Why 700 line pairs resolution or more in b/w photography?

Normal lens resolution and low contrast resolution.
Normal films and Gigabitfilms and their difference.

Given the correction state of most current lenses today, it is more true to life to use a high contrast lens resolution of 120 up to 150 as the standard just now. These figures are in close accordance with practical findings as most high contrast tests with normal usable lenses gave system resolution for high contrast of 80 to 150 lp/mm. Allowing of 100 lp/mm high contrast targets on the negative, not only Gigabitfilm – but also some classical films of today, is not difficult to reach with modern autofocus. But how looks **the low contrast** on these standard films? **There is no detail, no more resolution on the negative – only grain.** Most photographers do not care whether they are photographing with 60 or with 120 lp/mm, as they are interested in good content and set high values on art and emotion as parameters for a good picture. But they want to see on the negative, what they have seen by making the potography. **It's only the Gigabitfilm, where you get it all, everything you have seen.**

Of course, from the 720 or 900 lp/mm reserve for high contrast on Gigabitfilm you can use only 20% with your normal optics, but for to get **the full quality for your low contrast image you need the high reserve of the Gigabitfilm.** For low contrast parts of normal photographing 60% up to 90% of the Gigabitfilm reserve is need for correct low contrast recording. That's the most important fact for the Gigabitfilm-quality.

Does a better lens quality really exist?

The Gigabitfilm is a new dimenson in BW-photography and allow a useable high contrast resolution of 700 to 900 lp/mm (every line pair a black and a white line or space). How could it be possible theoretically and if so could there be lenses that can use this capability? It sounds very impressive to discuss resolution figures above 350 up to 550 lp/mm for high contrast, just this **is shown** in the thousand fold enlarged picture **(1)**. Gigabitfilm state with full referrence to the method used to establish the published results, that even in continuous tone reproduction with **selected diffraction limited photographic lenses,** high contrast resolution values above 350 up to 550 lp/mm **can be usefully employed.** It sounds very impressive to discuss resolution figures above 500 lp/mm. But to those who want to know where the limits are, it may be a sobering thought that the jump from 120 lp/mm to higher values, while seemingly a small step, is not easy to attain, but with Gigabitfilm you have stable basics, where new steps in new dimensions can be done.

Fundamentals of human's eye resolution:
the different resolutions of one or two human eyes.

Under normal circumstances one human eye can resolve 90 up to 50 seconds of arc. Two human eyes can resolve at most 10 up to 5 seconds of arc, according to all ophtalmic and optic handbooks. An absolute limit: the resolving power of the both eyes. Astronauts could detect structures of just 10 meters from 160 kilometer high in the orbit, this is 10 seconds of arc.

We simply cannot see a finer detail at that distance due to the retinal structure.This means that any detail at a distance of 25cm which is smaller than 6 lp/mm cannot be detected from **one eye** as separate lines, but will noticed by **the two eyes,** you will feel there is another quality. That's the point, this is important for an artist – to have the better feeling.

(1) Gigabitfilm.de: ***A thousandfold linear enlarging,*** Exact description of an more than 10 years old enlargement which shows highly significant the diffraction limited quality of the Gigabitfilm. With a reference for lens designers to concentrate onto improvements of condensors, e.g. for scanners.