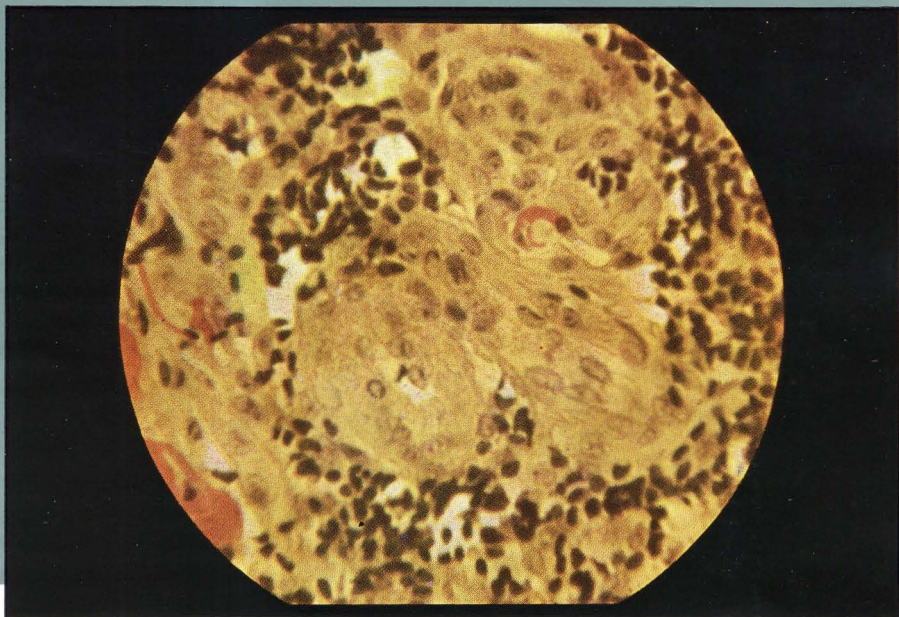


INSTRUCTIONS



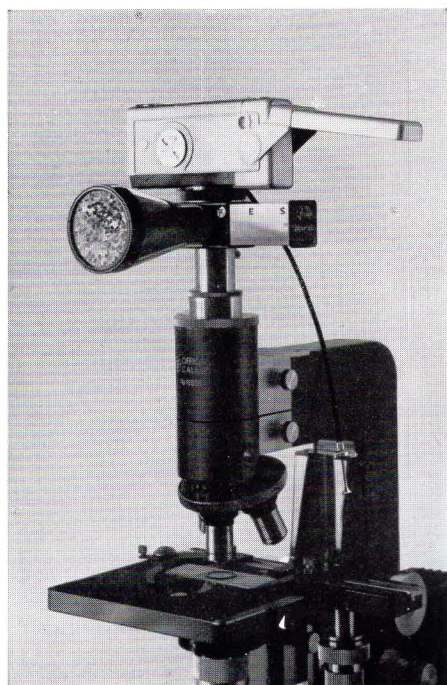
8



GaMi 16 microscope adapter

GaMi 16 microscope adapter

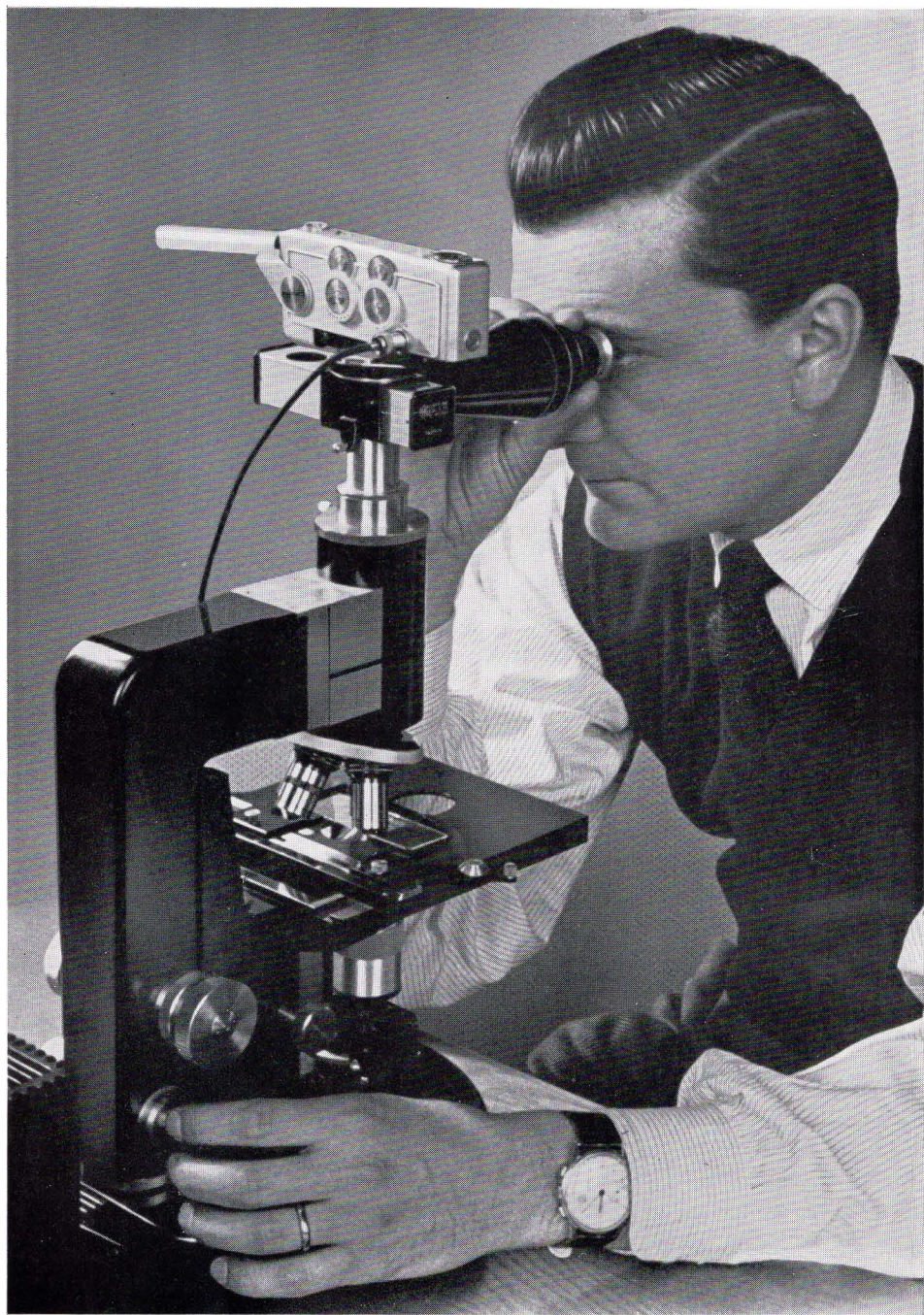
The Gami subminiature camera may be used as a microphotographic attachment in conjunction with a special adapter securable to the eye-piece tube of any standard microscope.



The prejudice that the use of small sizes instead of large ones, as for instance $3\frac{1}{2} \times 4\frac{3}{4}$ " (9 x 12 cm) or $5\frac{1}{8} \times 7\frac{1}{8}$ " (13 x 18 cm), is always disadvantageous, should be given up any time that the microphotography aims to represent actual or transient phenomena, or whenever many timely documentations are preferable to the technical perfectness of a larger micrography.

By means of the Gami 16, immediate documentations of what you are looking into the microscope may be obtained, which are otherwise possible only through a very expensive apparatus. A rapid sequence of three microphotos may be shot each time. Exposure is set by means of the Gami built-in **exposure-meter**, and focusing adjusted on the « Reflex » device.

As far as microphotographies are concerned, another outstanding advantage of small sizes is the possibility of taking **very fast snapshots** without powerful sources of light, avoiding, in such wise, to overheat the microscopic specimen. In effect the quantity of light passing through the latter is the same which will, afterwards, expose the whole negative.



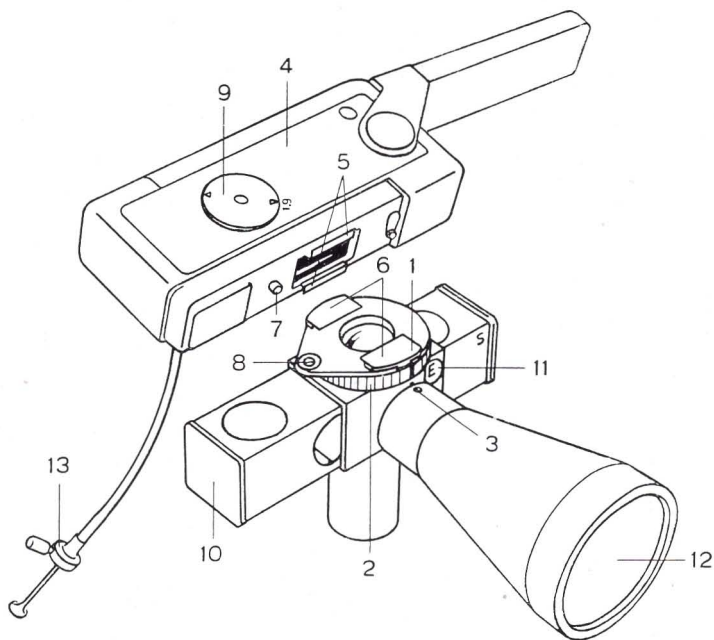


fig. 2

The smaller is the negative, the minor will also be the quantity of light required, and therefore the shorter the exposure time.

While the distribution of the intensity of light is not so important for large sizes, it does indeed become important for smaller ones, as for instance for the Gami 1 x 1,1/2" (24 x 36 mm) and 12 x 17 mm. In fact the ratio between the area covered by the disk of light necessary to expose a 3,1/2 x 4,3/4" negative, and the one corresponding to the Gami size, is almost 100×

This means that, with the same source of light, while 1/10 second exposure time is required for a 3,1/2 x 4,3/4" size, 1/1000 second is enough for the Gami 16.

Or, making reference to the source of light power: for the same exposure time, a 10 W electric bulb would suit the Gami size in-

stead of a 1000 W one necessary for the 3,1/2 x 4,3/4" size.

These ratios may not be fully accepted, but it is a fact that, with a pointolite lamp of no more than 30 W, you can shoot at 1/250 or 1/500 second, by means of the Gami camera secured to a microscope having the most powerful immersion objective.

The negative so obtained is enlargeable up to a 3,1/2 x 4,3/4" size, and will have the sharpness of a contact print.

HOW TO SET UP "REF" ADAPTER WITH REFLEX

In order to fit this adapter into the Gami 16:

1) Make sure that index (1) (fig. 2) of knurled ring (2) coincides with red spot (3). In this position the two flanges of the locking

mechanism of the adapter will be completely open.

2) Insert camera (4) into adapter so that flanges (6) may engage slides by the lens front-window (5) and pin (7) may fit into slot (8).

3) Lock tight flanges (6) by turning either left or right knurled ring (2).

4) Load camera by inserting a magazine and adjust the emulsion speed indicator in accordance with the type of film used.

5) Press release button three times till the frame counter passes from the red indication to zero reading on film counter.

6) Set range-finder at **infinity** (∞).

7) Act on dial until it reads stop number F/1,9 i.e. **the maximum aperture**.

The microscope must be **absolutely free from vibrations**: in fact, because of the laters, microphotographies shot with whatsoever a camera, very often lose their sharpness.

HOW TO SHOOT MICROPHOTOGRAPHS

Whenever you have to take a picture of the microscopic specimen which you are examining:

1) Remove the microscope eye-piece and replace it with the **adapter** to which camera is secured.

2) Remove also the eventual absorbing screen from the lamp illuminating the microscope.

3) Act gently on slider (10) until letter **E (Exposure-meter)** will appear within little window (11).

4) Look into Gami viewer, giving a particular attention to the exposure-meter. Adjust shutter speed by acting on dial thumb-wheel until symbol V («**Sunshine**») will superpose the hardly visible «photometric number».

5) Push slider (10) into position **F (Focusing)**, and viewing through a $6\times$ magnifier the image appearing on Reflex screen (12), adjust focusing by means of the microscope micrometer screw. The $6\times$ magnifying glass must have been previously set in order that the image of the two lines engraved on frosted glass screen (12) should appear perfectly sharp.

6) Push slider (10) on position **S (Shoot)**, and shoot by means of cable release (13). If the shutter was completely wound before inserting the adapter, you may shoot the first sequence of three shots. Afterwards, in order to rewind the shutter, turn handle toward microscope, as far as possible. This will wind shutter for two successive shots instead of three. However it is advisable, when only one picture has to be taken, to rewind completely after each shot.

FILTERS

The Gami built-in yellow filter may be advantageously used in many cases; but other filters, accurately chosen according to the specimen colour, may also be inserted under the microscope condenser.

Do not forget that, generally, while filters, make clearer the objects of their same colour, they darken the ones with complementary colours.

The yellow-green and blue filters are the most used in microscopy.

The Gami built-in photometer acts automatically on the exposure-meter for correction of shutter speed, except when the filters inserted are active in the ultra-violet or invisible rays zone.

"OC" ADAPTER WITH EYE-PIECE

This slightly different Gami adapter (Fig. 3) carries an **adjustable eye-piece**, instead of

the Reflex device with frosted glass screen. Such adapter allows to keep the camera ready on the microscope, and also to look at the specimen through the horizontal eye-piece.

Either two or three microphotographies may thus be quickly shot, after having previously pushed the slider from position F to position S.

HOW TO USE "OC" ADAPTER

Same instructions as for Reflex adapter,

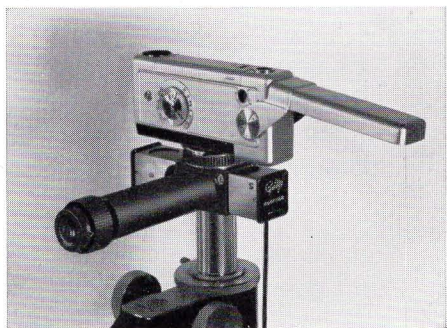


fig. 3

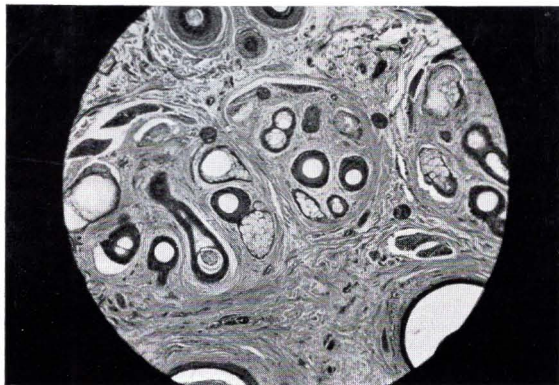
except for focusing which is adjusted directly through the horizontal eye-piece and not by means of the $6\times$ magnifier.

The horizontal eye-piece must be previously adjusted in order that the cross engraved inside should appear perfectly sharp.

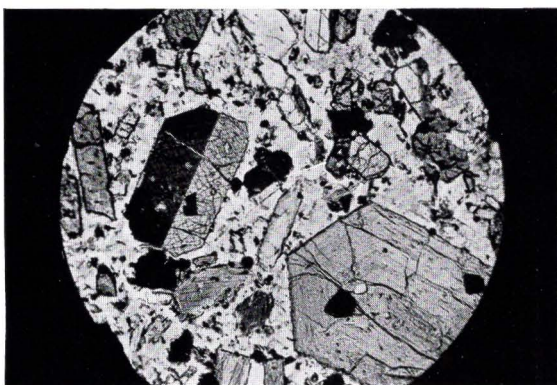
The image given by the microscope must then be accurately focused at the same level of the cross, and carefully framed at the center of the field.

A particular attention should be given to this operation. In fact, because of the eye adaptability, you may never be sure of having properly focused the object, as it happens, instead, while using the Reflex and $6\times$ magnifier.

The main difference between the **adapter with Reflex** and the one **with horizontal eye-piece** is that, through the first, a direct examination, (with whatever eye-piece), and a better focusing are possible. But such adapter has to be secured to the microscope every time it is needed, while the other is already fastened to the latter, and pictures may be immediate. The specimen, however, is to be viewed **only** through the OC eye-piece.



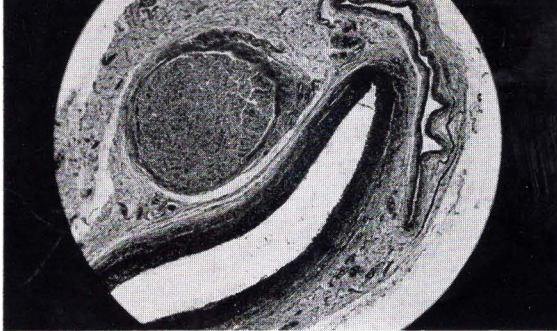
Objective 10 x
Magn. 50 x



Objective 10 x
in polarized light
Magn. 50 x

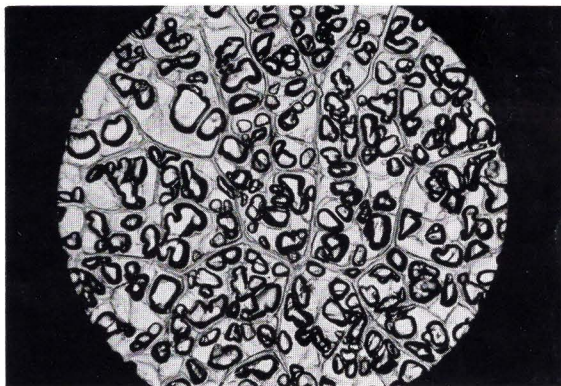


Objective 100 x oil imm.
Magn. 500 x

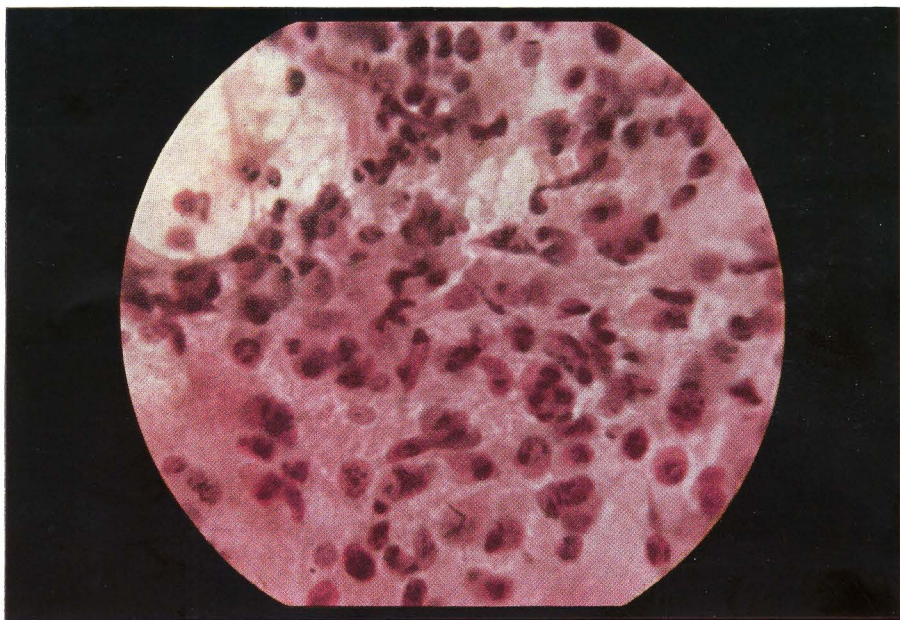


Objective 10 x
Magn. 50 x

Objective 10 x
Magn. 50 x



Objective 100 x oil imm.
Magn. 800 x



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