An assessment of Alec Rawls's
"Islamic and jihadist design features of the Crescent/Bowl of Embrace."
by

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Executive Summary

I am unconvinced that the logical reasoning or the mathematical arguments put forth by Mr. Rawls have much merit. Perhaps he should heed his own advice: "The only real question is whether the assumptions that they rely on are correct" (p. 23). He seems to overlook geometric constraints placed on memorial designs that wish to focus on the line of the Flight 93 flight path (e.g., see p. 14). Many of his arguments involve fallacious reasoning. Logic is the study of reasoning. Reasoning aims to answer a question. Logic tests the correctness of that answer. Meanwhile, formal fallacies are deductively invalid arguments that typically commit an easily recognizable logical error. A number of those fallacies are noted in this report; this list is not exhaustive. Meanwhile, although Mr. Rawls's arithmetic calculations appear to be correct, much of his mathematics ignores salient plane and spherical geometry properties; just because calculations are correct does not make the resulting numbers meaningful. He repeatedly fails to use scientific methodology [e.g., "maybe two or three tenths of a degree" (p. 10) is not a scientific measurement of error]. Rawls claims that "Murdoch has been VERY imaginative" (p. 29); my conclusion is that this statement better describes Rawls.

Introduction

The following three specific features of the contents of the document produced by Mr. Rawls merit close scrutiny: (1) fallacious evidence in logical thinking; (2) correctness of numerical calculations; and, (3) meaningfulness of the mathematics and analogies employed. Many of the arguments presented by Mr. Rawls overlook the following principle:

> A *necessary condition* must hold for a result to be true, but does not guarantee that it is true. A *sufficient condition*, if true, guarantees that a result also is true; but, the result also may be true if the *condition* is not met. If a *condition* is both *necessary* and *sufficient*, then the result is said to be true *if and only if* the condition holds.

Furthermore, the mathematics employed does not bolster a case for a conspiracy, oversight or insensitivity: arithmetic calculations are correct, but most of the mathematical arguments put forth have little merit.

Of note is that the validity of the following claim (p. 7) can be assessed:

> It seems that the only change that Murdoch made anywhere in the entire design was to add a few red trees around the circle of the crescent on the top side, beyond the end of the concrete wall that defined the original Crescent's upper tip.

Unfortunately, the phrase "It seems" is a qualifier that would allow Mr. Rawls to reject any objective findings that are counter to his claim.

Please note that I do not quibble about the grammatical errors included in this document—which are somewhat surprising because Rawls promotes himself as an aspiring writer—because they are irrelevant to a scientific assessment of the contents.

Some of the logical fallacies in Rawls's arguments

Mr. Rawls would benefit from a study of S. I. Hayakawa's *Language in Thought and Action* (5th ed., 1990).

Perhaps the most disturbing of his logical fallacies is the use of **appeal to force** (*argument ad baculum*):

> If you let Murdoch plant the world's largest mosque on the sacred ground where America's heroes died fighting, your lives will be destroyed. Neither will your children escape the shame, or your grandchildren. (p. 3)

> Ideally, the man should be prosecuted for fraud (or put to death for attempted treason) … (p. 26)

These two particular arguments rest on a threatened or implied use of force, rather than genuine evidence, to induce acceptance of Rawls's conclusion. Similarly, discussion of the ACLU (p. 28) is couched in terms of an **abusive argument** (*argumentum ad hominem*); it offers no useful evidence, only an implied attack on an institution.

Equally bothersome is the constant claim throughout that the architect, Mr. Paul Murdoch, is an Islamo-fascist (Mr. Rawls's term for a jihadist/Islamic terrorist; p. 3). Where is the corroborating evidence from elsewhere to support this contention? What are the organizations to which Mr. Murdoch belongs, and/or the activities in which he engages, that promote Islamo-fascism? What are his confirmed links to the radical Muslim world? They certainly can not simply be conjectures such as: "1300 years of Islamic symbolism inspired him to genius with its riches" (p. 4), or "Murdoch claimed that there was no intentional Islamic symbolism in his design" (p. 4). This first statement can be best described as **guilt by association** (a type of abusive argument).

A number of **non sequiturs** (*it does not follow*) appear in the text, too.

> Pious Muslims calculate the direction to Mecca to the fraction of a degree when they set up their prayer stations. (p. 1)

does not imply

> orientation of giant crescent is a couple of degrees off Mecca (p. 3)

In general, his arguments for precision constantly are offset by statements such as "for every imprecision, there turns out to be a terrorist memorializing design element" (p. 3), "exactness is

not a requirement" (p. 7), or "enough to create plausible deniability" (p. 13). (Also see the sundial-zig-zag discussion, pp. 22-25, 45.)

> identifying 44 glass blocks (pp. 15, 16, 20)
>
> does not imply
>
> it verifies that this block count is intended (p. 16)

Rawls's own words seem relevant here: "Given enough features to look at, one might find hints of many things" (p. 34).

> We can confirm … minaret is confirmed …
>
> does not imply
>
> we can be damned certain that these are all intended. (p. 27)

These arguments fail to have even a deceptively plausible appearance of valid reasoning; there is an obvious lack of connection between the given premises and the conclusions drawn from them. Furthermore, credible evidence essentially is never given in support of posited premises.

Circular arguments (*petitrio principii*) appear as well.

> Since this particular crescent is oriented on Mecca, its union with a potential qibla wall confirms both that the crescent is a mihrab (joined to a qibla wall) and that the potential qibla wall is intended as a qibla wall (being joined to a mihrab). (p. 14)

In other words, the conclusion is presumed to be true, and then is used as the proof in this argument: the logic is that "they have implicated each other" (p. 16).

A reader also encounters what might be labeled **appeal to people** (*ad populum*), or **bandwagon**, reasoning.

> It cannot possibly be an accident (p. 15)
>
> It is not possible to build a huge crescent with multipl[e] redundant orientations on Mecca by mistake. (p. 35)

Here the appeal is to popular attitudes, rather than sound logic. It also may be characterized as a fallacy of **ambiguity,** the use of misleading or vague words or phrases to persuade.

A final example of fallacious evidence to be mentioned here is **irrelevant conclusion**.

> Dishonesty is incompatible with good will, leaving the much more obvious Islamo-fascist explanation.

Mr. Rawls's conclusion changes the point that is at issue in the premises he posits, so that instead of proving the fact in dispute, the argument diverts attention to some extraneous fact.

Flawed analogies also are presented, too. The two-dimensional pond image that may be interpreted as "a Muslim praying" (p. 32), which Rawls himself admits is "positive evidence [that] is only suspicio[n]." (p. 33), is reminiscent of an exercise like the Rorschach Inkblot Test. Debating about it would be similar to engaging in the popular "Faces of Mars" controversy that began with a 1976 image transmitted by NASA's Viking 1 Orbiter space craft.

Correctness of Rawls's numerical calculations (see Appendix A)

Some variation enters into calculations based upon positional error in coordinates. But these differences alone produce a very small error. Computations can be replicated with the calculators found at

http://www.fcc.gov/mb/audio/bickel/distance.html and
http://newport.pmel.noaa.gov/~lau/geodetic.html,

which give slightly different results more than likely due to the equatorial radius employed. Again, only a very small error is detected. In other words, the arithmetic computations reported by Mr. Rawls are correct (except for what can be considered rounding error).

Meaningfulness of Rawls's mathematical analysis

Questionability of the mathematical arguments presented arises from features of circles and spheres. First, consider an axel that goes through the Earth and connects the Flight 93 crater site with Mecca. Connecting each end of this axel with an elastic cord would allow this cord to stretch around some part of the Earth as a circular structure located at the crater site rotated around its center. In other words, although an azimuth *conventionally* is the horizontal component of a direction measured clockwise around the horizon from North toward the East (see pp. 10-11), one could implement a different focal point (as is illustrated by various azimuthal map projections; also see http://www.fes.uwaterloo.ca/crs/geog165/azproj.htm). Similarly, rotating from the line defined by the perpendicular bisector mentioned in the text would allow a circular structure to be rotated *in situ* while maintaining the same azimuth (i.e., a person could always position him/herself to "face" Mecca).

Second, affine geometry theory supplements these features of a circle on the surface of a sphere by considering rotation, translation, and scaling operations on circles. These transformations result in proportionality, and hence structures that are "always on the same epic scale as his gigantic" (p. 10) memorial. A similar assessment pertains to the flag arguments (p. 12): because each crescent on the flags mentioned (i.e., Algeria, Azerbaijan, Pakistan, and Tunisia) is constructed as a circular disk from which a segment of another circle is removed from its edge, then an appropriate sequence of affine transformations applied to any circle with part of its circumference missing would align it with these crescents. Of note is that other flags—include South Carolina, the Russian Red Cross, and the Lambda Chi Alpha Fraternity—also have the crescent-and-star motif. Of note is that "the copse of trees is not actually 'exactly in the position of the star on an Islamic flag.'"

Rawls conjectures that Murdoch is constructing a massive "prayer-area, with room for

500,000 at least." Where is the source for this sizeable Muslim population? The number of pilgrims annually going to Mecca—often with hundreds of thousands making a side trip to Medina—number about 2 million (out of an estimated 1.3 billion Muslims in the world). Although the number of jihadists is unknown, and only can be speculatively estimated, O'Sullivan states "The usual guess is that 15 percent of the Muslim population is sympathetic to Islamism and a much smaller percentage, say 4 percent, actively so" (*National Review*, July 18, 2005). These figures alone bring into question the alleged motivation for building such a massive open area.

Finally, the translation of "pishtaq" (p. 33) appears to be a biased one. This is an Iranian term for a portal projecting from the facade of a building, a device most commonly found in Anatolian and Iranian architecture; BUT, it also occurs in India (e.g., the Taj Mahal). This term also can be translated as porch. Its translations by Mr. Rawls as "gateway" and "entry portal" seem to be quite narrow ones.

Concluding Comments

Based upon scientific methodology and reasoning, I find most of Mr. Rawls's assumptions to be unreasonable and his logic often to be flawed, rendering questionable and hence unsound generalizations (which might be referred to as theories). While his arithmetic calculations appear accurate and sound, placing them into their correct mathematical (especially geometry) context raises serious questions about their meaningfulness. His interpretations frequently appear unconvincing and speculative at best. Overall he offers disparate **circumstantial evidence** to force his conclusions. And, because most of his arguments are based on attempts to secure sympathy rather than intelligent agreement, they also can be characterized as **appeals to emotion**. Moreover, as S. I. Hayakawa declares: Cow 1 is not Cow 2: inferences should not be based upon sloppy assumptions!

Appendix A

Verification of Arithmetic Calculations

I retrieved the Mecca airport longitude and latitude coordinates from www.fallingrain.com, which differ slightly from those I calculated using Mr. Rawls's data. I retrieved coordinates for the Flight 93 crater site from 911.research.wtc7.net. These differences alone produce an error of 0.02% (when calculated in the way the reported error was calculated), compared with the reported 0.17%.

Second, I computed an azimuth value **from** the Flight 93 crater site **to** Mecca of roughly 55.20^{o}; I verified my computations with the calculators found at

http://www.fcc.gov/mb/audio/bickel/distance.html and
http://newport.pmel.noaa.gov/~lau/geodetic.html,

which give results that differ slightly from those reported by Mr. Rawls. With these computations I found that the reported arctangent value is correct.

Third, a circle is restricted to 360°. A random selection of some value within an interval of width 0.62^{o} is roughly 1 in 581. Although this is a small probability, it is far greater than lottery players enjoy. And, it actually increases if attention is restricted to a half-circle (doubles), or a quarter-circle (quadruples). The possibility of coincidence may be illustrated by considering the location of the notorious Darcey Nazi concentration camp (another location that would be considered offensive by some as a focal point orientation), which renders a value of $180^{o} - 51.71^{o} = 128.29^{o}$, suggesting a seemingly small error of 0.79% (when calculated in the way the reported error was calculated).