Vinokur and Geshkenbein Reply: We agree with most points made in the preceding Comment [1], although the subject discussed does not concern the main result of our original paper [2]. In our paper [2] we have presented for the first time an analytic solution to a nonlinear diffusion equation for flux creep in type-II superconductors. We described the temporal and spatial evolution of the Bean critical state and found the magnetic flux and current distribution for different experimental situations. In writing down the corresponding expression for the relaxation rate for a particular case we made an unfortunate inaccuracy, which has become the subject of the preceding Comment. In fact, formulas (14) and (15) should be replaced by

$$S=\frac{d\ln M}{d\ln t}=-\frac{x_f(t)}{d}\frac{T}{U_0},\quad t\ll t^*, \tag{1}$$

$$S=-\frac{T}{U_0},\quad t\gg t^*, \tag{2}$$

where Eq. (1) is obtained by straightforward differentiation of Eq. (8) of [2]. There was also a minor misprint [it should be $\sigma\gg 1$, instead of $\sigma\gtrsim 1$ two lines above Eq. (14)], but the important point is that the position of the flux front $x_f(t)$ in Eq. (1) was inaccurately approximated by the Bean penetration depth d_0 in Eq. (14) of paper [2] [Eq. (1) of the preceding Comment]. It follows from (1) and (2) that the transition between partial and full penetration regimes is more gradual than we expected, and we are grateful to the authors of the Comment for drawing our attention to the mistake in Eq. (14) of [2].

We definitely agree "that the correct result for $M(t)$ can be easily reproduced by simply approximating the field profile by a straight line," since it is just the result *derived* in our previous paper [3] (see also [4]). It was shown [3] that the current j can be split into the time-dependent but spatially homogeneous part $j(t)$ and coordinate-dependent correction $\delta j(x,t)$, which for the case of full penetration is given with logarithmic accuracy by

$$\delta j=-\frac{T}{\partial U/\partial j}\ln(1-4x^2/d^2).$$

This correction is small $[\delta j(x,t)\ll j]$ far from the center of the sample if $r=T/j(\partial U/\partial j)\ll 1$ but diverges near the center of the sample (or near the flux front in the case of partial penetration). Note that the quantity r is the parameter indicating whether linear ($r\gg 1$) or nonlinear ($r\ll 1$) flux diffusion takes place. The important result of [2] is that for the particular case of logarithmic creep barriers, the nonlinear diffusion equation for flux creep can be solved *analytically* all over the sample including the sharp change in the current near the flux front or near the center of the sample. Note that formulas (4) and (5) of the preceding Comment are just reproducing formula (8) from [2] for $M(t)$ [in Eq. (8) we approximated the *derived* exponential, $1/(\sigma+2)$, for time dependence, used throughout the paper and in particular in the preceding equation (7) six lines above Eq. (8), by $1/\sigma$ in the limit $\sigma\gg 1$].

The results (1) and (2) can be easily generalized for any current dependence $U(j)$ of the creep barriers, provided $T/j(\partial U/\partial j)\ll 1$. Note that in the "straight-line" approximation $M(t)\sim j(t)$ for full penetration and $S=d(\ln M)/d(\ln t)=j^{-1}dj/d(\ln t)$. Making use of the fact that the relevant barriers for relaxation processes satisfy $U(j)=T\ln(t/t_0)$, one gets

$$S=\frac{T}{j\,\partial U/\partial j}. \tag{3}$$

For partial penetration, $4\pi M=B_0d(1-B_0c/4\pi jd)$, and

$$S=\frac{x_f(t)}{d}\frac{T}{j\,\partial U/\partial j}, \tag{4}$$

where $x_f(t)=B_0c/4\pi j(t)$. For the case of a logarithmic current dependence of the barrier, $U=U_0\ln(j_0/j)$, we reproduce Eqs. (1) and (2). As pointed out in the preceding Comment these regimes fit smoothly onto each other at $t=t^*$, and there will not be any cusp in the relaxation curve. A noticeable change in the slope S can be observed provided that both regimes [with $x_f(t)\ll d$ and complete penetration] are realized. For example, this can be made to occur by varying the magnetic field below and above the field of full penetration.

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