

# P12. Letting the Genie out of the Lamp

## Part II

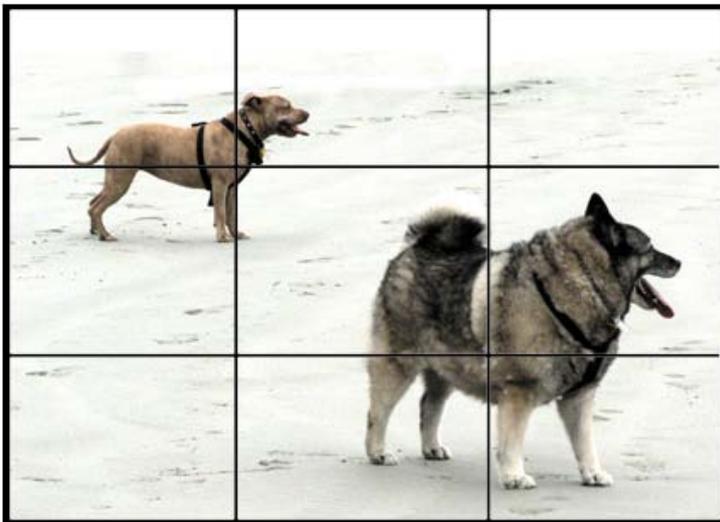
### Making Photos circa 1961

WC 3333

It is another commandment of photography that you do as much as possible in the camera rather than snapping away and hoping you can create a masterpiece in the darkroom. So, for example, if there is time, you compose the picture in your viewfinder as best you can. This not only means making sure that your nearest and dearest do not have telegraph poles growing out of their heads nor are grandad's feet chopped off in the final print. It also means — as the experts always tell us — that you *fill the frame*: that is, get in as close as you can and cut out extraneous detail so as to emphasise your subject. Sometimes that might mean getting too close to a hungry lion or stepping over the edge of a cliff: in such circumstances, then it is OK to leave the job to the darkroom.

*Composition* is just about everything in a photograph. There are a few rules which, like all rules, can be broken but only if you really know what you are doing. Several of the most important are:

- Be careful of details near the edge of the photograph: the closer to the edge, the more dominant an object becomes;
- Avoid putting your main subject in the centre of the photograph; as far as possible, arrange your subject on what are called "the thirds"... imagine a rectangle divided both vertically and horizontally into thirds — where the lines cross is generally speaking, the best place for your main subject.



#### *The principle of "thirds"*

- Another good general rule is to avoid a conflict of interest: the classic case is a mother with a new baby in her arms: who is the real subject?
- And, don't have objects, lines or even people's gazes leading

out of the photograph: keep the picture within its borders.

Having said all those things, I want now to show how those rules can be broken and to demonstrate how even a bad negative can sometimes be turned into a good picture in the darkroom. I am going to use one of my own photos of the period as a demonstration.

Sometime in 1962, the local chemist gave me a couple of 120 roll films which were past their "use-by" dates and moreover, had been in his shop window for a time... Not wishing to look a gift horse in the mouth, I took them home and put them away for several months... then — it must have been late November 1962 — I found the films and decided to see what I could do with them. I loaded one in the Rollei and went wandering around the garden looking for things to photograph... at some stage I noticed my little daughter looking out of the window, and more by reflex than design, I up camera and took her photo. This is known as a "grab shot" and as far as the camera is concerned, is a photograph which is definitely *taken*, not *made*. However, in this case, much of it was *made* in the darkroom...

I developed the film, and as expected, it was very flat and grey, suggesting that the heat in the pharmacist's window had "fogged" the film — that is, it had had an effect similar to exposing the film to low-levels of light. A few days later I was scratching around looking for a negative to print for the local camera club competition... It was the final competition for the year and a friend and I had been running neck and neck all year, so I needed a recent photograph to enter if I was to



stay in contention for first place. The only recent negative I had was the fogged one, so giving up any real hope of winning, I started to print it. The first print was too embarrassing to show even the proud mother let alone take to the camera club!

*The fogged prototype of Nika, (1962)*

However, the darkroom is a place of magic. Using all the tricks of the trade I had learned in what seemed like several past lives, I printed the image far darker than normally and then bleached it back in strategic places in order (a) to get clean pure whites and (b) to get good, deep blacks — my Zones 0 and X, but created in the darkroom rather than in the camera. While still at the enlarger, I had also placed my hand in the path of the light, casting a shadow over the face and central part of the image, allowing the tops and sides to "*burn in*" as we say.... Holding my fist as I did — or any other object — to block the light is called "*dodging*"...

With these tricks, I finally had a photograph which I thought "would do" ... I did not think it much out of the ordinary, but at least I was not ashamed of it. My mate George told me later that the moment I took "*Nika*" out of my case on the night of the competition, he knew he had lost... *Nika* was the photograph which was hung at the Sydney International the following year, made the cover of the Melbourne International and won many other national and international awards in its time... My little girl is now 46.



*Nika (1962)*

One of the reasons I suspect this has been so successful is in part because it is a photographer's photograph in that it breaks all the rules and yet succeeds. In the final print, thanks to over-printing and judicious bleaching, it has a full range of tones from Zone 0 to Zone X. But it also has my daughter's head dead centre of the picture and there are all manner of lines leading out... Even Nicola's gaze looks, if not out of the frame then into the distance... "*Life's little on-looker*" one newspaper critic called it... It is those L-shaped structures which really make the picture in that they keep returning the

viewer's attention to the centre and — as I made the point about darkening the edges of the image — their extremities are dark enough to stop them running out of the frame. And a final word: in case you have not noticed, the light in this photograph seems to come from two directions. This was a trick I learned from Rembrandt, but in this case, the impossible lighting was made possible because I was painting it in with the bleach.

Remember the old adage: the camera never lies! But the photographer can and often does...

However, is it still photography if you use such techniques as bleaching? I see no reason why it should not remain legitimate to use these chemicals which have a long history in photography. The potassium ferrocyanide which is the active

constituent of this bleach was used by Sir John Herschel to make *cyanotypes* and blue-prints; hypo — sodium thiosulphite — the other constituent, has been used almost since photography was invented. The particular combination has been used in many photographic processes which required the silver in the image to be bleached and then replaced with something else... The darkroom, as I said, is a place of magic and we have many potions to help us attain our ends.

The real magic in the darkroom is to take the sheet of photographic paper from the enlarger and place it, still pristine white, into the bath of developer. You agitate the bath a little and suddenly, there in front of your eyes is the image growing out of what had been a blank sheet of paper...

### **But what of the darkroom?**

We might appear to work magic in the darkroom but actually it is a place filled with technology and where the potions are well-tested chemical recipes applied with scientific rigor. Apart from a few dishes, jugs and tongs, etc, as well as a supply of clean water, the essential ingredients of a darkroom are (a) a safe light; (b) a thermometer; (c) a developing tank; (d) an enlarger and, (e) a timer of some kind. The essential chemicals are (a) developers for film and print; (b) a "stop bath"; and (c) hypo solution.

Let us take a quick look at some of the equipment.

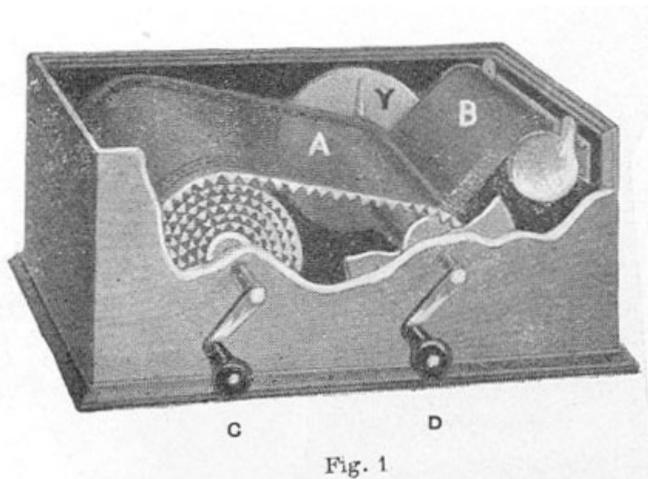
- **Safe light:** No light is "safe" with modern panchromatic films. Modern films must be loaded into the developing tank in total darkness. In the old days when photographic emulsions were not very sensitive to red light, a red "safe light" could be used to find your way around in the darkroom. Red light can be used with most photographic printing papers but a yellow-brown light is not only safer but also easier to see by (it is much like working by moon-light).
- **Thermometer:** The closer all liquids in the darkroom are kept to 20° (68°F) ±2° the better; if the temperature of the developer is lower, proper development might not occur; higher temperatures can cause the highlights in the negative to block up and become unprintable; washing also is affected by temperatures which are too low; and finally, changes in temperature can cause "reticulation", that is, a cracking in the surface of the film which is a bit like the dried mud in the bottom dams during droughts, but which translates in the final print as excessive "graininess".
- **Developing Tank:** Many of us developed our first negatives as they did a century ago, see-sawing the long strip of film through the developer liquid in a dish, aided by a very dim red light (fifty years or more ago, films weren't as sensitive as later on). I used many layers of red cellophane left over from Christmas stretched over my father's bicycle lamp and held in place with a rubber band. But more sophisticated methods were on hand

relatively soon after the introduction of roll film. One was the *Kodak Film Tank*<sup>1</sup> which was on sale from 1907 to 1920 or so.



*Kodak Film Tank*

This was not a simple thing to use: the wooden box provided a light-tight environment inside which the film was loaded onto another roll which operated as in the illustration below:



Fortunately, by the time I was heavily into photography there were many more convenient developing tanks on the market. My first was what was called a Neofin tank, made in Germany; later I had the English Patterson tanks and finally, a series of tanks made of stainless steel, some of which had names, others of which were anonymous but all equally effective. These came in several sizes to fit different films but the earlier ones usually were adaptable, moving one of the central spirals up or down to accommodate 120 or 135 films.

<sup>1</sup> For details - and the illustrations - see <http://www.lungov.com/wagner/c/072c.html>



(left) *Stainless steel developing tank with two reels for 35mm film.*<sup>2</sup>

(below) *Paterson Universal Developing Tank with Reel*<sup>3</sup>



- **The Enlarger**

It has been remarkably difficult to find much information about early enlargers. The earliest reference I have found was to what was called a "solar camera". This rather cumbersome device was invented by an American, D.A. Woodward in 1857. The light-source in Mr Woodward's solar camera was the sun and the whole contraption had to be turned by hand to keep the sun shining into it during the long exposures necessary at that time.<sup>4</sup>

## Improved Solar Cameras.



PATENTED.  
Feb. 24, 1857.  
July 10, 1867.  
Feb. 23, 1871.  
May 26, 1874.  
Aug. 4, 1874.  
Sep. 18, 1877.



All persons are warned not to infringe the Letters Patents.

SEND FOR PRICE LIST.

**D. A. WOODWARD**, Maryland Institute,  
Baltimore, Md.

*Woodward's solar camera. 1857*

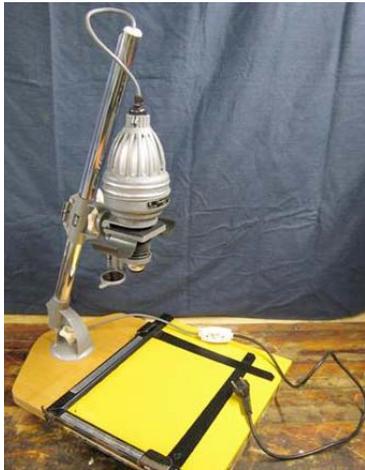
If this looks clunky, then as photography progressed, enlargers became even larger and more cumbersome. Part of the problem was, of course, that long exposures were necessary in the earlier years, but as emulsions became more sensitive and cameras more efficient, the main stumbling block was a light source. Candles and lamps with wicks were

<sup>2</sup> This is a modern Brooks tank, the image from <http://sfbay.craigslist.org/nby/pho/394636075.html>

<sup>3</sup> Also modern, image from <http://www.calumetphoto.com/item/PA1305/>

<sup>4</sup> <http://www.rleggat.com/photohistory/history/enlargers.htm>

sufficient for the magic lanterns of the time — with luck, we will get to explore these a little later on — but it was not until first gaslight and later, the introduction of the electric light that enlargers became truly practicable.



*A Meopta Opemus 4x4 enlarger.<sup>5</sup>*

Although I once owned a Durst professional enlarger<sup>6</sup>, the Rolls-Royce of enlargers of its time, the loves of my darkroom life were two *Meopta* enlargers, the *Axomat* for 35mm and, most important for my exhibition work, an *Opemus* for the 2¼ square negatives from my Rollei camera. These were sturdily made machines and the lenses which went with them were excellent. What seemed strange back in the early 1960s was that we were getting Czechoslovakian-made equipment — my little sub-miniature Microma II and the Stereo-Microma were also made by this firm. Researching this part of this course, however, I found the answer to the puzzle and because of the local interest, I will recount it here:

### **A history of *Meopta* in Australia<sup>7</sup>**

Photographic equipment made by *Meopta* in Czechoslovakia was imported into Australia by Francis Lord Optics Pty. Ltd. One of the founders of this company, Francis Lord, was born in Opava in what is now the Czech Republic. As a young man he studied optics at the Optics Institute in Paris under Faby, the "Einstein of Optics". After Lord completed his studies he returned to Czechoslovakia where he was working when the Nazis occupied his country prior to the invasion of Poland. Somehow or other Lord obtained permission to go to Bucharest to establish an optical workshop but *en route*, he escaped and eventually arrived in Sydney on the Italian ship *Esquilino* which was the second last Italian ship to reach Australia before Italy declared war. In 1940, now in Australia, Lord was employed by Dr. R. Woolley, who was then the Director of the Mt Stromlo Observatory, to help make optics — such as bomb sights, binoculars etc — which were in serious short supply since most optical factories were then behind enemy lines.

While he was working at the Mt Stromlo optical munitions facility, Lord met Mr. Meyer, a German refugee who was interned by the British government after Dunkirk and shipped off to Australia on the *Dunera*. Although interned here along with the other *Dunera Boys*, Meyer was eventually released and seconded to the Mt Stromlo optical munitions

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<sup>5</sup> <http://www.trademe.co.nz/Electronics-photography/Camera-accessories/Other/photos/a-111034233/p-44457189.htm>

<sup>6</sup> It was indeed a beautiful machine but I found it all too automatic, ideal for a professional lab perhaps but not for an enthusiastic amateur who wanted to do everything himself.

<sup>7</sup> Taken from the Company history, celebrating 60 years, at <http://www.avtronics.com.au/History.htm>

factory because, like Lord, he too was experienced in the manufacture of optics, having trained and worked extensively in Berlin prior to escaping to Britain. Together, Lord and Meyer formed the *Francis Lord Mfg Pty. Ltd.* In 1946, Mr. Lord re-established his contacts with the Czech optical industry and was appointed the Australian distributor for *Meopta* in that same year.

- **A Timer of some kind:** there are many bits and pieces which are useful in the darkroom but the final item I listed as essential was some kind of timer. This can be as simple as your own wrist-watch, a stop watch or a dedicated electronic timer which stops the enlargement when the exposure is complete. As with temperature, time is of the essence in the darkroom. However, it is helpful to have two timers, one to control the enlarger so it leaves your hands free to "dodge" and "burn in" and a second one, maybe just a kitchen timer, which will tell you when you have given enough time to the print in the developer and in the hypo.

### **Chemicals in the dark Room:**

Earlier, I listed the chemical potions one needs in the darkroom as (a) developers for film and print; (b) a "stop bath"; and (c) hypo solution.

- **Developers:** It is no longer necessary to collect oak galls to develop your photos. Even in 1961, there were many brands of commercially-prepared developers for both film and print on the market. For **film**, one of the oldest and even today, still most popular and reliable was Rodinal. This, like most shop-bought developers came as a concentrated liquid in a brown bottle — brown, to help reduce oxidation while on the shelf. This, like the many other commercial products would then be diluted to whatever concentration the photographer wanted, depending on the speed of the film and the nature of the subjects which had been photographed. Remember the Commandment, "*expose for the shadows and develop for the highlights*"? So, if you had a very contrasty picture where there was a danger the highlights would turn out plain white with no detail, you reduced the concentration of the developer and/or cut the development time back. On the other hand, if there was lots of shadow, you could increase the developer or better still, develop for longer to help bring up the details which otherwise would be omitted.

Many of us preferred to make up our own film developer. My favourite was a very old one which, because I favoured *against-the-light* (*contre jour* or *back-lit*) photographs, worked very well for me, allowing for the high contrast yet giving me a reasonably *fine grain*.<sup>8</sup> My favourite was known as the *Willi Beutler* or *Neofin Blau* developer and it consisted in two separate

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<sup>8</sup> As explained earlier, "grain" consists in clumps of silver which make up the image. Some developers encourage the silver particles to migrate while the film is wet and form larger clumps.

stock solutions, A and B, parts of which were mixed together and diluted when needed to develop a film. The recipe was:

### **Beutler developer**

#### Stock Solution A

Metol 10g  
Sodium sulfite 50g  
Water to make 1 litre

#### Stock Solution B

Sodium carbonate 50g  
Water to make 1 litre

These were made up and stored in air-tight brown bottles. To use, 1 part of A was mixed with 1 part B and 8 parts of water. Development could be for anything between 8 and 15 minutes, at 20°C (68°F). This was a one-shot developer: after the film was developed, the developer was thrown away.

The ingredients are, for the most part, simple: the Sodium sulphite in A is a preservative (also common in food); the Sodium carbonate in B causes the gelatin in the emulsion to soften and allow the Metol, from A, to do its work.... This is a complex chemical and I don't know how it works except of course, to reduce the exposed silver halide to metallic silver.

Developers for prints were usually more complex and most amateurs bought commercial products. The favourite, almost world-wide in the 1960s was *Kodak Dektol*. This too came in concentrated form, but as a small tin of dry chemicals. You dissolved the contents of the tin in a litre of water and kept this, as your stock solution, again in an air-tight brown bottle preferably in a light-tight cupboard.

When developing a print, it was not a matter of adjusting printing times but rather ensuring that the temperature was correct and that the full time was allowed for the developer to do its work.

- **Stop bath:** Since both film and print developers are alkaline, immersing the film or print in an acid bath stops any further development. Usually the stop bath was just clean water at the right temperature to which a dash of white vinegar had been added but there were also commercial products available.
- **Hypo:** As we have seen, this "fixes" the image — ie., dissolves any unexposed silver halide and so renders the image permanent, or rather,

permanent only if the negative or print is then washed thoroughly to remove any residual hypo which itself in time would bleach the image. Thorough washing of both print and negative is essential if you want them to out-live you.

**The Masterpiece makes its debut:**

If all has gone well, at the end of the work in the darkroom you had a wet print which, when allowed to dry, could then be filed in the family album or for those of us who sold our souls for exhibition honours, mounted on an acid-free card and shown to the world. Someone once said that all art is a failure in the eyes of the artist: the same applies to photography because no photograph is ever as good as you hoped it would be. Fortunately, sometimes others see it through different eyes and like it for itself alone.

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