

Special Thanks to...

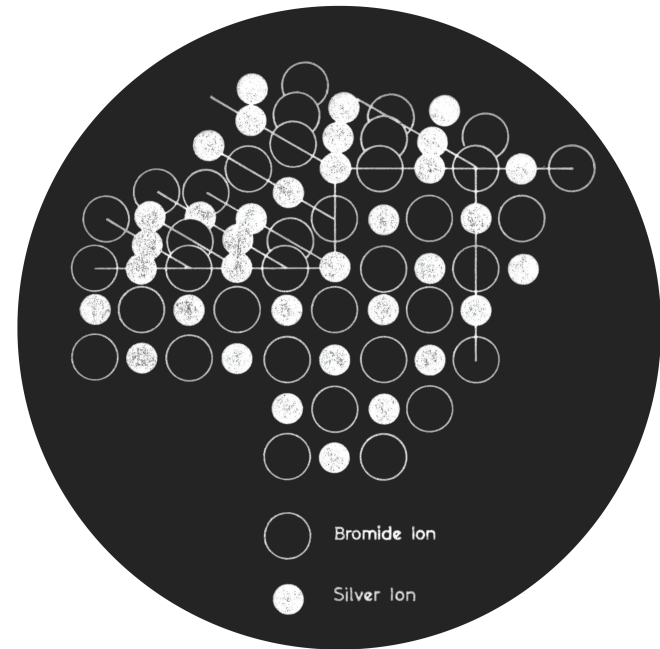
Artists' Television Access

Fara Akrami

Linda Scobie

Sweet Tooth

and to all contributing film makers.



SAN FRANCISCO
OCTOBER 25TH, 2013

FRENKEL DEFECTS

A short program of works from the Process Reversal Collective and other artist-run film groups including L'Abominable (Paris, France), The Double Negative Collective (Montreal, PQ), The Handmade Film Institute (Boulder, CO) and Cherry Kino (Leeds, UK)

PROGRAM NOTES:

The photosensitive material is formed of a multitude of silver halide crystals, suspended in gelatin, without which we would not be able to record a latent image and amplify it accordingly in the reduction of the material.

These crystals are produced by the electrovalent bonding of silver ions and halogen cations (e.g. bromide, chloride, iodide, etc.) wherein the ions sequentially architect themselves into an electrically neutral, cubic lattice structure. Figure 1.3 below illustrates such a structure, when perfectly formed; a lattice of silver bromide, the most common silver halide in photography:

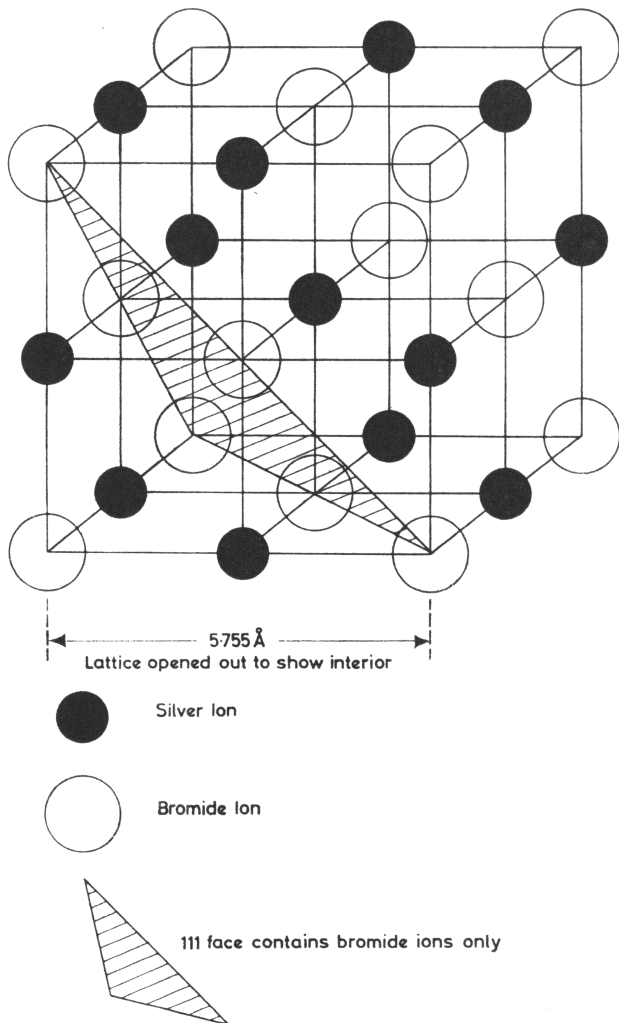


Fig. 1.3 Representation of silver bromide lattice

CORN MOTHER – TAYLOR DUNNE (PROCESS REVERSAL)



[16MM, 6 MINUTES, 1.33:1, MOS, TUNGSTEN]

“A single cartridge of Super 8 captures my mothers last visit to her garden. Her body is seen slowly dissolving towards illumination, while her image is forever immortalized in light and silver. Poem borrowed from the Wabanaki creation myth of the first woman, The Corn and Tobacco Mother.”

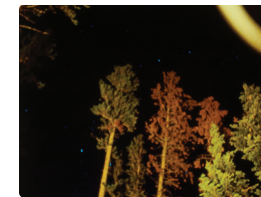
PEACH - MARTHA JURKASTIS (CHERRY KINO)



[16MM, 11.5 MINUTES, 1.33:1, SILENT, TUNGSTEN]

“Synaesthesia is an experience of cross-modal sensuality - 'hearing pink', 'seeing green', tasting shapes or feeling sounds. I think we are all latently synaesthetic, and that a cinematic work has the capacity to bring about a synaesthetic experience if it is made in a personal, artisanal and ethical way, when the filmmaker and the filmed material sensually respond to one another. 'Peach' is an attempt at making a piece of 'Synaesthetic Cinema'.”

SANCTUARY - KEVIN RICE (PROCESS REVERSAL)



[3 MINUTES, 1.33:1, MOS, TUNGSTEN]

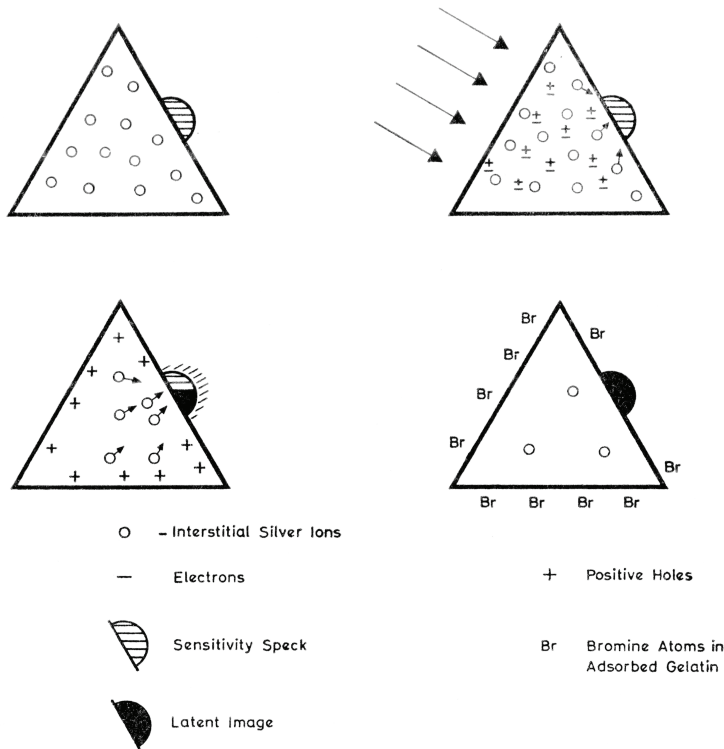
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PROGRAM NOTES (CONTINUED):

Figures 9.1 - 9.4 illustrate the mechanics of latent image formation as theorized by *Gurney & Mott*. In their theory, the interstitial ions of the Frenkel defect, upon exposure to light, are allowed to move freely within the crystal lattice to a "sensitivity spec." As these interstitial ions continue to migrate, the crystal's sensitivity spec. gradually forms into a faint, solid silver grain. It is this grain which acts as the supposed "latent" image -- the catalyst for amplification (i.e. development), without which we could not render a usable photographic image upon the film strip.

However, perhaps the most interesting aspect of the Frenkel Defects (at least in the vein of this program) is not specifically its photo-mechanical properties, but the implication that film *must be* imperfect to function. In this sense, the silver halide might also be seen as a reflection of our films and ourselves, both which, arguably, necessitate a mode of imperfection. Further, we might also consider that projection is a form of photography, one whereby we, the audience, are the photosensitive material -- full of defects -- that is allowed to be imprinted with a latent image. That latent image is in turned processed, printed, projected, over and over again.

That is this program...



Figs. 9.1—9.4 Gurney—Mott mechanism for latent-image formation

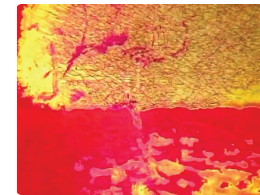
Sucia – Robert Schaller (*The Handmade Film Institute*)



[16MM, 5 MINUTES, 1.33:1, MOS, B&W]

In *Sucia*, Robert Schaller utilizes and exploits a variety of photochemical and photographic processes, specifically handmade pinhole cameras and the persistence of vision, to document several beaches on the Salish Sea and Baltic Sea.

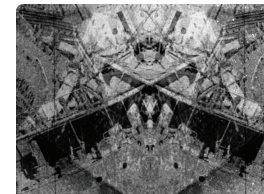
Salt – Martha Jurkastis (*Cherry Kino*)



[16MM, 8 MINUTES, 1.33:1, MOS, TUNGSTEN]

"A vision of women playing in the sea at Saltburn in North Yorkshire becomes a celebration of the material nature of film. The silver salts in film that react to light also react to the metallic salts in film toners, and a multi-coloured seascape emerges from the salt of the sea. Filmed on a part of the beach that was once notorious for shipwrecks, *Salt* is a love letter to film and to the churning, crashing, passionate sea."

I Swim Now – Sarah Biagini (*Process Reversal*)



[16MM, 8.5 MINUTES, 1.33:1, OPTICAL SOUND, B&W]

"*I Swim Now* challenges the visual intelligibility of landscape aesthetics by imagining the experiences of one Violet Jessop, a stewardess on board all three sister ships of the White Star Line – the Olympic, the Titanic, and the Britannic – while each suffered varying degrees of collision and wreckage at sea. *I Swim Now* evokes the intense brutality and repetition of Violet's unique physical interactions with nature through an expansive accumulation of optical techniques and manipulations."

Of important note, however, is the apparent lack of photo sensitivity within a perfect, silver halide crystal. Rather, it appears that the crystals photo-mechanical properties rely on the formation of defects within the lattice — particularly, the Frenkel defect.

A Frenkel defect is a fault within the crystal wherein an ion is omitted from its usual position in the lattice and, in order to maintain electrical neutrality, placed within a non-lattice, interstitial position. Figure 4.10 illustrates such a defect within a silver-bromide halide.

This figure also shows that the appreciably larger bromide ions cannot, because of their size, be located in interstitial positions. Rather, it is the smaller silver ions which are moved from their usual place; these ions located in the interstitial positions are thus called interstitial silver ions.

Additionally, these interstitial ions do not remain in a static position, but instead are allowed to move throughout the cubic lattice structure freely.

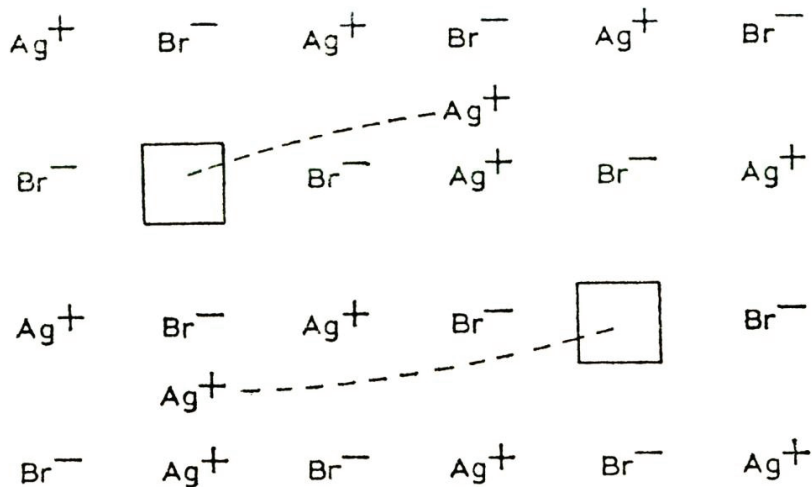


Fig. 4.10. A Frenkel Defect

Terminus for You - Nicolas Rey (L'Abominable)

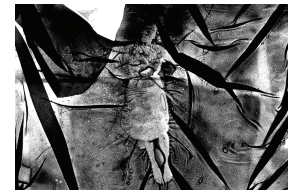


[16MM, 10 MINUTES, 1.33:1, OPTICAL SOUND, B&W]

“Terminus for you, by Nicolas Rey, takes us on a strange journey. That of passengers in the Paris metro, moving from one platform to another, from one line to another and from one destination to the next. What do we actually see? Geometric shapes come and go. The faces of people come into view and then flit away. Glimpses of words, titles torn from posters, are interspersed between these fleeting encounters; love, solitude, couples, etc... In this short visual essay on the borderline between the documentary and the avant-garde film, Nicolas Rey freely combines painting, photography and cinema and reveals a passion for reality and a love of humanity.”

Bertrand Bacqué – Visions du Réel (Nyon) Catalog 1997

At Hand – Andrew Busti (Process Reversal)



[16MM, 9 MINUTES, 1.33:1, OPTICAL SOUND, B&W]

“An exorcism, an exploration, and an unveiling.

A subconscious landscape of a withering relationship.”

Perceptual Subjectivity – Philippe Leonard (Double Negative Collective)



[16MM, 6 MINUTES, 1.33:1, OPTICAL SOUND, B&W]

“Ideas take shape in a kind of cerebral magma where the referents are assigned to parcels of experience from which intelligible elements are formed. Perceptual Subjectivity is an essay on the structural formation of thoughts.”