

1. Scholarly Research Paper:

Reverberation Characteristics of Architectural Spaces: Touching Mystery

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Additional Background Information and Research Notes

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Past, Present and Future Memory

Memory

How often is it that we find ourselves humming or whistling a tune? What is it about a tune, even one that becomes annoying to us, that we cannot get it out of our heads? The answer is simple enough; music is a language understood by everyone at some level. As such, it is a powerful mnemonic device that has, in a theological sense, potential to access mystery. It does not require a spoken language to apperceive, appraise and appreciate. If a tune has triggered a memory or allowed the individual to have an experience of value, then it has met a need.

Theology is clearly not the only realm in which the power and value of music can be understood. Perhaps Mendelssohn was not being at all naive when he entitled a collection of piano pieces Songs Without Words.

The musical heritage of the church is rich and diverse but it is also profoundly functional—from monotone chant to the most intricate polyphonic settings of texts and everything in between. The purpose to which music is put will inevitably affect its value and how it is perceived to meet needs.¹

I have come to believe more firmly than ever that individual and collective memory is the most important factor in the worship experience. Triggering good memories usually makes for a good worship experience. But memory in this context is only part of the story. I will divide memory into three categories: *past*, *present* and *future* and deal with each in turn. But first it is important to explore how music affects the experience of memory or indeed how memory affects the experience of music.

The Experience of Memory

Music with text, and music without text carries with it memory for listeners. Music also carries with it enormous potential for good as well as ill which results from the memories that emerge. In this way music might be identified as the source of much conflict in congregational life, for example. This includes the endless accounts of schism between clergy and musicians, a phenomenon that has existed since the very beginnings of the organized church.

Memory is a common playing field for both music and the Word. Memory is directly related to our senses and stored as experience. While all of our senses are involved in the process, I believe the auditory sense to be dominant:

Unlike visual experience, therefore, which unfolds in front of and under the control of the viewer and tends to be articulated from moment to moment, episodically the

¹ “Traditions of monotone singing survive in religious ritual, in the recitative of opera and oratorio, and also in the secular contexts of horse-racing commentary and livestock auctioneering. Absence of melodic inflexion is construed as an absence of subjective interpretation: here is the information, make of it what you will. By disposing of the need for a listener to adjust to changes of pitch on a moment-by-moment basis, it also allows the racing commentator and auctioneer to speed up the information process. Once a listener has 'locked on' to that monotone pitch, rather like turning in to the frequency of a radio station, the process of decoding information becomes greatly simplified.” Robin Maconie, The Concept of Music (Oxford: Clarendon Press, 1990), p. 106.

listening experience is continuous, ever-present, and unavoidable, and by comparison less susceptible to direct control.²

We hear as much as see a building. We experience a building (worship and/or performance space) as much, perhaps more than we take it in visually. The concept of the auditory sense as primary or dominant is fundamental to my understanding of memory. It is thought, for example, that hearing is most likely the first and last of life's senses to be experienced. Sound orients us in our world. It provides us with our multi-dimensional concept of self and others. Above all other senses I believe that sound, not sight, is primary and therefore has profound implications for memory.

The ability to remember a text is most often linked to a stimulation of the auditory sense. Commercial jingles are simple and effective examples. How often we remember a tune—the text (and message) follows. Building a memory of the worship experience is tied inexorably with the auditory sense. Even in silent prayer we *hear* our own words. That experience is an experience of memory.

Memory plays an enormous part: given that listening is a continuous and not a voluntary activity, every new acoustic impression is accumulated and evaluated in terms of a vast personal database of auditory images. This is not to say that every new sound impression is not properly evaluated, only that the evaluation process becomes very efficient and unobtrusive over time.³

As we grow and gain worship (or performance) experience the power of memory allows us to visit anew the sense of mystery in both. The key ingredient in this process is time. It takes time to accumulate experience; accumulated experience is memory. Therefore without elapsed time (experience), both individual and collective memory is rendered non-functional for all practical purposes.

In order to address the issue more realistically, memory—and its inseparable component of time—needs to be explored in greater depth. In my context of the worship experience, one's experience of memory is tripartite: past, present and future.

Past, Present and Future Memory

The most difficult of these to come to terms with is the present. Memory per se is not of the present; rather it is activated in the present. In this sense, memory is kinetic—it causes us to move. The most obvious movement is into the past, but it has a less acknowledged and more significant function; to move us into the future. As simply stated as I can manage in the context of worship, present memory is an instantaneous flash, a trigger that calls up a past memory. It can be planned (in a liturgical sense) or be spontaneous as in improvisation (either liturgical or performance art). Its beauty is that it can take us to a happy time, a good experience, something safe and secure—past memory.⁴ Its danger is that it has potential for being only backward-looking. To be truly valuable it also needs to be kinetic, causing us to move forward into new memory, what I call future memory.

Present memory is like a fulcrum that balances past and future memory. More often than not the scales are tipped in favour of past memory alone. Good past memory, while comforting at best, can

² Maconie, [The Concept](#) p. 22.

³ Maconie, [The Concept](#) p. 33.

⁴ There is an interesting theory suggesting that past memory may well be established before birth. The implications of such pre-birth “unconscious consciousness” and its relationship to memory and sound are tantalizing to ponder. “The evidence of heightened activity among the unborn subjects is taken to mean that the unborn child already has a memory. What is of interest to musicians is the unspoken corollary that in order to have a memory, the unborn child must also have a developed sense of hearing. That hearing is developed before birth has implications for the acquisition of language after birth, because the quality and range of frequencies audible within and outside the womb are significantly different. Whatever memory and associations arise from acoustic experiences inside the womb are going to be limited to a particular range of frequencies.” Maconie, [The Science](#) p. 38.

stunt growth. This does not mean that the significance of its value should ever be underestimated, but suggests that it can become an unending cyclical trap. When this happens the significance of its value is severely compromised, or worse, its value becomes negative and (dare I say) theologically counterproductive. What it wants to do is stimulate new (future) memory.

My belief is that our search for new, fresh and vibrant future memory is the reason we continue to plan for and take part in the worship experience. This may also explain in part the recent revival and unprecedented popularity of Gregorian chant with its chironomic conducting technique and *affects* that result. It gives us past memory and yet provides a somewhat unstructured fluidity (kinesis) to move us toward future memory. Building future memory and moving us forward is our right, our challenge and our responsibility.

Meeting congregational needs in hymn texts and tunes is demanding because its chronicity spans past, present and future memory. Meeting congregational needs with easily accessible material that everyone can manage all of the time gives only a momentary fix that borders on dishonesty because it addresses only present memory. It is incomplete because the resulting high usually fails to meet a need the next time around.

I include in this *melange* the phenomena of television evangelism, or quickly constructed and utilitarian worship or performance spaces, quick and simplistic music, most with little aesthetic merit. They are all attempts at quick and easy answers for complex theological and performance and performance practice questions - reverberation being one of, if not the dominant acoustical component of both. I cannot say that they are wrong in attempting to hold onto the "momentary fix". I simply don't believe in "quick fixes" as they are, but I do believe that they can be transformed into useful, even richly profound tools. Re-examined, re-evaluated, but most of all re-worked to incorporate significant value (aesthetic and spiritual), they have potential to balance the memory scales.

The key word here is potential. Memory is fluid, not stagnant. Present memory—the quick fix—is stagnant, not fluid and fails to function if it remains only in the present state. In this sense, the process of activating memory is a honed skill as much as any other, complete with our ability to access its aesthetic value. We were born without experience and rely on the collective memory of the community of others around us. This provides a foundation on which to build; a past memory from others into which our own experiences are added and absorbed.

Meeting needs is not always what it appears to be on the surface. In the context of hymn texts and tunes, stopping at something simple and easy that everyone can do in order to meet needs, can stunt the growth of memory by being limited in "harmonic language" and usage, thus gradually eroding the creative component and ultimately being without any "significant value". Being drawn into the experience of mystery takes time and effort. It cannot be forced or wished on someone, but must be nurtured so as to grow and flourish. This does not negate a wonderful experience, an epiphany moment. In and of itself it may be isolated but is not terminal. Rather, it is a part of the fluidity of memory.

The experience of God is, like memory, fluid. Memory is not of the present, it is activated in the present. It is a bridge to the future. It is affirmation of God's presence, past, present and future.

Memory plays little or no role in immediate gratification because immediate gratification is just that—immediate—without substantial if any foundation and without hope. False hope is the result and false hope is no hope. For me, memory and hope are inseparably paired.

It is the richness of memory past (collective, individual and absorbed) that triggers the present and gives hope for the future. This is the beauty of denominational traditions, great and beautiful buildings, magnificent works of art and the like. They are of the past but give hope for the future.

In their own way hymn texts and tunes do the same thing. They open up a richness of past experience, trigger present memory and give hope for the future. Adding to this body of material and experience is a natural human endeavor. If it were not so, great buildings, traditions, liturgy and works of art would not exist.

Introducing new and worthwhile material to individual and collective memory is not only good but is necessary, lest we live only in the past. Present memory alone is rudderless. Elapsed time is required to sustain the immediate experience. It need not be dismissed or lost but longs to be put in

perspective. Future memory is driven by hope, triggered by present memory and rooted in past memory. The process is cyclic and unending.

The theological health of a worshipping community is often fragile, but it can be sustained and strengthened with an understanding of the cyclic role and nature of its individual and collective memory. How do we continue to build an individual and collective memory? Part of that process is simply living. At first, we have no memory, that is to say we rely on the collective memory of community to learn about who we are and our place in the scheme of things. The collective memory of community is bequeathed to us at birth and is our legacy at death. But throughout life we embellish and enhance the collective memory we have inherited and make it our own.

The experience of repetition builds memory and what is most interesting is that memory, once in place, seems always to have been there. This explains why new memories can be difficult to build. Something new is something foreign—to be tasted, chewed, ingested and evaluated. If it has value (meaning), it is treasured. If it is questionable, it is usually rejected. But it can also be rejected if it threatens or challenges our comfort level.

What makes memory both operable and cumulative is some degree of comfort. Introducing new material needs to be thoughtfully and carefully planned. Surrounded with the familiar, it has much greater potential for long-term success. I am often struck by requests for "old favourites" only to discover that they are relatively new. Somehow they have become established in memory as having a much longer history than is the case. Somehow, the memory has absorbed these new additions and treasures them for their value and for having met needs. They have quickly become a part of one's lived experience and have gained the grace of the well worn before their time.

When good new texts or tunes are placed amongst the cherished (appraised and appreciated), their chance of survival is dramatically enhanced. If there is an attempt to introduce new memory that is ill prepared, disaster is a certain outcome. Introduction without warning is equally disastrous. Indeed memory, in the tripartite arrangement that I have presented, might have its own *aesthetic of process*, but that is for another time. Finally, memory might also be a catalyst in engaging the imagination—in all its forms.

Imagination, Dream and Fantasy

Imagine this: a bird in flight, a wave crashing against the shore, leaves of a tree quivering in the wind. Imagination and the ability to imagine are part of our human nature. It has potential for many uses and directions—good and evil. Our imagination is also intentional. Read again the first sentence above. Intentionally we can imagine these things as the result of our experience of living. Our imagination comes from our knowledge of the world around us. Imagination is not necessarily triggered by memory although memory (past and present) might well engage the process of imagination.

Daydreaming differs from the imagination in that it is unintentional. We are aware only of drifting off somewhere, without purpose or intent. Drawn back into the reality of the world we "wake" to realize that we were "out of ourselves" and wandering without care or direction. So daydreams might be thought of as the imagination unleashed without intention. What then can be said of real dreams? Are they the active imagination of the subconscious? Perhaps they are, and if so, perhaps the active imagination of the subconscious is nothing more than symbolic representations of what we can do intentionally.⁵

The imagination also has the potential for something of an entertaining side; consider fantasy:

What after all is wrong with fantasy? At worst a harmless form of relaxation, at best it is a stimulating and enlivening source of entertainment. If, as most people will say,

⁵ "Dreams, as we noted in the context of Ricoeur's *Freud and Philosophy*, constitute symbolic texts." Anthony C. Thiselton, *New Horizons in Hermeneutics*. (Grand Rapids, Michigan: Zondervan Publishing House, 1992), p. 357.

we cannot all be creative, why should we be denied the lesser pleasures of the imagination?⁶

The imagination, as I have described it, has several themes and variations: intentional imagination, daydreams, dreams of the subconscious and fantasy. But these are not the end of the story because the imagination has a profoundly creative side. "This is commonly seen as the distinctive preserve of genius; of the artist, the poet, men and women of special gifts whom we may honour (especially when they are dead) but can hardly presume to treat as our equals."⁷

The Creative Imagination

The ability to conceptualize and express thoughts in artistic contexts—the creative imagination—is what makes us distinctly human. And it is the creative imagination that drives the process of aesthetica. The creative imagination seems to go quite naturally with the artist's territory. It is the vehicle that carries ideas forward, develops them and sets them up for all to see and try out. But the term needs to be explored in two parts. First, where does the imagination come from? It comes out of a need to explore, to communicate, to demystify and to know:

All that we do
Is touched with ocean, yet we remain
On the shore of what we know.

All of our lives begin and end in mystery, and though we are generally successful, often for long periods, in finding distractions that will keep our minds off it, there are few who do not from time to time find some sense of this mystery encroaching upon them.

How is that mystery to be spoken of? And how can any awareness of it be shared or communicated?...

The first and most distinctive element in this language is this: it is essentially a language of the imagination.⁸

The adjective "creative" in front of "imagination" is perhaps a bit more difficult to manage. It has something to do with the degree of creativity rather than having or not having it. It is all too easy to give up on creativity, assuming that it belongs to others. We are all born with this potential that varies from person to person and is much dependent on education and other social factors. If the creative imagination were reserved only for a chosen few, then we would not be able to respond to the products of the creative imagination—art, music, writing. Because we do respond, and that such creations are a reflection of daily living, is evidence enough that there is creativity in all of us to some degree.

Robinson goes on to explore more theological tangents that he feels are associated with the creative imagination:

...it is a characteristic quality in the experience of those who live by the imagination that what occurs when things go right is felt to be some kind of gift, whether in the laboratory or in the studio or in the everyday encounter of two human beings. (The theological term for this gift is of course 'grace'.)⁹

⁶ Edward Robinson, *The Language of Mystery* (London: SCM Press Ltd., 1987), p. 8.

⁷ Robinson, *The Language* p. 9.

⁸ Robinson, *The Language* pp. 4-5.

⁹ Robinson, *The Language* p. 24.

As gift, it demands to be attended to as much as anything else that we experience and take for our own (appropriation). I have said that without the creative imagination we would be unable to respond to works of art. Nor would we be able to appropriate and interpret them. The language that attempts to articulate the significance and value of these components of creative imagination, appropriation, interpretation, gift and my concept of *the aesthetic of process* is what Robinson calls "the language of mystery."

Mystery

Robinson explores how the creative imagination assists us in going beyond what we might perceive to be possible. He describes it as an open imagination "that prompts us to think the unthinkable, to conceive the inconceivable, to imagine the unimaginable. It is thus our natural, inborn faculty for transcendence, for rising above the limits of what previously seemed possible."¹⁰

The creative imagination is thus a vehicle for experiencing something beyond ourselves. If the experience is something beyond ourselves and we want to make it part of ourselves, then the creative imagination will act in some transformative way to accomplish that end. Anthony Thiselton, in writing about Ricoeur notes that "productive and reconstructive imagination invites a 'reflexive awareness....' This constitutes, for Ricoeur, a dimension of transformation in which self-awareness is deepened and broadened."¹¹

If a transformation results in a deeper self-awareness and is articulated, then the creative imagination itself has been transformed into something of a "language of mystery" as Robinson describes it:

But experience will also tell us that this same creative imagination is no less important to us as an essential means of communication, as the faculty by which these vertical insights may be, so to speak, extended laterally, may be shared, may be made available to our fellow men and women. So a language, or rather languages, of mystery come into being, by which the individual can have his or her personal sense of mystery confirmed by the discovery that others too have had some experience of it themselves.¹²

Can mystery be explained? Probably not because "it is, after all, the nature of mysteries that, unlike problems, they do not have solutions."¹³ But is it a solution that one seeks to have or rather a deeper understanding of the phenomenon? Does one want to explain or to know?

To come to know the experience of reverberation characteristics, or if we already intuitively know the experience, to come to know it better, or to understand something of its mystery is what has been the focus of this paper.

As I have come to the point of articulating the question of reverberation characteristics I am struck by the need to see a broader picture of the experience and not restrict the description of the experience of the phenomenon to the present moment.

Aesthetics, notably the component of appropriation and my *aesthetic of process* (application), combine with the creative imagination's language(s) of mystery to broaden self-awareness. To a large extent, the concept of aesthetics outlined in these notes grew and developed with the research project that was undertaken. The first three components of apperception, appraisal and

¹⁰ Robinson, [The Language](#) p. 12.

¹¹ Thiselton, [New Horizons in Hermeneutics](#). (Grand Rapids, Michigan: Zondervan Publishing House, 1992), p. 360.

¹² Robinson, [The Language](#) p. 12.

¹³ Robinson, [The Language](#) p. 13.

appreciation were firmly in place before the research was carried out. The remaining two, appropriation and the aesthetic of process grew naturally out of the "process" of doing the research.

Reverberation characteristics are but one component of the significance of architectural value. Invisible as reverberation is, it is, like sound that orients us in our world, a component that orients us in the world of the spiritual, a world of mystery where we may taste and see the mystery that is greater than mystery itself.

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