Riemann–Roch Doodle (English Rendering)

1. The original image

2. English rendering (diagram + translated text)

2.1 "The latest craze: the diagram"

Riemann–Roch theorem: the latest craze — the diagram:

$$\begin{array}{ccc} K'(X) & \xrightarrow{\quad f_! \quad} & K'(Y) \\ \Big\downarrow{\scriptstyle \tau} & & \Big\downarrow{\scriptstyle \tau} \\ \operatorname{Gr} K'(X) \otimes \mathbb{Q} & \xrightarrow[\quad f_* \quad]{} & \operatorname{Gr} K'(Y) \otimes \mathbb{Q} \\ \Big\downarrow{\scriptstyle \mathrm{ch}} & & \Big\downarrow{\scriptstyle \mathrm{ch}} \\ H^*(X, \mathbb{Q}) & \xrightarrow[\quad f_* \quad]{} & H^*(Y, \mathbb{Q}) \end{array}$$

i.e. commutative!

2.2 Translated paragraph (English)

> To give this statement about $f\colon X \to Y$ even an approximate meaning, I had to abuse the audience's patience for almost two hours. In black and white (in Springer's *Lecture Notes*) it probably runs to something like 200–500 pages.
>
> A striking example of how our drive for knowledge and discovery is increasingly getting lost in a life-detached logical delirium, while life itself is "going to hell" in a thousand ways — and is threatened by *irreversible destruction*. High time to change our course!
>
> — Alexander Grothendieck

Notes

- The doodle's symbols are rendered in a standard modern notation; the handwritten diagram is stylized and not always unambiguous at this resolution.
- If your LaTeX setup can't include `.webp` images, convert the file to `.png` or `.jpg` and change the filename in the `\includegraphics` line.