EYEPIECE EVOLUTION 1610 ~ 1990

17th Century
18th Century
19th Century
20th Century

Positive lenses
Negative Lenses

EYEPIECE EVOLUTION 1610 - 1995

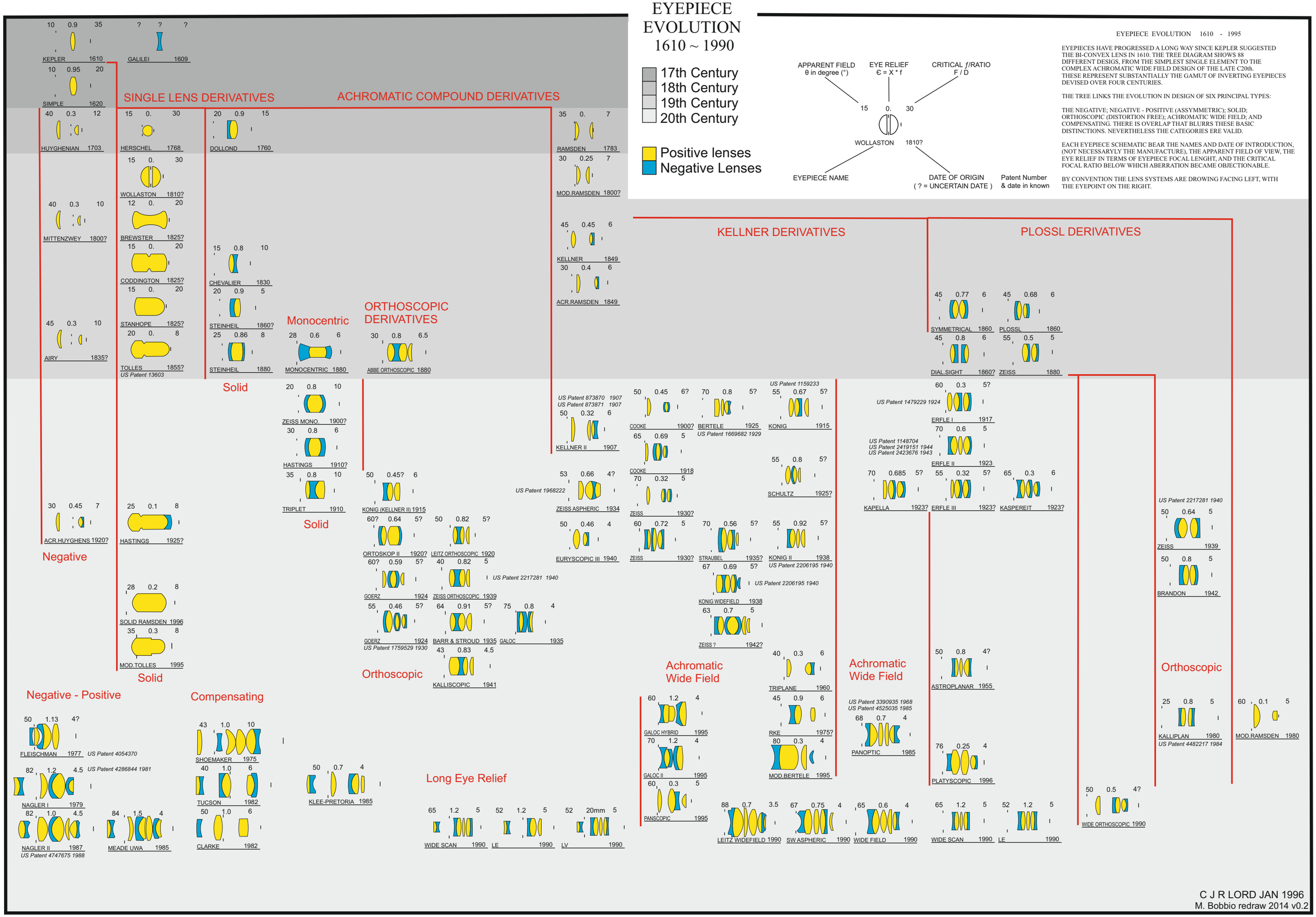
EYEPIECES HAVE PROGRESSED A LONG WAY SINCE KEPLER SUGGESTED THE BI-CONVEX LENS IN 1610. THE TREE DIAGRAM SHOWS 88 DIFFERENT DESIGS, FROM THE SIMPLEST SINGLE ELEMENT TO THE COMPLEX ACHROMATIC WIDE FIELD DESIGN OF THE LATE C20th. THESE REPRESENT SUBSTANTIALLY THE GAMUT OF INVERTING EYEPIECES DEVISED OVER FOUR CENTURIES.

THE TREE LINKS THE EVOLUTION IN DESIGN OF SIX PRINCIPAL TYPES:

THE NEGATIVE; NEGATIVE - POSITIVE (ASSYMMETRIC); SOLID; ORTHOSCOPIC (DISTORTION FREE); ACHROMATIC WIDE FIELD; AND COMPENSATING. THERE IS OVERLAP THAT BLURRS THESE BASIC DISTINCTIONS. NEVERTHELESS THE CATEGORIES ERE VALID.

EACH EYEPIECE SCHEMATIC BEAR THE NAMES AND DATE OF INTRODUCTION, (NOT NECESSARYLY THE MANUFACTURE), THE APPARENT FIELD OF VIEW, THE EYE RELIEF IN TERMS OF EYEPIECE FOCAL LENGHT, AND THE CRITICAL FOCAL RATIO BELOW WHICH ABERRATION BECAME OBJECTIONABLE.

BY CONVENTION THE LENS SYSTEMS ARE DROWING FACING LEFT, WITH THE EYEPOINT ON THE RIGHT.



C J R LORD JAN 1996
M. Bobbio redraw 2014 v0.2