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KINESTHETIC FOUNDATIONS OF SPATIAL CONCEPTS AND CONFIGURATIONS

053

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Abstract

This paper focuses on the kinesthetics of human bodies, whether engaged in generic everyday movement or in ritual formations. It attempts to articulate how such kinesthetics constitute a layer of experience which, while ephemeral and barely-conscious, is deeply informative of the conception and configuration of building space.

To link the ephemeral grain of kinesthetics to spatial configuration, the argument refers to Rudolph Laban's Effort-Shape theory of movement (Dell 1977). Laban distinguishes between movements that the body directs at itself, and movements directed towards other objects and bodies. The latter, termed spatial-movements, construct nearly-imperceptible forms of social interaction, as demonstrated by systematic analyses of dance forms in various cultures (Bull 1967). The fleeting, 'fine-grain' of encounter suggested by moving and gesturing bodies, underlies conceptions of space.

This is particularly emphasized in mass gatherings within building enclosures, which amplify issues of generic movement and stasis, and attendant kinesthetics. The paper examines two different building types: Muslim mosques and Soviet assemblies. While different in many respects, both involve synchronic and diachronic spaces meant for large crowds in ritual formations.

Generating a range of kinesthetic movements and sensations, the different crowd formations in both species of buildings construct subtle patterns of encounter, besides proposing models for framing the sense of things (bodies and objects) and of the enclosing boundaries. During Muslim ritual, it is the reliance on subtle spatial-bodily gestures between physically contiguous bodies to communicate a feeling of unity that permeates Muslim ritual space with an overall sense of transparency. In Soviet mass assemblies, diachronic movement is more crucial. The Soviet Rationalists' manipulation of building floors as curved surfaces (the Palace of Soviets, 1931), generates a choreography of rhythmic gestures synchronized across the mass of moving bodies (after Meyerhold's theatrical Biomechanics; Law 1996). A flow of rhythmic spatial-gestures (after Laban) conjoins the attending crowd in a pattern which scaffolds shifting attention. Self-awareness of the body's weight and movement provokes a sense of space as the empathetic projection of weightiness, complemented by the Rationalists' tilted building masses and play on gravitational pull. Centered on this kinesthetic crowd, Soviet architects shaped spatial boundaries as 'floating': visually detached from the ground and from a conclusive resolution to their structural forces.

Accordingly, the paper speculates that the generic condition of a crowd within building space negates the idea of a convex enclosure as the element of spatial configuration. Instead, the Rationalists seem to pose the threshold as the building block of their spatial arrangements.

Premise

This paper seeks to illuminate the role which bodily kinesthetics play in informing the formal properties of space. The assertion to be argued is that – ephemeral as they are - our (partial-bodily) gestures, (full-bodily) postures and movements (i.e. displacement), and even our sense of weight, do translate into inscriptions of physical spatial morphology, albeit indirectly. This paper probes cases where this occurs, with the objective of staking this fresh terrain. Anticipating future research, the paper proposes specific analytical categories to describe this kinesthetic foundation as morphology of 'body and ground'.

Urban and building spaces for collective mass activities are particularly informative on such questions – that is: spaces accommodating crowds which are, specifically, in a state of conjoined attention and communal practice. Not only do such 'ritual' conditions emphasize the kinesthetic dimension, but – as to be argued below – they denote a typology of 'gregarious spaces' which unfold from a distinct morphogenesis of conviviality. This typology is in tension with a more conventional condition borne of individual isolation; which finds echoes in the concept of the 'convex space' in Space Syntax theory. In contrast to the predominantly visual logic of total disclosure which this prosthetic enclosure forwards, ritual space depends on convivial kinesthetics as the vehicle of information flow and spatial differentiation.

To illustrate this typology and its attendant morphology, I examine the ritual spaces of Soviet assemblies and Muslim congregational mosques. Diverse as they maybe in creed and culture, both sets amass large crowds in states of conjoined, concerted attention and embody significant variations within this kinesthetic morphology.

Soviet Ritual Space

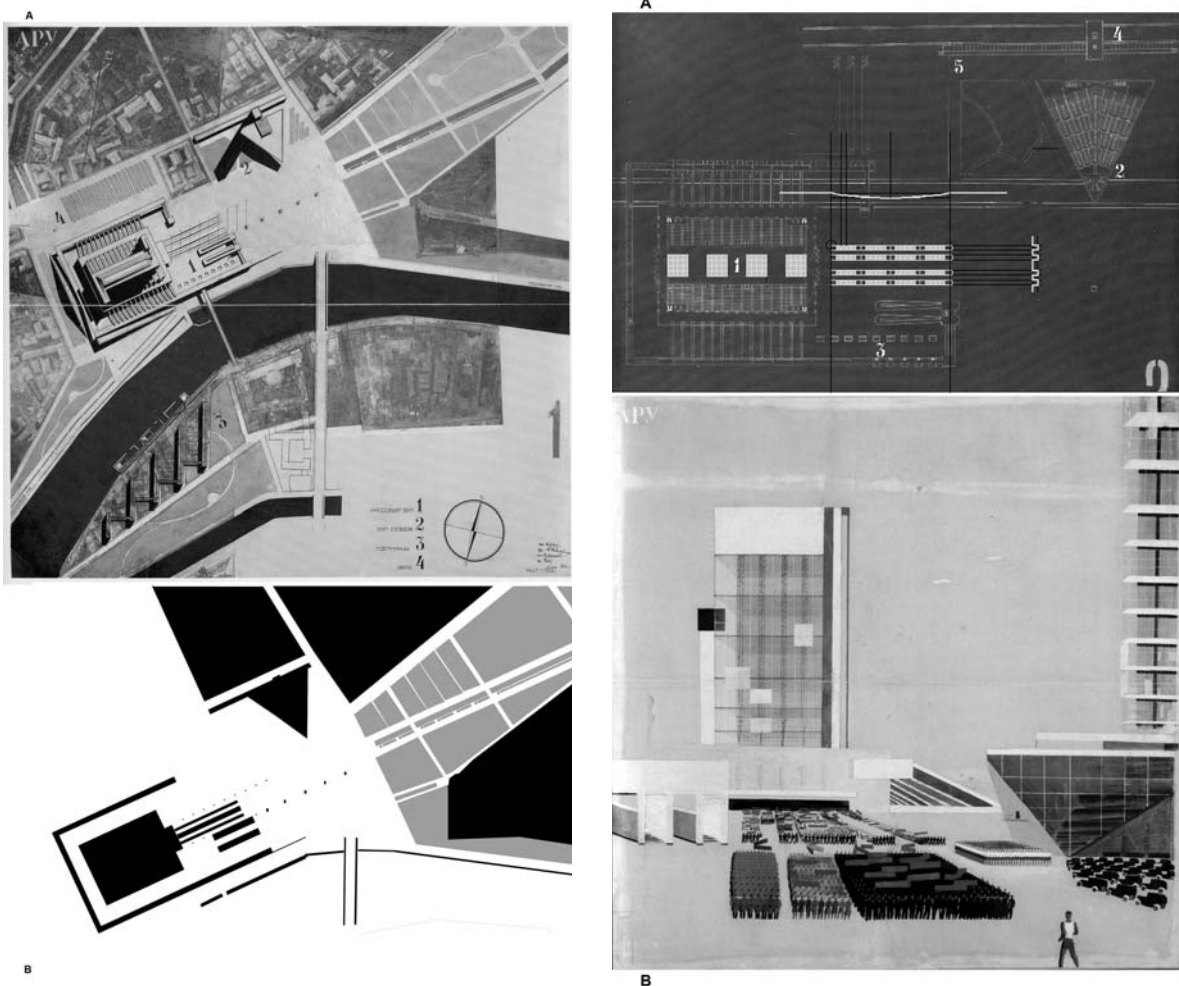
When challenged to design a facility for mass crowds engaged in collective ritual, the Soviet avant-garde realized that this task involved crafting an altogether different kind of space. Instead of a spatial logic stemming from discrete enclosures molded around individuals - or even groups of isolated individuals - the question became: how to forge a fluid, continuous space from the native substance of the crowd itself: the mass of bodies.

If one examines the Rationalist ARU's (Union of Architects and Planners) entry to the Palace of Soviets Competition (1931-3), one is struck by the fluid – even elusive – nature of the space which the architects provided [figure1]. Enclosure boundaries in ARU's parade ground are either de-emphasized or totally non-existent. Buildings adjacent to this field do not relate to it as boundaries, but as free-standing objects. The Small Auditorium's triangular form (the largest mass along the parade-ground) distances its longer sides from the parade-ground, while pointing its triangular apex at it. The building evades offering an edge to the space, while also circumvents centering space around itself. Even the southern row of small pavilion-like structures turns out to be no implied-edge, but rather a permeable crowd-sorter within its field, which reorients a portion of the marching columns towards the staircases ahead, to commence a lengthy ascent to the top of the Mass Hall structure.

Whether at an overall scale or at smaller ones, the parade-ground's space is neither defined by acts of enclosure nor as the flux of object-

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fields. Instead, ARU's scheme is organized as a linear field, extending from the Kremlin's northern boundary into the parade ground and through the Mass Hall. Even within building-interiors, the significance of enclosing walls is secondary if not altogether trivial [figure 2]. The Mass Hall and Small Auditorium buildings each possess a minimalist configurational depth; the ground-floor's single space interfaces directly with the exterior parade-ground. Moreover for the Mass Hall, interior vertical walls disappear behind the tiered stalls of spectators on both sides.



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ARU's spatial strategy contrasted sharply with those adopted in other entries [figure 3]. Auguste Perret's neo-classicist approach centered on one enclosure clearly-defined using surrounding buildings as walls. Configurational centrality is pronounced by the corporeal form and its geometry; symmetrical axes converge onto a point of repose and pronounced hierarchy. Boris Iofan's winning entry also emphasizes carved volumetric enclosures whose formal language issues from self-contained geometries, which extend beyond the competition site to recast the surrounding Moscow urbanism in similar garb. Even Corbusier's early sketches betray struggles with the notion of enclosing large groups. His submitted scheme displays a more complex development of the notion of enclosure – if still entrapped within its logic.

In order to grasp the peculiarity of ARU's strategy, it is important to comprehend the nature of the underlying problem which the Rationalists addressed. In the competition program, architects were charged with designing assembly halls for 15,000-20,000 people. Implicit in this charge was one significant problem: the mass crowd

Figure 1:

ARU (Union of Architects & Planners), submission to the Place of Soviets Competition (1931-3): A. Overall site layout; B. an impression of enclosure definition (Left)

Figure 2:

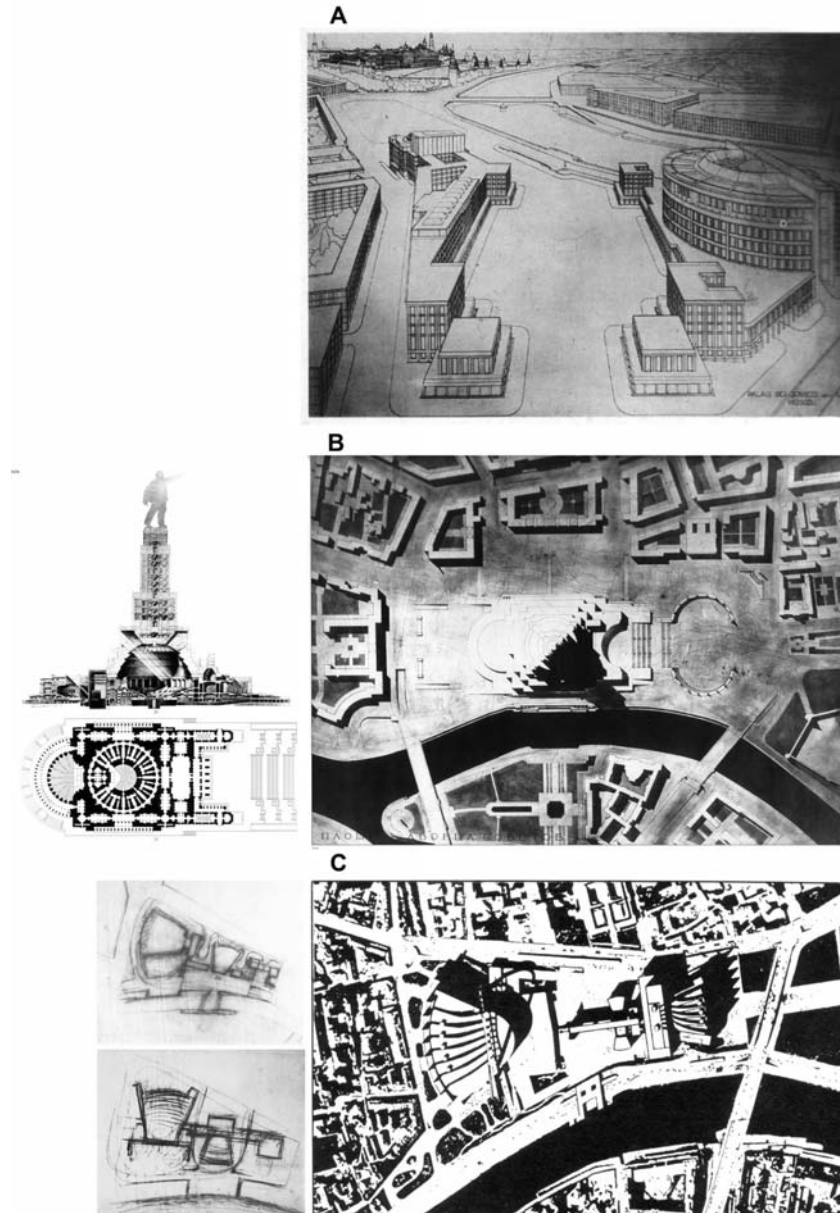
ARU, Place of Soviets Competition (1931-3): A. Plan at ground level, overlaid with cross-sections through the marching ramps, and a delineation of the organization of crowd numbers; B. ARU's three-dimensional drawing of the parade-ground (Right)

was meant to engender an emphatic sense of collectivity. Crowd choreography was required to yield collective self-consciousness, and not a mass of individuals moving simultaneously past each other. As a required property of motion and stasis, synchrony and diachrony, this amounted to what may be conceived as ritual, rather than mere organization of flow and conviviality. What spatial-configurations engender a sense of classless gregariousness? This, while bearing in mind that sorting such conjoined mass-crowds (whether in interiors or exteriors) requires devices other than walls. For a static crowd in a synchronic space, interactions are totally independent of enclosure. For a moving crowd, large enclosures delimit co-presence and generate unwanted hierarchy. In terms of analysis, 'configurational depth' loses much of its power to describe ongoing social interactions.

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Figure 3:

Other entries from the Place of Soviets Competition (1931-3): A. Auguste Perret, aerial perspective; B. Boris Iofan (winning entry), section, plan and site layout; & C. Corbusier, early sketches and final site layout



For several architects including the Rationalists, the crowd presented itself as the native substance of spatial morphology: its configuration as well as its corporeal form. Similar questions arose as to the legitimacy of aesthetic language – such as to what extent this was also derived from crowd bodies and movement.

Features of an Alternative Configuration

Rhythms

Thus, if the challenge became one of managing masses of people as generative of spatial as well as aesthetic languages, what specific conception of spatial-configuration organizes ARU's scheme and underlies its design tactics. It is, I contend, the rhythmic organization of the moving mass-crowd - its densities, speeds and ordering geometries - which underlines its morphological performance. The architects manipulated crowd flow, through crowd-sorters and around obstacles, but above all through manipulations of the ground surface on which the crowd marches [figure 4]. Curvilinear ramps interface between the parade-ground and the Mass Hall; these 'remix' the crowd columns (as affiliations, colors, costumes, ...) as well as transform the rhythm of movement itself down then up the ramp-incline. What one would observe in the parade ground is a linear field organized as sequences of variant rhythmic intensities. A borderless space, it derives its sense of internal coherence from the rhythms of occupying bodies, whose geometries and densities are variably manipulated to provide for spatial distinctions. Configuration emerges from one rhythm following, or overlapping with, another; configuration is experienced as shifts in rhythm (density, speed, order).

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Worth noting is that ARU's rhythmic play continues inside the interior space of the Mass Hall. Columns of marchers ascending the ramps become clusters once again. But unlike the earlier clusters approaching from the direction of the Kremlin in formations from the same battalion or social group (e.g. railroad workers, sailors, athletes, etc), these are organized as admixtures of the different companies. A column marching up from a certain ramp would find its place in the new cluster divided in smaller subgroups. The interior clusters afford an explicit organization in numbers. Sixteen squares make up each of the three marching clusters; each square can house twenty-five marchers (five rows of five, presumably from the same group – see figure 2). This makes up a total of four hundred marchers per cluster; or a grand total of 1,600 marchers equally divided between the four clusters: a number quite close to the 1,500 performers which the competition program called for to be accommodated in the Mass Hall's performance area.

What this offers the space of the mass crowd is twofold. First, it generates a means for spatial differentiation (or configuration) which does not disappear behind the bodies of other immersed crowd members, maintaining a more easily-perceived device for navigation. Secondly, it makes the involvement of crowd activity far more meaningful and significant to spatial definition; it involves crowd-members in the very definition of space itself. Assembly within a modulated-field enforces assembly while also being more inclusive; within an enclosure, assembly is accidental, or disjointed from the act of enclosing.

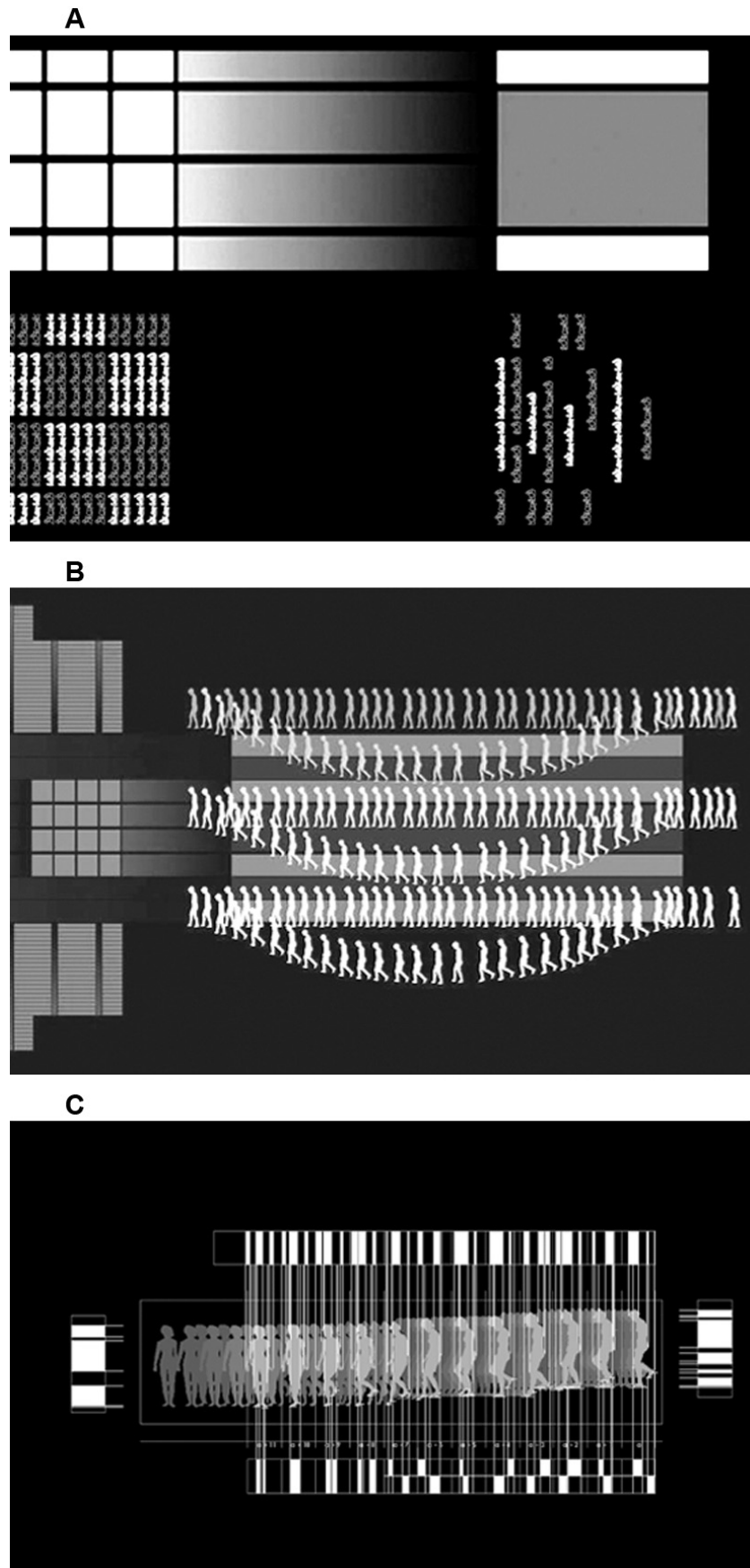
Logically, 'rhythmic configuration' stands in contrast to 'enclosure' at a fundamental level. A convex enclosure issues from notions of seclusion and stasis as axiomatic points of departure. Convexity is defined by full visual disclosure (360 degrees) of a space from a situated-observer's viewpoint. It is the visual field totally controlled by the inhabiting subject, and which allows this visual-agent to monitor accessibility to him/herⁱ. In other words, it is a spatial conception fundamentally forged from isolation and control: the delimitation of co-presenceⁱⁱ. Convexity also betrays a bias towards stasis over movement; it suggests a destination, or at least a moment of dwelling. Moreover, movement within one convex-enclosure effects no

movement in adjoining ones; convex units are independent. Movement, in this framework, unfolds between discrete pointsⁱⁱⁱ.

Figure 4:

Reconstruction of ARU's crowd rhythms: A. shift in formations from ramps to pods; B. multiple rhythms simultaneously; C. reconstruction based on Muybridge's photography, with calibration of body gestures showing non-repetitive, arrayed rhythms

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A mass-crowd, particularly a moving-crowd, provokes a challenge to this foundational concept. As a social entity, the formation of a moving-crowd assumes certain gregariousness; the social purposes of a gathering deny seclusion and minimize individual control. But the crowd's challenge to the morphological notion of convexity is, above all, morphological itself. If a convex enclosure is defined by total visual disclosure, a crowd condition - by definition - denies that. Close-by bodies pose limits to the visual field and physical movement; enclosure attains a measure of fluidity (akin to a flexible bubble) as bodies encircling one's own in a crowd fluctuate in distance, shape and visual disclosure of what's beyond. This, after all, is how information (whether about the crowd or about the surrounding physical environment) is relayed in a crowd situation: bodies read orientation, movement speeds and densities from the surfaces and kinesthetics of adjacent bodies. One will adjust one's speed, direction and attention in response to stimuli and inferences from surrounding bodies – far less so than in response to changes across physical enclosures (Fig. 1-8). A crowd is the aggregate of such adjacent, fluid 'bubbles'; the global is the outcome of many local moves.

Building Choreographies

Information flows across the crowd-aggregate, amid conditions of limited visibility, constitutes the first element of how the gregarious spatial typology performs. A more specific description of such traffic may be cast in terms of 'action-signs' (Williams 1995; based on Rudolph Laban's theories of dance choreography): culturally-codified moves with which we communicate moods, impressions and information to others. These are ephemeral acts with which we complement equally ephemeral verbal-signs. Some are codified into symbolic actions (e.g. the bow in prayer or in Tai-Chi).

Action-signs become particularly significant in crowd conditions, but they are far from being the exclusive transmission devices. In addition, actual physical contact as well as establishing a concept of the body may also play an important role; both will be articulated below when discussing the mosque case. Another transmission device, demonstrated by Soviet assembly cases, may be termed: the 'rhythmic field'.

Crowd kinesthetics are closely related to buildings primarily through the everyday activity of movement within and across the spatial system. Together with its attendant minutiae of everyday gestures and postures, it constitutes the raw material from which a society's system of communication is forged – and which is formalized in dance as an aesthetic form. Choreometric profiles (developed by Kaeppler 1978 & others) articulate such formalizations of everyday life activities qualified by the form of flow and energy exerted, as well as the shapes and spatial planes and volumes employed. Such classifications are founded on Rudolph Laban's theories of movement and choreography, particularly Effort-Shape Theory (developed 1926-60), where he marks the significant distinction between spatial and non-spatial movements. The latter come about as the body points to, or folds onto, itself; the former are generated when a body gesture, posture or movement 'points to' or indicates an external point in space.

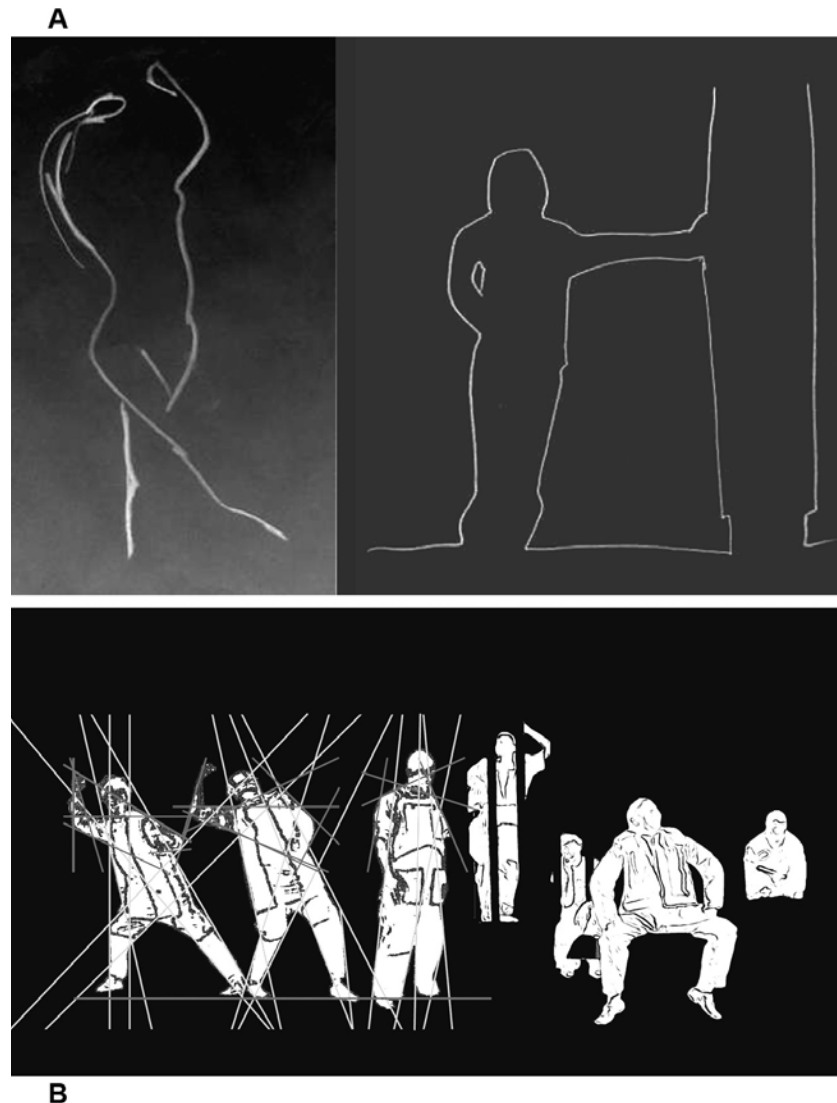
We perform such acts profusely, incessantly and quite subconsciously. They are not (necessarily) codified as 'action-signs'; but they partake in creating impressions of interiority or exteriority, with attendant variations in shape, direction, intensity, measure, etc. Of significance here is that such acts, performed by many in a mass-crowd condition, aggregate into rhythmic fields. If typical, similar or complementary, such acts cohere into a mass composition. An aggregate of spatial-

movements – where crowd members' bodies point to surroundings - pronounces a sense of gregariousness.

Figure 5:

A. Laban's spatial & non-spatial movements: left - arm-movements, non-spatial; right – spatial movement. B. Meyerhold constructs an array of spatial movements from an ensemble representing one theatrical character

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While such moves may be performed in the course of socializing with others, they may also induced by the built environment. As the main mode of generic movement, walking may be stimulated in different speeds, to variant rhythms and accentuated by instances of looking and events of gathering. Different building-architectures induce such movement rhythms and events differently. Walking is when bodies are in their most concerted proportions – whether in standing or walking, ascending or descending, our body parts and proportions remain coordinated in relation to each other inasmuch as everyday movement affords – and as induced by contact with building floors. Only when we sit or engage furniture or other building-elements do our bodily proportions assume more contorted – sometimes even fragmented – proportions and rhythms. Thus, while concerted generic-motion occurs in physical dialogue with the ground-plane, deformations occur in contact with other planes and elements. Furthermore, movement – as induced by buildings - is more emphasized and visible in stairs and ramps. As architectural devices that manipulate speed and rhythm, such outgrowths of the ground-plane emphasize kinesthetic effects.

This observation provides some elementary basis for kinesthetic choreography within buildings. Returning to ARU's competition submission once again: The connection between ARU's Mass Hall and the parade ground occurs through a set of four ramps of

unorthodox nature (see Figures 2 & 4). Sloping down at one end, they immediately tilt back up again; they lead nowhere, underground or above, along the way or within their individual boundaries. They deliver the crowd, assembled as a set of large, organized clusters with uniform costume and insignia on the parade ground at one side, to the Mass Hall at the other end as formations of columns, about five body-breadths wide with mixed group affiliations. As such, they may be explained as crowd sorters and mixers; the marchers arrive with their affiliated companies, only to intermingle with others as small groups of two or three from each company simultaneously enter one of the four ramps. In mixed droves, they thus march towards further mixture within the Hall, if one extrudes the logic. What confirms the role of the ramps as crowd sorters and mixers is a simple calculation of capacity for the ramps as well as the stage pods shown in ARU's plan. As figures 2 and 4 illustrate, both the ramps' and the pods' occupancies are equal to 1,600 marchers (close to the 1,500 figure requested by the competition program for stage performers); the one set is meant to feed the other, although the exact procedure may unfold in various scenarios. Not only does this configuration perform crowd sorting and mixing efficiently, but also with clarity – the process is explicit and may be reconstructed by onlookers in the Mass Hall's stalls. Inscribed in the square geometry of the stage pods, and further suggested by the apparent equality of each ramp's width to the pod's square unit, the transparency of the arrangement and its relative ease of reconstruction adhere to the Rationalists' philosophy on the economy of emotion, as given by their VkhUKTMAS student-exercises (Cooke 1983).

But if crowd-sorting accounts for the ramps' eccentric unidirectional configuration, yet another peculiar feature of theirs begs further explanation. Instead of conventional linear ramps, ARU's layout and three-dimensional drawing show curved inclines; as one curve tilts down the other symmetrical curve slopes up, in what resembles a wide, inverted bell-curve. What prompts this curvilinear articulation, I assert, lies in the kinesthetic logic of the curvilinear ramp. Ramps, as discussed above, emphasize and make-visible the kinesthetics of generic motion as induced by buildings: displays of rhythm and speed, sensations of mass and weight, coordination of proportion and choreography of body-parts. A linear ramp would forward such sensations; yet it establishes a uniform speed and rhythm, with a regularized exertion of weight – a repetitive choreography that tends towards redundancy, and sinks into subconscious oblivion soon after its initiation. A linear ramp would still generate a spatial definition forged from the homogeneous trace-forms of moving bodies arrayed one after the other.

What a simple curvilinear ramp begins to conjure is a complex rhythm that eschews redundancy and repetition. Ascending or descending along the curved surface, the individual body does not settle into a repeatable rhythm of movement since the body's angle of inclination changes from one step to another. Here, with the ground-surface of contact changing according to a compound formula, the sensation of weight is far more alert. Movement, up or down the incline, would require an attention vigilant to its surroundings (whether to the physical tilt and/or the surrounding bodies) for the individual body to manage its bearings. This curved ramp recalls Alexandr Rodchenko's strategy in Inga's 1929 set-design and in the Soviet Paris Exposition furniture; the body is engaged as an active, alert and conscious agent. Moreover, the body's movements – the restrained strides feeling for the ground and the very subtle gesticulations avoiding collision with others – are aimed away from the body towards elements in space. As feelers sensing the world around and subtly shaping the body

towards and around it, such movements are directional and spatial in kind - what Laban's Effort-Shape theory would classify somewhere between reach space and shaping (Dell 1977).

With each individual body thus engaged, the rhythmic grain of movement built up for the whole column of marchers is forged of such reaching and shaping. For any given moment, the overall rhythm consists, not of repetitive trace-rhythms (where each body may introvert onto its own), but of a concerted diachrony of movements not unlike what the Soviet director Meyerhold sought to generate through Biomechanics. Out of the individual rhythm an overall choreography is spun to be glimpsed rippling across the crowd from one end to another [Fig. 4]. One movement follows another in space and time. What needs to be noted here before developing the argument further is how such concerted diachronic rhythm may be visualized and interpreted – aside from being experienced. The ripple of postures and gestures across the descending or ascending column amounts to a display of characters – as if in a demonstration of notation. What is significant here is that such a display, rather than arrest visual attention on any individual body (either as a center or as typical of the overall), would distribute co-visibility across the whole group.

Navigating through the Moving Crowd

The Rationalist entry exemplifies rhythmic changes between which emerge basic thresholds. It illustrates how the corporeal form of a building floor (or ground) may be manipulated to effect spatial change.

To sum up: the above discussion on Soviet Rationalist entries to the Palace of Soviets Competition reveals several significant issues. First: Crowd formations in ritual conditions possess a formal logic – which is the backbone of a distinct configurational logic of physical space. This logic issues from the necessities of perception, navigation and orientation amidst the thickets of a hypothetical mass-crowd. In conditions of limited visibility, crowd members exchange information through several vehicles: action-signs and intuitions from the rhythmic-field of aggregate movements. A crowd, then, is a global aggregate of local moves.

But crowd formations also propose a distinct architectural aesthetic, which – in turn – enforces configuration. This aesthetic takes: a) the mass of bodies as its indigenous substance; and b) the ground-plane (instead of the wall as in the logic of enclosure) as the principal medium for shaping the relations (rhythmic, visual and otherwise) between crowd-members.

Second, the Rationalist entry demonstrated partiality towards diachrony; ARU's design proposal took the moving-crowd as its focus. This emphasized rhythmic variations above all. In the next section, the Muslim congregational mosque shifts emphasis to a crowd in stasis (if still kinesthetically active), revealing further dimensions to this morphology.

Mosque

Mosque Kinesthetics

Among the several activities shaping the mosque's institutional program, congregational-prayer furnishes the essential framework for its space. Muslim congregational-prayer invokes particular forms of collective attention, which unfold primarily during ritual performance, but also secondarily before execution (in the preparation for prayer), and after it (as one re-enters the social world of human activity).

Heeding the prayer-call (athan), the faithful perform ritual ablution, then line-up in straight uninterrupted rows, unanimously (including the

imam) facing towards Mecca – shoulder to shoulder, foot to foot, with eyes cast downwards towards the ground where prostration occurs. As the imam recites Quranic verses aloud, congregants listen attentively, then follow his prayer movements in collectively synchronized motions, carefully observing not to overtake him. Standing, kneeling, prostrating, then sitting is a full rak'aa (ritual-unit), repeated in different aggregates five times per day and night.



Figure 6:

Rhythmic field in Muslim prayer: standing, kneeling, prostrating and sitting positions

During ritual, the primary form of attention unfolds from a kinesthetic connection to fellow congregants aligned in the same line. Alike a chain of bodies, congregants along each prayer-line maintain physical contact - shoulder-to-shoulder, foot-to-foot; accordingly, the whole line manages to maintain order and synchronicity of movement. Auditory cues from the imam maintain overall coherence from one line to another. This means that congregation members exert active, conscious effort to follow rules, and to maintain overall synchronized movement.

At the same time, visual interface in Muslim congregational prayer is delimited. One directs one's averted gaze to the ground where one touches forehead and nose during prostration. Intaking visual cues about congregational movement and surroundings in general is thus constrained, except through sideways glances – and only to confirm movement synchronicity in cases of mistaken moves or the inadequacy of the imam's auditory reach. In Muslim ritual, the kinesthetic bond during congregational-prayer unfolds in stasis - i.e. without spatial displacement. Each congregant occupies a single spot during ritual; although congregants move up and down in relation to the ground datum, their relation to the mosque space may be deemed unchanging during prayer. Varying heights of viewpoints (as vantage points) resulting from prayer movements may be neglected, since congregants are meant to be visually oblivious to surroundings during prayer. Normally, this pivot stance of attention also faces the qibla wall and the building structure, frontally or along a one-point perspective view; the view lacks compositional dynamism^{iv}. However, a rather sharp contrast does occur between two significant moments: standing up at the very beginning of prayer, and seated down at its very end. This means that while static relative to the prayer space, it offers varying vertical viewpoints.

Such arrangements focus one's foremost concentration on the act of prayer - while simultaneously registering the collective of fellow congregants through kinesthetic adjacency. This latter involves an awareness of one's own body, not as a gendered object, not as a proportioned object, nor as an object on display, but as part of a larger structure of alignments, or as an integral section of a continuous wall. The body is not perceived visually, but experienced in contact.

To recap, Muslim ritual invokes kinesthetic bonds of several kinds. First, as all congregants orient their bodies (if not their eyes) in parallel towards Mecca, and direct certain ritual gestures in that direction, a rhythmic field emerges from such spatial-movements, as Laban's theory terms them. Although in principle not unlike the one the Soviets evoked, there are differences. While the Soviet case depended on displacement, the Muslim case demonstrates that a field may be generated with gestures and postures. Also, unlike the rippling rhythms in ARU's scheme, Muslim ritual unfolds by synchronizing collective movement.

Second, direct physical contact plays a more prominent role than in Soviet assemblies – it binds each single prayer-line as one physical contiguity; auditory cues connect different lines. Yet beyond relaying information towards synchronizing movement, contact also diffuses the concept of the body as an individual entity. Instead, it offers the body as space's building-block. Moreover, contact helps in the act of supplanting vision. This evokes a sense of space-in-the-making (Bronet & Schumacher 1999), a space constructed by body movements incrementally in time, and not captured all-at-once through visual survey of the synchronic extension. The distinction is significant for the notion of space which kinesthetics evoke here, as will be demonstrated below.

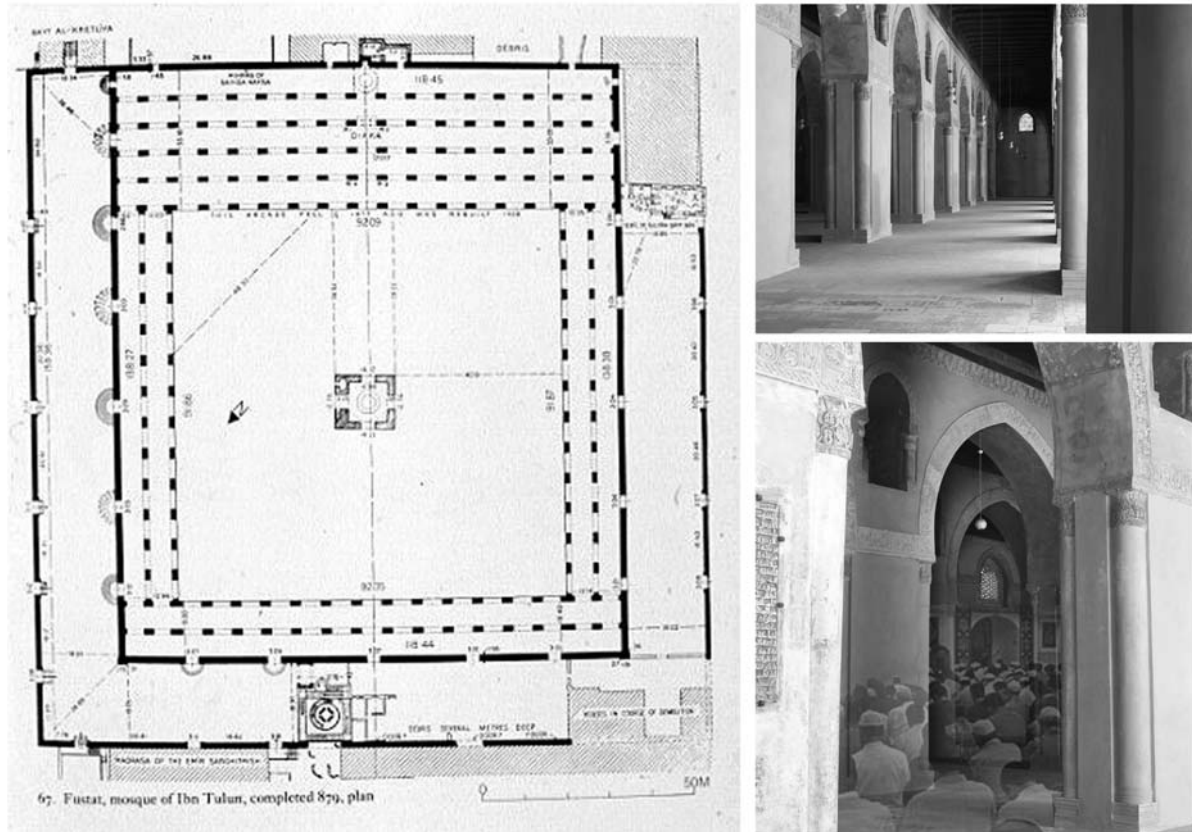
Conception of Space in Mosque

Such kinesthetics of field and body generate a space of unbroken continuity. What persisted among the mosque's various physical forms across different regions was a tendency towards shaping the prayer-hall as a continuous field, uninterrupted by liturgical artifacts or furniture - whether visually, in terms of physical accessibility, or symbolically. Unlike the Bima or Ark in synagogues, the chancel or altar in churches, no object may be introduced within the mosque's prayer-hall, except temporarily, then promptly cleared away to guarantee the physical continuity of prayer-lines, and for instrumental use without sanctified associations. Since prayer occurs through moving the body in relation to the ground, stalls were never required. Unlike the Bible and the Torah, the Quran – as a physical volume - was assigned no liturgical location within the masjid. Although men and women prayed in separate clusters of lines (to avert mutual distraction), walls were not erected between them (until modern times).

Figure 7:

Ibn-Tulun mosque, Cairo (9th c.): spatial continuity & uniformity maintained even in prayer-halls with large structural piers

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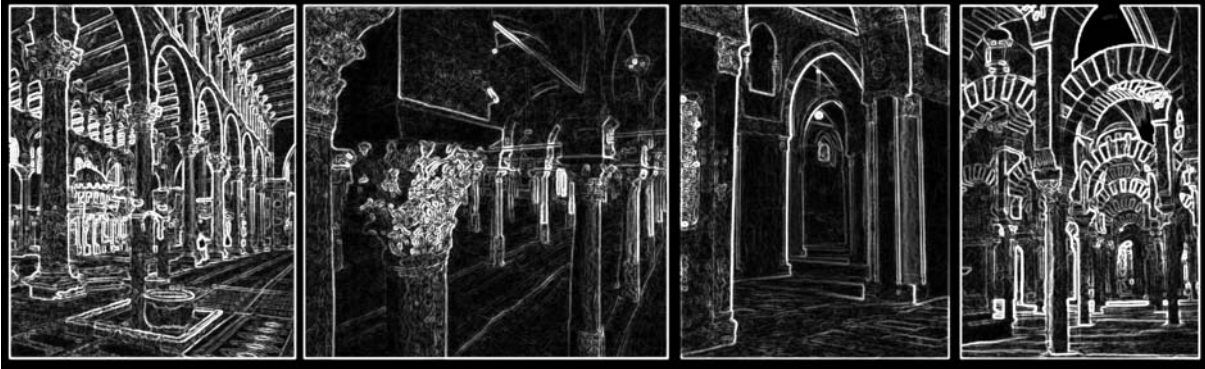
As such, mosque space offers itself as a contiguous elastic volume, firmly delimited only by the qibla wall, but otherwise extending sideways and back, and around (also through) objects of necessary utility (columns, minbar....etc). The condition of such contiguity and elasticity is uniformity: whether conceptually or visually, no point may be assigned more significance or rank than others, let alone house sanctified objects. Even the imam's position is temporary (only during prayer), and could be delimited to an insignificant spot attached to the first line.

Spatial continuity and uniformity are superlative conditions within the prayer-hall. This means that – generally-speaking, but particularly in the case of mosque hypostyle-halls – columns or piers are perceived, not as objects around which a force-field coagulates, but as negative erasures in a continuum, or as layering over the continuity. A sense of 'transparency' sets in, whereby the interrupting object or accent is perceived in perpetual alternation with the continuum. This may

Figure 8:

Aesthetic of 'Perpetual hovering' (after Tonna) in mosque hypostyle halls - from left to right: Umayyad mosque, Damascus; al-Azhar mosque, Cairo; ibn-Tulun mosque, Cairo; Cordoba mosque, Spain

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Mosque space may thus be conceived in terms of its negation of objects, while simultaneously emphasizing bodily kinesthetics and contact. Body and 'object' are distinct notions within mosque space.

Thus, if one considers the synchronic space of the prayer-hall on its own, one is struck by its principle of total uniformity. Ritual in the Soviet cases promoted equivalence through moving across space and mixing with others; while still (in principle) classless, spatial continuity is articulated by nodes: as intersections and heightened rhythms. However, the mosque space denies that; nothing, in fact, is gained by traversing the space. Spatial configuration in the Soviet case consisted of rhythmic sequences and overlaps; the mosque prayer-hall seems to suggest a condition of zero configuration – of no differentiation across the uniform field. The main agent of this uniform continuity is the ground plane, which also acts as a datum to the body during ritual performance. While mosque space may be uniform conceptually and visually, it is of a different order to the body.

Conclusion

Spaces for gregarious crowds need to be examined through the logic of their own making and constitution – what constructs their ephemeral systems of interface. Probing gregariousness using the constructs and categories of individualistic, isolated enclosures masks the unique dynamics of communal space. This is compounded by a perceived lean towards the individual and the private in modern times, as observed by Richard Sennett. A wealth of undetected social interactions may be gauged and related to the built environment through employing Laban's framework and anthropological theories of dance.

This paper's explorations pronounce the kinesthetics of body and ground as central to the morphological features of gregarious spaces. It is in the manipulations of those two fundamental components that the configurations and aesthetics of communal spaces may be articulated.

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- i. Even if we consider multiple subjects or viewers in a space (i.e. an enclosed crowd): as the enclosure becomes forged of others' bodies the building wall diminishes in effect and fails to comprehensively describe ongoing interactions.
 - ii. I refer here to co-presence as an act that transcends merely existing in the same space, to denote detection and recognition - as defined in my paper: Ziada, H. (2005). "Can architectural space forge a new social collective?", *Proceedings of the Fifth Space Syntax Symposium*, Delft
 - iii. The same may be argued for the sister construct of the axial line; it translates fluid movement into discrete segments.
 - iv. Contrastingly, approach to ritual involves attention from a dynamic perspective. Although there is no collective ritual procession in Muslim prayer, mobile individuals' approach to prayer acts as spiritual preparation, and has conventionally come to be important for mosque design. Although of lesser significance (being derived from tradition rather than ritual), mobile attention (or attention while mobile) is also a part of the mosque's attention structure.

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