Correction to "Dynamic visual noise and the stereophenomenon: Interocular time delays, depth, and coherent velocities"

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R. Ian MacDonald has pointed out an error in Falk and Williams (1980), the paper authored by myself and Robert Williams. The velocity V_{td} is the angular velocity, in the temporal disparity model, of the apparent motion about the point P on the screen, not the perceived angular velocity about the observer. The latter, V_o , which is related to the former by $V_o = V_{td}b/(D + b)$, is the velocity which should be compared with the measured observed velocity, V_m . (Here b is the perceived depth of the apparent motion and D is the distance to the observer, both measured from the display screen.) In fact, then, V_o is precisely equal to the inferred velocity in the Pulfrich model, V_i . That is, neither model determines a velocity or a depth, but they both predict the same relationship between the perceived depth, b , and the measured coherent velocity, V_m .

Thus, the temporal disparity model, like the Pulfrich model, also requires the presence of some velocity. With this in mind, it is not surprising that the narrow horizontal field experiment of Tyler (1977), which has a temporal disparity but no horizontal velocity, yields no apparent depth.

To all intents and purposes, then, the temporal disparity model and the Pulfrich model are merely two different ways of describing the same theory and are indistinguishable.

We thank Dr. MacDonald for his correction.

REFERENCES

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