

Cambridge Decoded ? More Idle Speculation on the Architecture of King's College

As was very tentatively put forward in the article *Some 'way out' speculations on the architecture of King's College Chapel. An amateur's view* in issue number 50 of the magazine *Cambridge*, a possible explanation for the ethos of the College was the interior space of the Chapel. This was expressed as an abstraction - the ratio 40:80:289 - based upon the interior dimensions measured in feet. That idea seemed to me sound for a while, but after time and reflection I began to wonder if it was indeed the *fullest possible* expression of the glory at King's. I was left with nagging thoughts that: 1) the proportions of the adjacent Gibbs Fellows' Building ought to be factored in as well; and, 2) the volumetric relation of these buildings might be expressed as an empirical formula.

To deal with the first point: the King's architectural experience at its *most* elemental comprises not just the Chapel, but must include the Gibbs Fellows' Building as well. These two ædifices are the alpha and omega of the essential King's. One major sight in Cambridge which has achieved iconic status around the world is surely the view from across the Backs of the west end of the Chapel and the neighbouring river front of the Gibbs Building to the south.



Until the latter was built in the 18th century (1724-31) the late Gothic Chapel (1446-1547) lacked a foil to complement its detailed and rather ruthless verticals. Also missing was something to give it scale. The Catholic Scot James Gibbs (1682-1754) produced here a spare, English baroque design which is a perfect match for the Chapel, with strong horizontals in parapet, entablature and string courses to tone down the spectacular architecture of the latter. And, without the Chapel, Gibbs's design is almost bland. But in the two together we have an ideal union of contrasts. Whereas the Gibbs structure is executed in a rather chalky silver-grey Portland stone, the Chapel is of luminous honey-gold limestone. They are as different as chalk and cheese. The Chapel is a rooster, the Gibbs Building a hen.

These two monuments form a fascinating juxtaposition which draws the eye inexorably. Both Gothic and Classic, the combination of the two fuses to create a single indivisible entity and works as ideal architecture in ideal landscape because each building supplies what the other lacks. They balance perfectly. In the case of the Gibbs Building, we can say that it completes, possibly, once and for all, what was begun in the mystique of the interior dimensions of the Chapel. Perhaps what is contributed by the latter - 40:80:289 - is completed by Gibbs in three numbers which we may abstract from the dimensions of that building.

And this leads to my second point: that the synergy in, and complementarity of, Chapel and Gibbs Building might be expressed in a semi-mathematical equation of sorts. The bluster and fireworks of the Perpendicular style of the Chapel in no way outdo or overpower the equanimity and pre-Palladian serenity of the quieter, smaller Fellows' Building. The two buildings never compete for attention.

If we see the two as being stylistically, historically and proportionally different but together forming a *really striking* whole, then perhaps we can propose an empirical formula to express this. Let us call it 'The King's Constant', and let us say that it is encapsulated in the expression

$$\{40' : 80' : 289'\} + \{47' : 53.5' : 237'\} = ?$$

Here the ratio on the right is composed of the overall dimensions of the Gibbs Building. It is complementary to, and balances with, that on the left which is derived from those of the Chapel.

The question mark represents the understated architectural ambience generated by the buildings' propinquity: an elusive - and possibly elegant - 'factor of monumentality', or even Clive Bell's enigmatic 'Significant Form' of 1913 taken from the world of two-dimensional painting and applied here to the realm of large-scale architecture in a semi-pastoral setting.

More aptly, perhaps, it is a symbol for the highly atmospheric *frisson* existing between the styles of this double masterpiece. The Gothic Chapel, for instance, is not a rambling Romantic thing but is as clear and direct and disciplined as the Parthenon. The Fellows' Building, too, in its way, is not as Apollonian and unnuanced as at first appears. There are, for instance, more void bays on the east front than the west. One wonders how this is worked out structurally within. Also, the blind windows on the north and south ends are in the agitated Counter-Reformation style of Michelangelo and the Italian Mannerists. The overall calmness of the Renaissance canon is ever so slightly distorted and disturbed in the service of unnatural emotion.

These six dimensions (in units of feet) expressed as a sum of two ratios in a curious equation are only *perhaps* the basic, requisite criteria needed to precipitate a rudimentary Cambridge ethos. This equation is possibly a general empirical formula for the numinousness at King's which pervades all the surrounding Fen-country. Wherever it is present, so too is the divine milieu of the University.

I think the chain of logic and reason leads us to argue that we could abstract these numbers from the local East Anglia context in a more *compact* form to make the primary King's ethos 'portable', and hence universal. Calculating the relative volume of Chapel and Gibbs Building from these dimensions gives us the simpler expression

$$\mathbf{924,800 \text{ ft}^3 : 595,936.5 \text{ ft}^3 = ?}$$

which has been pointed out to me is very close to

$$\mathbf{464 : 299}$$

If we follow our theory that architecture at its most quintessential is certain numbers incorporated into, and then abstracted from, the built design, then we *may* hypothesise that the

King's Constant is this ratio. The excellence of excellent architecture is too great a thing to be accomplished in only one building and only one volume. Here it is achieved consummately in two.

The equation - **299 : 464 = ?** - *might* globalize the ancient, élite, Cantabrigian ambience at its most compressed, influencing by sympathy the whole world with the singular, somewhat 'queer' æsthetic of the King's microcosm. It would make it possible to synthesise cheaply and easily those calming, hypnotic, dream-like states of mind native to the Fens, for other places outside of, and unprotected by, the Cambridge 'bubble'. This seems to me to be the next logical step if we have indeed isolated and identified the principle, active factors at work there.

To conclude: this ratio is *very nearly* present in the juxtaposed volumes of the two most important buildings at King's. It impinges upon the environment just below the threshold of perception to create an overall, overarching, protecting sense of benevolent mind. 'Mind' is a function of the rational architectonics of Henry VI's dream-college. The local Cambridge æther is penetrated through and through with this sense. It contributes to the unusual, slightly uncanny atmosphere of the place. As an æsthetic abstraction able to stand on its own in global, universal applications, (as I speculate above) this empirical formula might just explain what we are - at bottom - subliminally feeling when we encounter profound royal *gloire* in the consummate experience called "King's College, Cambridge". The numerical, higher reality of the King's Constant is subversively at work behind all and in all to create an authentic English icon.

References and Notes:

1. *The Will of King Henry The Sixth*, 1448; printed 1896, King's College, Cambridge
2. *The Architectural History of King's College Chapel*, Francis Woodman, 1986, London
3. *Hugh Casson's Cambridge*, Phaidon Press, 1992, London pp. 42-49
4. *The Record*, magazine of St Edmund's College, Cambridge, number 12, 1997-98 p. 49
5. *Cambridge*, magazine of The Cambridge Society, number 50, Mid-Year 2002 pp. 89-90
6. *James Gibbs*, Terry Friedman, 1984, New Haven
7. a letter dated 11 November, 1999 from Mr K A Hook, Domus Bursar of King's College regarding the dimensions of the Chapel
8. a letter dated 5 January, 2004 from Mr Henry Freeland of Freeland Rees Roberts Architects, Cambridge regarding the dimensions of the Gibbs Fellows' Building
9. an email dated 15 December, 2008 from Dr Robert Dawson, mathematician, of St Mary's University, Halifax, Nova Scotia. I am indebted to Dr Dawson for his helpful input.
10. we may - as an intellectual exercise - factor in the volume of the third major building at King's: William Wilkins's neo-Gothic Gatehouse of 1824-28. This gives us an augmented, more inclusive and possibly more accurate King's Constant of **41 : 299 : 464**.

John Devlin (*St Edmund's*, 1979)

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