this view of paradise, just as the sparkling brilliance of the bourgeois revolutions soon fell into an inevitable greyness. For Goethe, 'the infant discovers a colourful toy in a soap bubble', in the evaporation of water on glass, in projections upon the clouds in the evening light, in rainbows, in the shadows of colour during a full-moon. All these fall though, collapse on themselves.

Such a repetitive movement of transformation, revelation and return form the dialectic at the heart of Leslie's work: between freezing and melting, between continuity and interruption. This recalls the child referred to in Benjamin's 'Central Park' (1939) who turns the kaleidoscope, and 'with every turn of the hand', Benjamin writes, 'dissolves the established or-

der into a new array. The concept of the ruling class has always been the mirrors that enabled an image of order to prevail – The kaleidoscope must be smashed.' This image in many ways reflects one of Marx's: that 'men and things seem set in sparkling brilliants' returns as a repetition of order, or the order of things. To smash the kaleidoscope is to release its unruly coloured fragments. The radical potential of the liquid-crystal form – contained in screens, soap and other commodities – remains under the control of the ruling classes. The kaleidoscope must be smashed. In *Liquid Crystals*, Leslie provides a script, its prose and its subject, which anticipates a festive enactment of the history of liquid crystals that might wrench its technological potential away from the dominant class.

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The wrong couple

Gregor Moder, *Hegel and Spinoza: Substance and Negativity* (Evanston, IL: Northwestern University Press, 2017). 200pp., £110.00 hb., £37.50 pb., 978 0 81013 542 0 hb., 978 0 81013 541 3 pb.

Gregor Moder's work contributes to a recent trend in continental philosophy: the reconciliation of Spinoza and Hegel. For generations, the continental field has been divided between those who valorise one of these two figures, usually to the detriment of the other. The partisans of Hegel have included Kojève, Hyppolite and Žižek; those of Spinoza have included Deleuze, Negri and Althusser. Early efforts at reconciliation can already be seen in Pierre Macherey's seminal *Hegel or Spinoza* (1979). While Macherey considers himself a partisan of Spinoza, he ends his book with the hint that the title's 'or' can be understood as the Latin 'sive', that is, as an inclusive disjunction. Or, to put it in Maoist terms, the contradictions between Hegel and Spinoza are not necessarily antagonistic ones. Moder's own *Hegel and Spinoza* adopts this line of thought from its beginning. It is crucial to note, however, that this entire conversation begins itself with a very particular assumption: that is, the rejection of rationalist metaphysics, or what Heidegger called 'ontotheology'. The rejection of ontotheology means refusing to conceive of Being as a stable thing

or noun, with its own immutable essence. This understanding of potentiality as more real, or primary, than actuality is common to all these figures; it is expressed by some partisans on both sides of the Spinoza-Hegel divide as the concept of 'the virtual'. The great virtue of Moder's work is to clearly identify this common, fundamental assumption shared by all these figures.

The primacy of potentiality over actual identity seems to imply a constitutive role for what Moder calls 'the negative'. An irreducibly dynamic being or substance is always becoming what it is not. However, Moder repeatedly resists falling into what he calls a 'simple negation'. Ontotheology (the primacy of actual identity) is not to be merely inverted, or discarded in favour of an absolute abyss or lack. This would, for Moder, fall into the trap of reifying the whole (even a negative whole) over the concrete or determinate. Instead, Moder prefers the image of the curve, border or 'torsion' – in other words, the dividing line itself. For Moder, such boundaries express the dynamism of potentiality, but remain always par-