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Opposition to Same-Sex Unions is Mathematically Wrong

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Introduction

Using basic principles of mathematical set theory, the conservative Christian activist Andrew Schlafly has attempted to demonstrate the moral superiority of opposite-sex unions to same sex unions on the basis that opposite sex unions create a larger set:

“Traditional marriage provides a greater set than otherwise: the union of $A = \{a, b, c, d\}$ and $B = \{a, b, c, e\}$ is merely $\{a, b, c, d, e\}$, while the union of M (man) $= \{a, b, c, d\}$ and W (woman) $= \{e, f, g, h\}$ is $\{a, b, c, d, e, f, g, h\}$, which is a broader and more diverse set.”

The glaring problem with this formulation is obvious: on what grounds does Schlafly maintain that a larger mathematical set is representative of, or equivalent to, a higher moral state of affairs than a smaller mathematical set? This is simply an assertion, there is obviously no empirical evidence and the logical deduction is not at all obvious. Note also that his formulation effectively quantifies two persons of the same biological sex as being 25% different and two persons of different biological sex as being 100% different, neither of which accords with either biology, psychological personality theory or indeed the daily experiences of many people.

In response, two simple mathematically-based formulae are presented demonstrating that Schlafly's moral opposition to same-sex unions cannot logically work unless the prior assumption is made that one biological sex possesses a greater degree of moral and personal autonomous value than the other. Consider the following statements/propositions and their binary truth values:

S1: All human beings, regardless of their biological sex, hold equal value (true/false)

S2: Same-sex unions are inherently and always immoral (true/false)

I demonstrate mathematically/logically that one cannot hold to both S1 and S2 as being equally true moral statements. Specifically, if S1 is maintained to be true, then S2 must be false.

Values placed on the moral standing of possible unions between two biological sexes

Let:

M = male; F = female

X = a morally permissible union; Y = an immoral union

$$\Rightarrow (M + F = X)$$

$$\Rightarrow (M + M = Y)$$

$$\Rightarrow (F + F = Y)$$

$$\text{If } (M + F = X) \Rightarrow (X = 1M + 1F)$$

$$\text{If } (M + M = Y) \Rightarrow (Y = 2M)$$

$$\text{If } (F + F = Y) \Rightarrow (Y = 0M)$$

(each case: Y is determined solely by M)

$\therefore (M > F)$; i.e., M possesses greater value in apportioning moral status to a union than F)

\therefore If S1 is claimed to be true, S2 must be false

Solution:

$$(M + F = X) \Leftrightarrow (M + M = X) \ \& \ (M + F = X) \Leftrightarrow (F + F = X)$$

S1 is true & S2 is false

Values placed on the autonomous person, regardless of biological sex

Let:

M = male; F = female

P = personhood, i.e., autonomous personal being able to understand and consent to union

1 = numerical value assigned to P ($\therefore 0 = \neg P$)

$$\therefore MP = 1; FP = 1$$

$$\Rightarrow MP + FP = (1P + 1P)$$

$$\Rightarrow MP + MP = (1P + 1P)$$

$$\Rightarrow FP + FP = (1P + 1P)$$

$$\therefore \text{from (i): } (M + F) \neq (M + M) \Rightarrow (1P + 1P) \neq (1P + 1P) \Rightarrow (MP \neq FP) \ \& \ (MP > FP)$$

$$\therefore \text{from (i): } (M + F) \neq (F + F) \Rightarrow (1P + 1P) \neq (1P + 1P) \Rightarrow (MP \neq FP) \ \& \ (MP > FP)$$

$\therefore (MP > FP)$; i.e., MP possesses greater value in apportioning moral status to a union than FP; MP possesses a higher degree of personhood than FP).

S1 is false

Solution:

$$\text{From (i): } (M + F + X) \Leftrightarrow (M + M = X) \ \& \ (M + F = X) \Leftrightarrow (F + F = X)$$

$$\therefore (MP + FP) = (MP + MP) \ \& \ (MP + FP) = (FP + FP)$$

S1 is true, S2 is false

Conclusion

Of course, both formulae can be redefined with biological sex transposed and the opposite result obtained (i.e., $F > M$ or $FP > FM$). This does not, of course, refute the argument in any way; although the formulae would no longer reflect the attitude of those, like Schlafly, who are most active in objecting to same-sex unions, the mathematical processes and conclusion would be unaffected; if S1 is considered to be objectively true, then S2 is false.



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