Dr. Chris Hamer,

Sir,

I no longer have any patience for the kind of simple-minded arguments such as those you have adduced in an endeavour to show me how I am but an “apprentice” in physics. You have understood nothing of my work and have merely regurgitated the usual claptrap. You will recall that I asked you two questions at our brief meeting. I shall remind you. What is the usual metric for the gravitational field known by? You answered, the Schwarzschild solution. I asked you, what does the variable r in that metric signify? . You answered, a radius. I pointed out to you then that both are incorrect and that it is this deep-seated assumption, coupled with the misapprehension that the solution is due to Schwarzschild, that prevents the orthodox theorists from understanding the problem, let alone from solving it. Nonetheless, you have disregarded, as is usual, these very basic facts, and gone off into the typical diatribe. I will now address all your objections and show that they are all spurious.

First, I am aware already of the unfortunate misprint in equation (1), but it is of no real consequence.

The nature of the issue is polemical and I see no reason why I should not express myself in the way I have chosen. It is a fact indeed that the black hole arises from a bungled and botched analysis of the Hilbert metric. It is a fair and accurate statement.

You claim that the fact that Hilbert’s metric is incorrectly called Schwarzschild’s metric is beside the point. I do not agree. In my view, the claims about Schwarzschild amount to a gross scientific fraud, comparable to Piltdown Man. Schwarzschild’s metric is clearly unable to be obtained from Hilbert’s, and vice versa, by any admissible transformation of coordinates. Furthermore, no black hole can be obtained from Schwarzschild’s metric. The issue is not irrelevant. The two solutions are incompatible. They cannot both be right. I have demonstrated that Schwarzschild is right, in so far as point-mass solutions have any meaning, and Hilbert and the black hole relativists dead wrong. You do not understand the arguments I have adduced to prove this, yet I don’t see how I can make them any simpler.

Your appeal to Birkhoff’s theorem is misguided. The fact that Schwarzschild’s original solution satisfies the condition of asymptotic flatness invalidates your claim that Hilbert’s solution is the only one that is asymptotically flat. Your claim is flippant. Indeed, the infinite number of particular solutions I have obtained satisfy that condition, as is plain by simple inspection. Moreover, Birkhoff’s alleged theorem says nothing about the valid range on the variable r. One cannot appeal to Birkhoff’s theorem to discredit my arguments in any way, shape or form. In fact, if this theorem means anything at all it means only that the *form* of the metric tensor is the only one allowable. My analysis confirms that. The said theorem really has no bearing on my analysis.

You say that by my supposing that the test particle at r_o acquires mass, I destroy the spherical symmetry around $r = 0$. Indeed I do, but you have completely missed the point: $r = 0$ is *not* the origin, because r_o is the origin, a completely arbitrary origin, precisely where the point-mass (the source of the gravitational field) is located. The value of $r = 0$ has no intrinsic meaning as an origin or coordinates. You have completely failed to understand that. Only when $r_o = 0$ is $r = 0$ the origin. There is no a priori reason for this to be so. It has no particular right to "originship". Tell me please, why did you place the point-mass at $r = 0$? I did not make any reference to $r = 0$ in the setting up of the problem. I distinctly said in my paper that test particles are to be located at r and r_o. Where does your $r = 0$ come from? I'll tell you. You put it there yourself, because you have unconsciously assumed that $r = 0$ has some intrinsic meaning as an origin. It is clear in my arguments that I did not put the point-mass at $r = 0$. You have thoroughly misrepresented me in your reply to Mike Gall and Warwick Couch. This is unconscionable behaviour. So why did you do that? Also, where do I make original assumptions that you say I violate by placing the point-mass at r_o? There are none in my paper. Did you just make them up, again for yourself, and the benefit of discrediting me in the eyes of Mike Gall and Warwick Couch? It is you who is confused, not I. You add a third object, which you call the star's mass M, and you put it at $r = 0$. There is a difference between a test particle and a point-mass. The point-mass is that which gives rise to the gravitational field. Clearly I have not confused the point-mass with anything. It is just as I say it is – a point-mass at r_o and a test particle (massless, no charge, no rotation, etc.) at arbitrary $r > r_o$. In my 3rd paper, which you obviously did not read, I remove even this latter restriction so that r_o can be approached from above and below, because as I have proved, r is nothing but a real-valued parameter for the true radial quantities in the gravitational field, namely, the radius of curvature and the proper radius, which are not the same in the gravitational field, but are identical in Minkowski space, because the latter is Euclidean. One may adopt equality (identically) of the radius of curvature and the proper radius as a definition of a Euclidean space. They are not the same in the gravitational field because the latter is a pseudo-Riemannian manifold, i.e. non-Euclidean. It is clear in my analysis that the source of the gravitational field is at r_o, not at $r = 0$. You put your star's mass M at $r = 0$, I didn't. It does not appear in my arguments anywhere. Gross misrepresentation.

My analysis makes very little sense to you because you do not read what I write, but what you want to read into what I write, because you cannot get away from the invalid assumptions that r is a radius in the gravitational field and that $r = 0$ is always an origin.

Your remark that $C(r_o) = \alpha^2$ "makes no sense", because "r_o was an arbitrary radius to begin with" clearly betrays your misconceptions. First, r_o is a point, being the location of the point-mass in parameter space. The variable r is not a radius in the gravitational field. I told you this at our meeting, but alas, in one ear and straight out the other. So you persist with this nonsense. The fact that $C(r_o) = \alpha^2$ is a result of general covariance, and is a scalar invariant which characterises the gravitational field of the point-mass. You clearly do not understand general covariance and the meaning of scalar invariants. Here it is, r_o is entirely arbitrary, and no matter what value it takes, $C(r_o) = \alpha^2$, i.e. $C(r_o) \equiv \alpha^2$. It is an identity, completely independent of the value of r_o.

You cite me, thus, “The invalid conventional assumption that $0 < r < \alpha$ …” and you then say “(presumably for r we should read r*) “. That is rubbish. I have made it plain that r* and r are not the same and that r* is just another way of writing $\sqrt{C(r)}$, that is, I obtain a transformation by writing $r^* = \sqrt{C(r)}$. This is argued step by step in my paper. You have no business substituting what you think in place of what I emphatically state. That is again, gross misrepresentation, and even falsification.

Your arguments for the Kruskal-Szekeres formulation are laughable. From where do you get the region $0 < r < \alpha$? It does not follow with any mathematical rigour. It is precisely as I say it is, an invalid assumption. I have proved that $r = \alpha = 2m$ is a point, being the location of the point-mass (the source of the gravitational field) in parameter space, and that this point is mapped to the proper radius R, the true radius in the gravitational field, at $R = 0$ precisely. I have also proved that, in general, $R(r_o) \equiv 0$, i.e. it is completely independent of the value given to r_o. You do not understand that the radii of the gravitational field are functions of the r-parameter and the geometry of the space must determine the radii of the space. In other words, the geometrical relations between the components of the metric tensor must determine the radii. The fact that you call $r = \alpha$ a 2-sphere is testimony to your utter failure to comprehend the elementary geometry of the problem, and to your relentless confusion as to what r is. This is precisely the issue I made a point of in your office, because it is the very issue, which strikes the relativists deaf and dumb. Consequently, you cannot follow my arguments, as you freely admit. You are completely lost.

Your final conclusion that my analysis is not correct is false and deplorable. It is you who is incorrect. Your recommendation to Mike Gall and Warwick Couch that I be obstructed from submission of my thesis is based upon a thoroughgoing incompetence. It is particularly galling to me that people like you hold professorships whereas I am not able to get a decent teaching post anywhere. John Webb understood nothing of my work and finally said so.

I allowed you my papers only because Mike Gall and Warwick pressed me to. These are published papers, vetted by better men than you. I agreed to their request for the sake of formality, knowing full well the result. You can teach me nothing, but you have a great deal to learn from me. However, I doubt that you will take advantage of the opportunity to do so.

I shall not allow any more incompetent people to pass opinion on my work, simply so that Mike Gall and Warwick Couch can feel confident in supporting me only if the report is favourable. I find it extraordinary that published works, refereed by very able mathematicians, are not acceptable to the University, and beyond the cognitive powers of the professors of physics at UNSW.

Yours faithfully,
Stephen J. Crothers.