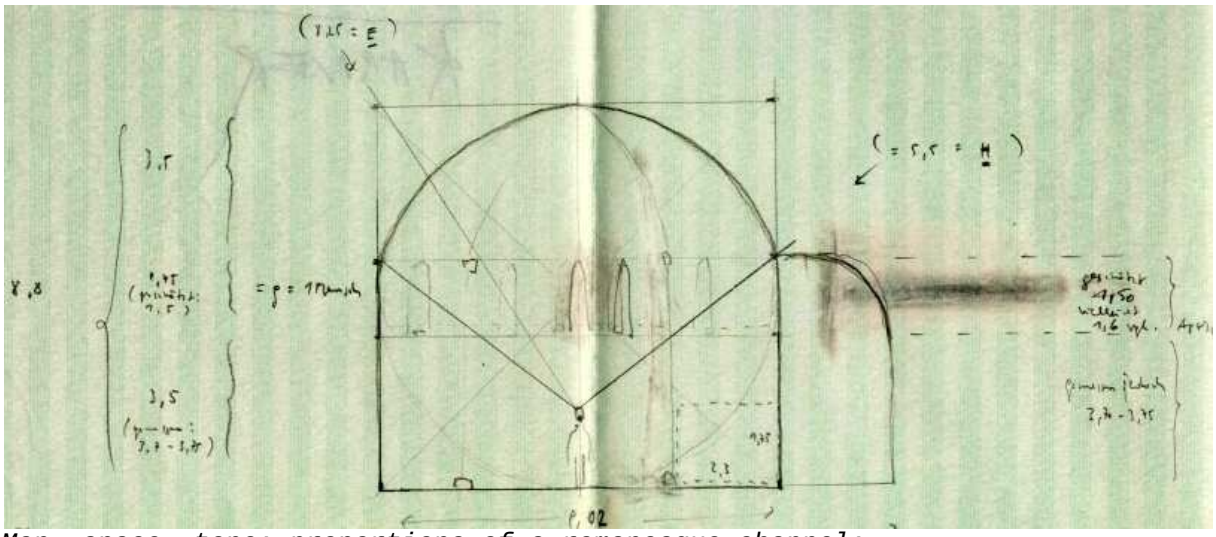
[engl. unedited]

Peter Ablinger

HYPOTHESES ON A ROMANESQUE CHAPPEL

Places/Prehistory



Man, space, tone; proportions of a romanesque chappel;
drawing: peter ablinger

Around 1990 I observed the special acoustic characteristics at different Romanesque crypts. If I (alone in such a room) was singing softly, I could hear that there was always a certain pitch, on which the respective space especially responded. Once I had found that tone, it was enough to hum it with the softest possible voice, and the whole room was filled in a way as if the tone would not come from a specific point in space, but would sound from everywhere at once.

I wondered if it was possible that these places were built for singing, and that the dimension were designed for one specific pitch or fundamental in the way as such places were always dedicated to one specific Saint or other authority. The tone then could have made the basis for the greogorian chant. Such places would have been, so to speak, designed as an instrument and resonance chamber.

That there is the fundamental possibility of a conscious relationship between Romanesque architecture and music, didn't seem groundless to me. At the end of the seventies, I had read a book about the relationship between Gregorian chant and the ornaments in capitals of a Romanesque cloister. ("Singing Stones" by Marius Schneider. What the book described was, how the figurative design of a single capital symbolically represented a particular tone, while the sequence of all pillars of the cloister

would result as the whole chorale.) Coming from there, the hypothesis that the Romanesque crypts could have been built for one fundamental tone as the basis of a particular Gregorian chant, seemed plausible. Finally, as the crypt was vaulted in stone already in pre-Romanesque times, when the church itself still had a flat wooden roof, it was predestined from the beginning as a special resonant space. And that there was singing in such spaces hardly can be denied.

Karner, St.Lambrecht, Styria/Austria

Around 1992, I was occupied by a small 11th century round chappel at the benediction monastery of St. Lambrecht in the Austrian Alps. The chappel now serves as the cemetery church but I assumed that it was not originally built as a charnel house. While it still is the oldest part of the monastery it could as well have been the very first church (- Church not in the modern sense as a common room for the people, but exclusive for the first 12 monks and the abbot, the founders of the monastery, in order to attend their prescribed chants and prayers).

Karner, St.Lambrecht, east-side with apse

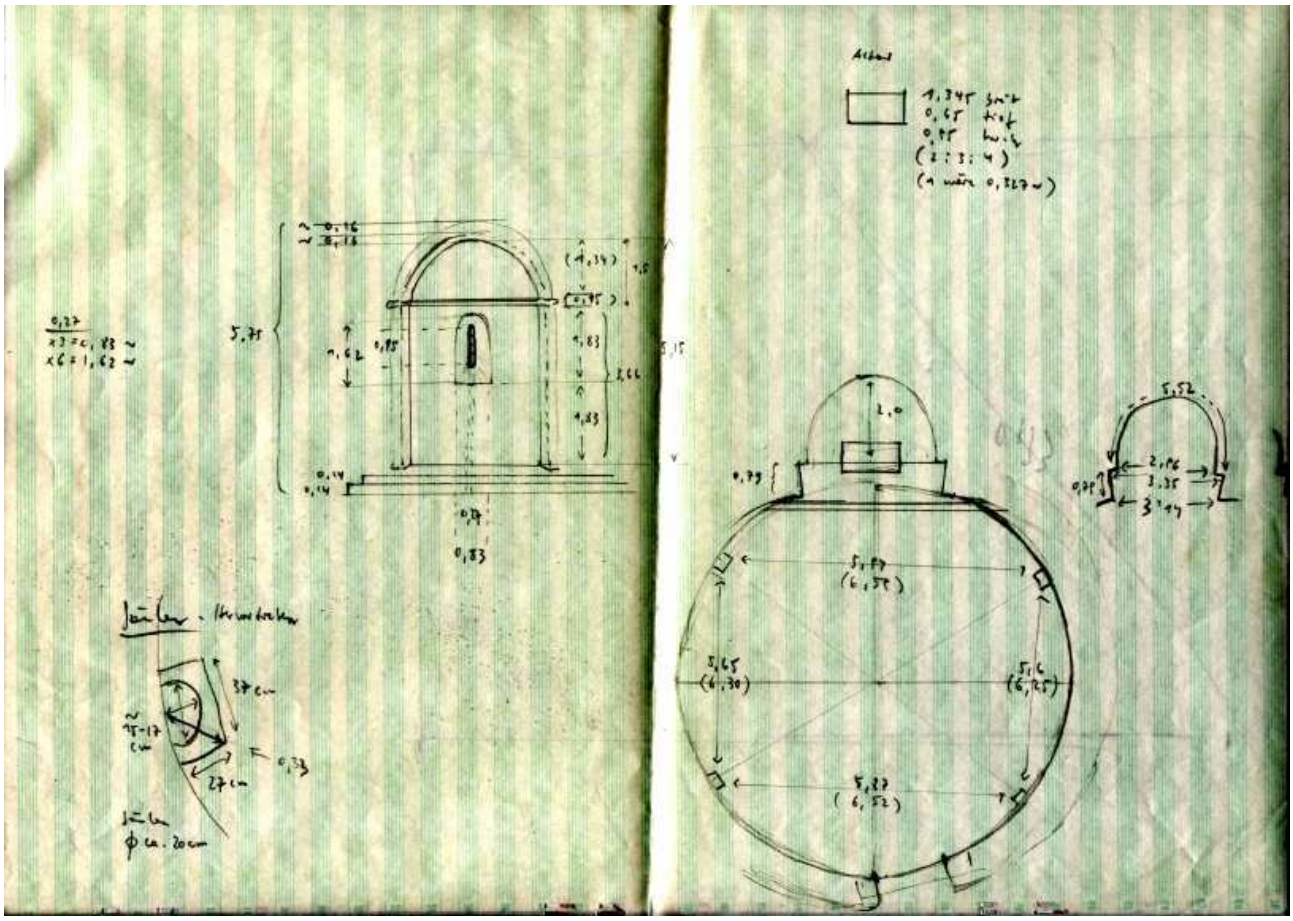
The circular and domed room is famous for its resonance and its long reverb, and also here one can find certain pitches, to which the architecture answers in a particular reinforcing manner. I started measuring the room with the simplest means to detect its formants and to relate them to the architectural dimensions. Later on (with support of the monastery) I also had access to the plans of the building, and thus could concretize my estimates.

As a warning: This is by no means systematic research. Without more detailed studies, these studies are purely speculative. But here are some of my results:

The most noticeable tone with regard to the room answer was a low g - the one of the Cello g-string (actually a tone between g an g#). It had to be intonated very accurate because even smaller microtonal deviations left the sound again un-reinforced.

Karner, St.Lambrecht, inside towards the apse

The round room with a semicircular eastern apse had 12 windows plus an additional window in the apse (the canonical 12 monks of the foundation plus their abbot). The height of the window recess in the apse after the plan of the convent is 1.62m, perhaps an average measure for men of that time (11th century). Therefore, if the windows would each symbolize one of the monks, then this proportion should be found again in one of the main tones of the room. A wavelength of 1.62m actually yields our G (at a much higher chamber pitch). And in the altar stone, a simple rectangular cube, I thought to recognize the foot measure of that time: depth by height by width had the proportions 2:3:4, while the foot measure seemed to have been 0.327m. Which means: The measure of man and the measure of man's tone then amounts to exactly 5 feet.



altar stone, (foot measure), apse (elevation), Karner (ground plan), columns (cross-section)

Many other interesting correspondences between room proportions and room resonances seemed to emerge, but would have to be re-examined and compared with research results of earlier foot measures and mediavel chamber tones, and also would have to take into account the ambient temperature, on the basis of a new in-depth survey of the chappel.

Historical research does not confirm my assumption. But whether that all has the slightest reality content or is just a fantasy of mine ... - at least this research was the basis for "places".