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Sound Organisation: A Brief History of Psychosonic Management

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abstract

This paper notes the ocularcentricism of mainstream organisational theory and calls for researchers to give an ear to the sound of organising practices. In a brief historical analysis the key role of sonic measurement and control in the development of such practices is discussed. Yet contemporary organisational research works within a strangely silent world. The paper concludes with an appeal to listen to, and engage with, this silence.

Prelude: A Call to Theoretical Indiscipline

Etymologists tell us that the word 'organisation' means 'to endow with organs'. Yet the history of organisation studies reveals an obsession with but one human sense organ: we work under the epistemological regime of the eye. This paper gently calls upon researchers to give an ear to the sound of organisational practice, to enter the realm of the psychosonic. For, as Jacques Attali argues,

> more than colours and forms, it is sounds and their arrangements that fashion societies. With noise is born disorder and its opposite: the world In noise can be read the codes of life, the relations among men… Any music, any organisation of sounds is then a tool for the creation or consolidation of a community, of a totality. (1985: 6)

This paper explores the role of sound and hearing, and attempts at their codification and control, in the historical development of organising practices.

The paper is in three parts. The first argues that the development of Western organising practices relied heavily on the organisation and control of sound and silence. The second part addresses the question of why organisational studies have tended to 'overlook' this cultural process. The paper concludes with a consideration of what organisational studies might sound like were we to immerse ourselves in the auditive world of organisation.

Melody: The Organisation of Sound in Pre-Modern Times

Organising may be defined as an ordering activity which attempts to ensure that appropriate people and things congregate at an appropriate place at an appropriate time, in order to undertake appropriate actions (Latour, 1993). The word 'organisation' merely serves to suggest that such actions tend to be repeated in a more or less structured and unchanged form. Yet mainstream organisation studies have tended to concentrate much more on place than time, more on organisation than organising, more on stability than movement. This can lead to a certain degree of temporal amnesia insofar as we pay less attention to the provenance of organisational structures. They become part of everyday life and we easily forget that organisation depends on the negotiation of what constitutes an appropriate time and place for our activity. We tend to forget also that the history of social organising reveals a decidedly aural provenance: the bell.

Before the invention of the bell-ringing clock, timekeeping technologies (sundials and clepshydra) were known as *horologia*, a term derived from the Greek words *hora* (time) and *logos* (telling). For the ancient Greeks, time was linked to nature and to the movement of celestial bodies (hence 'horoscope' – from the words *hora* and *skopos*, observer). The English and the French collective word for the sundial and clepshydra was *horologe*; the Spanish used the term *reloj*; the Italians *orologio.* However, at some time during the eleventh or twelfth century (authorities cannot seem to agree on a more exact time) *horologia* gave way to a new word derived from the Latin word for bell: *clocca*. Thus we get the English word *clock*, the Dutch and Flemish *clokke*, and the German *glocke* now being applied to describe timekeeping devices. Clearly then, timekeeping machines began as automated bells – bells which acted as drivers to the disciplined and productive labour of organised monastic life and, soon after, to secular life.

In the Europe of the early Middle Ages, ninety percent of people lived an agrarian existence and their work and lives were organised around natural seasonal and daily rhythms. It is difficult to see how rural communities would benefit from knowing the time more exactly than the cues given by the sun, seasons, plants, animals, and their own bodies. The constituency with the most notable need for time measurement during this period was the Christian church, and particularly the Roman branch. It was the clangorous bell (*clock*), announcing the beginning and end of silence in the early medieval monasteries, which was to herald the extension of the sonic into the social world. The passage of sound became the passage of calibrated time.

In Islam and Judaism, the times of prayer were fairly loosely lineated (e.g. dawn, before sunrise, after dark) and prayer was regarded as essentially a personal act without the need for clerical mediation. However, early Western Christianity, and especially monastic Christianity, viewed prayer as a collective endeavor requiring detailed and disciplined observance and regulation. Hence formal organisational rules, as opposed to organisational practices, came with the monasteries.

According to Bouuaret (1953), the instigator of monastic rules of time discipline was Pachomius of Upper Egypt in the early 4th Century. Landes notes that "it was there for

the first time we see realised the practice of an office in the strict sense, reciting every day in the name of the church, *publicum officium*, at set hours" (1983: 61). From Egypt, this official practice diffused slowly, albeit with regional variations in ruling, into Palestine, Syria, Mesopotamia, and Europe. Mumford (1934) shows how it was in the West that the new order of the offices found its first complete and detailed realisation in the Rule of the Order of Benedict of Nursia, written around 540 AD. Benedict awarded prominence to the main feasts of the ecclesiastical year but his innovation was the allocation of specific times not only to prayer, but to almost all facets of monastic life (lauds, prime, tierce, sext, none, compline and vespers). The term 'canonical hour' became synonymous with the office itself: the officiant recited the hours. By the beginning of the twelfth century, Landes (1983) argues that canonical hours were normalised throughout Western Christendom.

> The very nature of these foundations, as expressed by the idea of an order, pressed them toward uniformity of practice and observance, and their reformism found expression not in the latitudiarianism often associated with the idea of reform today, but in the restoration of discipline. Discipline, in turn, had at its centre a temporal definition and ordering of the spiritual life: *omnia horis competentibus compleantus* – all things should be taken care of at the proper time. (Landes, 1983: 62)

Such was the importance of time discipline in the monasteries that great care was taken to ensure punctuality in all things. Time was of the essence because it belonged to God and the observance of strict time-keeping saw to it that none was wasted. Adhering to a strict sequence of communal prayer every day and night required discipline and co-ordination and in this a key role was played by the bell-ringing clock and the monk responsible for its maintenance and accuracy. Early monastic clepsydra made use of an escapement-type mechanism, often weight-driven, which produced a digital to-and-fro motion. This oscillation was used to drive small hammers capable of striking a bell at intervals chosen by the clock. In other words, the monks devised the first alarm clocks. More significantly, as Mumford (1934) and Boorstin (1985) have argued, the oscillatory striking mechanism pointed the way to the development of the mechanical clock.

If it was the monasteries that stood to gain most from the development of more accurate time keeping, this does not explain why the weight-driven mechanical clock, once invented (in the late thirteenth century), became so popular in the towns and cities of fourteenth century Europe. As Borst (1993) suggests, all the technical and scholarly benefits of the mechanical clock would have had little effect on secular life if it had not 'rung a bell' with the mentality of town and city dwellers.

> Their daily work, which was increasingly timed by instruments and rewarded with payments of money, was meant to be calculable and controllable within the town walls and hence uniform: there consequently had to be a common clock for employers and employees alike. (Borst, 1993: 94).

In towns and cities, these employers were a new wealthy and powerful urban elite who had benefited from the great expansion of agriculture and commerce in fourteenth century Europe.

The need for timekeeping was especially strong in those cities engaged in large-scale textile manufacture as a means of co-ordinating and controlling home workers. The

construction of mechanical clock towers containing automated bell ringing devices became a common sight in many European cities. These were installed in a church tower or a belfry erected for the purpose, and were either publicly or privately owned. One thing is clear, however: the urban community was the heir of the monastic commune as the bells were designed to control and co-ordinate the behaviour of citizens and workers alike. Some public clocks were undoubtedly spectacular and conferred prestige and status on the owners, but coordination and control was their function. In Brussels, for example, there were different bells (*werckclockes*), sounding at different times, to signal the beginning and end of the work day for each group of spinners, weavers, twisters, tapestry workers and whitesmiths. Indeed, we know that prosperous medieval towns in Europe were extremely noisy places (Munroe and Sontag, 1982).

Although the monasteries stuck with their canonical hours, the urban clock towers displayed mechanical time of equal hours. In addition to the general influence of the clock on social time discipline, the introduction of equal hours and the habituation of urban populations to public time announcements had two profound consequences for the European mentality. First, the mechanical clock symbolised a decisive step in the appropriation of time away from the heavens and from God (especially the liturgical practices of the Church) to humanity; from eternity to the here and now. Fourteenth century money changers and lenders, tax officials and industrialists were the groups eager to appropriate this new time standard. In the Churches of the Byzantine East and Greek Orthodoxy the installation of mechanical clocks was forbidden lest eternity became contaminated with time. The Roman Church in western Europe, by contrast, embraced the new technology and turned its back on eternity and the mystical interpretation of numbers. Before long Roman church bells were sounding secular, mechanical time – a process started by King Charles V of France in his 1370 decree requiring all public clocks in Paris to be synchronised to his own Palace clock. Thus, as Mumford notes:

> the bells of the clock tower almost defined urban existence. Time-keeping passed into time-saving and time accounting, and time rationing. As this took place, Eternity ceased gradually to serve as the measure and focus of human actions. (1934: 17)

The second consequence of the habituation of urban populations to the sound of public clock time was equally profound. Historians tell us that the medieval populous were innumerate as well as illiterate. How much reckoning could a person do in a world that knew no uniformity of measurement? Units of distance were linked to physical characteristics that varied as people do (the English *foot*, for instance), whilst weights typically were converted to volume standards (a *bushel* of grain) that inevitably varied from place to place. Landes (1983) opines that with growing trade in the twelfth and thirteenth centuries came the need to calculate and reckon. Roman numerals were displaced by the now familiar Arabic numerals during this period and these made calculations easier. It was the urban commercial populations that seem to have been the quickest to learn the new language and techniques of reckoning:

> Arithmetic was the province above all of the unlettered speakers of the vernacular (as opposed to Latin). Many of these learned arithmetic in the shop or on the road, but even before they entered trade, they learned to count the bells of the clock. Not by the old church bells ringing the canonical hours; these did not mark equal units and hence did not lend themselves to addition and subtraction. But the new bells and the calculations they made possible (how long until? how long

> since?) were a school for all who listened and began to organise their lives around them. (Landes, 1983: 78)

These two consequences combined to make the ringing clock a defining technology of urban life and work organisation in Medieval Europe. The ringing clock was not just a calibrated measure of orderliness and punctuality, it reflected and reinforced the quantification of trade, industry and the economy. In a very real sense, then, the aural codes of the clock s(t)imulated social organisation, and, in the process, reduced other voices of time to silence. The imposition of clock time by the bell led to the effective silencing of other measures of time (seasonal, body, lunar, and religious). Furthermore, with the standardisation of time, the clock was to take on a more visible form in the fifteenth century and beyond as it grew a face and hands.

Yet, increasingly during the fourteenth and fifteenth centuries, the auditory basis of organisation was to be displaced by a new measure of time and space based on what could be seen rather than what could be heard. The European Renaissance representation of the world was optocentric, as well as anthropocentric, and privileged the individual observer over God. Self-disciplined, systematic observation of lawful nature was of key importance and it was through this process that the Renaissance artists and philosophers were able to represent themselves to themselves, and to find a privileged spatial location from which to act on, and appropriate, the natural world.

It is generally agreed that the work of Pythagoras, Euclides and other ancient Greeks was fundamental to the mathematization and autonomisation of the visual (see, for example, Mumford, 1934; Houlgate, 1993). Derrida goes so far as to argue that the entire history of occidental philosophy is a photology because "starting with its first words, metaphysics associates sight with knowledge" (1983: 4). Based on the writings of the ancient Greeks, techniques of linear perspective developed during the European Renaissance all but sealed the fate of European culture to the domination of the visual. But what of sound? Why did it remain inferior to the 'noble' sense of vision? What we discover is that polymaths such as Pythagoras had far less success in formalising and rationalising the organising codes of music, than they achieved with visual geometry. Indeed, Pythagoras was perturbed to discover that aural space, unlike geometric space, was irrational and he felt obliged to keep his calculations silent for fear that an acceptance of seemingly irrational codes of music might lead the populace to question the accepted rules of rational social organisation (see Boeckh, 1819).

The key ideological revolution of the Renaissance was the construction of a worldview in which the human took centre stage. Machiavelli placed the human at the centre of politics; science developed into the construction of truth according to humans' observation rather than according to God's creation; legal rules rather than God's will became the fundamental concern of the judiciary; and artists produced paintings to be seen from the perspective of the human observer rather than God. Yet, this did not mean that everything became subjectified. On the contrary, everything was objectified, measured and mastered in terms of 'natural laws' derived from the mathematics of ancient Greece.

It is clear that by the late fifteenth century in Renaissance Europe there was a growing recognition of the significance of mathematics as a foundation or essential aid for all technical and artistic activity.

> And the fertility of this function of mathematics, which largely consisted of measurements of distances and angles, and calculations of lengths, areas, and volumes, was equalled by that of its application to works of art. It led to a development of perspective drawing, from a manual dexterity based on intuition or imitation to an art based on rational planning. At the same time it furnished a scientific foundation for the concepts of proportion, symmetry and harmony, which precisely at that time were beginning to occupy an important place in painting, sculpture, and architecture. (Dijksterhuis, 1961: 243-4)

The irrationality of melodic space simply didn't resonate with the Renaissance drive to mastery. Ironically, then, one might make argue the case that the stimulus to mathematics reflected in, and reinforced by, the development and diffusion of the mechanical clock, was to sound the death knell of European auditive culture.

Middle Eight

But to examine this fate let us return to melodic space and an earlier time. If you play eight consecutive white notes on a piano keyboard you end up with the same note you started with, except it is an octave higher. In fact, the second note is exactly double the frequency of the first. Octaves are harmonious and are mathematically related. A string that is twice the length of another, will, when plucked, produce a note exactly half the frequency of that produced by the other string. It has also been found through the ages that the most harmonious of all combinations of notes are two notes five white notes apart on the piano keyboard. Together they are called a fifth. The ancient Greek Pythagoreans discovered that for the playing of any two notes which made a fifth, the string length of one note and that of the other always had the mathematical ratio of two to three. The corresponding ratio for the playing of octaves is two to one.

Pythagoras, in his pursuit of perfect harmony, was unsettled to discover that the octave and the fifth intervals were incommensurable. As Temple (2000) points out, the problem arises when you try and reach the same note by climbing two different sets of 'stairs'. If you climb the octaves and if you climb the fifths, you do not get to the same note by those two separate routes until you have gone through twelve fifths ('the spiral of fifths') or through seven octaves. But, the notes which are produced at the summits of these two climbs are different, mathematically and aurally. They are inharmonious. Check out the mathematics and you find that the ratio of 2:1 doubled seven times gives you a frequency 128 times higher than the original note. But when you ascend in fifths (having the ratio of 2:3 or 1.5) twelve times, the note produced has a frequency 129.75 times higher. If you divide 129.75 by 128 you get 1.0136. This number is known as the Comma of Pythagoras since we know he had calculated this division to nine decimal places. Without this mathematical correction, melodic space remains irrational, whole tones remain indivisible mathematically, and octaves and fifths wander away from each other as you descend or ascend in pitch.

During the Renaissance period in Europe, this irrational melodic space was managed pragmatically by the judicial detuning of the least played sections of the musical keyboard (the highest and lowest) so that the middle section was in 'ideal' harmony. It wasn't until 1584 that Ming Prince Zhu Cai-Yű finally solved Pythagoras' incommensurable harmonics problem by recalibrating the very creation of harmonic sound to ensure a fit between the (mathematical) ideal and the (aural) real. Pure tones were displaced by tones of equal temperament. This ingenious process involved systematically shaving off a tiny bit of each note and creating semitones. The result is that every note is slightly, but perceptibly, flat – the pure tones of pre-seventeenth century music being forever silenced and all but forgotten.

With equal temperament, musical sound was rendered calculable and amenable to mathematisation. As with clock time, music was recalibrated to bring the 'real' into harmony with the mathematical ideal. Crucially, however, we were now in the age of the European Enlightenment and the mathematical recalibration of the visual world was far more advanced – a world which had long shown itself to be far more amenable to rationalisation than the aural world. After all, as Boorstin notes:

> latitude and longitude were to the measurement of space what the mechanical clock was to the measurement of time. They signaled man's dominance over nature, discovering and marking the dimensions of experience. They substituted precise units suiting human convenience for the accidental shapes of the Creation. (1985: 97)

Reprieve: Managing the Violence of Noise in Modern Times

In the twentieth century, although overshadowed by the ocularcentricism of European cultural practice, the organisation and control of sound remained on the management agenda (although virtually 'unseen' by organisational researchers). Indeed, research into sound by engineers and psychologists working in the Psycho-Acoustic Laboratory (PAL) at Harvard University was to lead to the rapid development and diffusion of cybernetics and information theory in the 1950s and 1960s – developments which were to amplify the harmonic resonance of the mechanical and the social within organisation theory and practice. PAL research greatly enhanced the visibility of sound, through a process of recalibration and formalisation. It achieved this by translating cognitive and social organisation into a hierarchically structured information processor. In embracing the mathematics of information theory, the illustrious cognitive science alumni of PAL (including Miller, Galanter, Pribram, Held, and Neisser) emptied the world of sound just as, from the Renaissance on, scientists had emptied space of everything but mathematical coordinates and geometric extension. Organised space becomes a visual coordinate systems. Mathematics becomes a ventriloquial medium – speaking on behalf of the objects and subjects that it has rendered silent.

The Second World War revealed to the US military elite that being able to see what was happening on the battlefield was useless if they couldn't then directly influence events by communicating with the troops. The US military established PAL in 1940 to tackle two fundamental design problems – "the human engineering of cyborgs to counter the problem of noise, and the engineering of communications for maximum speed and

efficiency" (Edwards, 1995: 211). Early experiments revealed that noise did not significantly 'interfere' with the completion of motor tasks. However, it greatly reduced the efficiency of linguistic communication. Noise became an abstract threat, a threat to the mind – to information itself. The notion of the military chain of command was reconceptualised as a chain of communication and PAL researchers conducted a whole gamut of 'articulation tests' in which selected syllables, words or phrases were spoken over a communication system. The percentage of these which were heard correctly was the 'articulation score' and identified the 'efficiency' of the system's components. No distinction was made between sound, sight, human or machine – all were measured and calibrated in terms of signal and noise. Subsequent research of language engineering completed the much earlier work of Alexander Melville Bell (1866) on 'visible speech' in the translation of natural language into technological code. Meaning was reduced to measures of information, noise, and channel capacity. The hearing of actual tones or sounds thus became irrelevant for linguistic communication as the audible retreated behinds its servile function for language. As Bell well knew, the fact that the phonetic elements mean absolutely nothing is, in effect, a necessary condition for their transmissive function. Henceforth, with sound stripped of any genuine acoustic or sonorous meaning, scientists would handle and analyse acoustic phenomena according to their measurable, predominantly visual re-representation (as wavy lines, etc.).

Perhaps it was inevitable that military-funded US scientists would turn their attention to the control of sound for use as a military weapon. But, as the ancient Egyptians and Greeks discovered, it is difficult to get the measure of sound and all of these attempts at sonic mastery were unsuccessful (see Swezey, 1999). The main problem for the military was (and still is) the multidirectional nature of sound. As Johnson (1989) notes, sound has a *gestalt of force* arising from the collision of objects with each other. Attempts to direct such violent sound have proven unsuccessful, and in most experiments both the receiver (the intended victim) and the sender shared the violent effects of the sonic weaponry (see Sargeant, 2001). Actually, the measurement of sound is still a troublesome endeavour in the 21st century. The decibel is the main unit of sound measurement, but, unlike visual measures such as the foot, the metre, or the tonne, it doesn't physically exist nor can it measure a single instance, or unit, of sound. It simply expresses the relationship between two values of power. And, like the hertz, the decibel is not just used to measure sound intensity, but is applied to any relationship of electrical or electronic power. The hertz is also used as a measure of light (witness again how the aural is subsumed under light's shadow).

Coda: Auditioning the Auditive

But, what is silenced during this synaesthetic shift from sound to vision? To see the world is to believe it has a form. When we look, we look for materiality, for thing-ness; not spirituality or no-thing-ness. To hear the world is to perceive a non-continuous, temporary form. Sound, after all, is not an object but an event, a movement. The way we in the West have learned to view ourselves and the world is through the lens of objectivity aided and abetted by a cultural hermeneutic steeped in the visual traditions of linear geometry and perspective. We still have alarm clocks but these are vastly

outnumbered by silent timepieces (none of us, when asked the time request silence whilst we listen for an aural signal). Rather, we learn to know our place, to see where we stand. Vision guarantees knowability because seeing bestows permanence. Sound and hearing can offer no such certainty because we are immersed in it. We Moderns demand to know where a sound comes from – to see it with our own theoretically disembodied eye. With the assurance of sight, sound is rendered visible and effectively silenced. Indeed, vision gives the viewer such a sense of security and certainty that Levin argues that there is an "undeniable power drive inherent in vision" (1990: 89), a reductive will to power. The observer performs an autopsy (literally *to see for oneself*) on organisational bodies. The listener auscultates (literally *to listen to the sounds inside the body*). In modern medical parlance, autopsy implies immobility and death; whilst the practice of auscultation is most commonly associated with life (listening for life-signs using the stethoscope) and birth (the ultrasound scanning of the en-wombed foetus).

Sound offers ambiguity and the possibility of space travel (from inside to outside and back again). We do not just hear sounds, we make them as well. In an organisational context, the potential for disobedience is therefore double. Not only may we fail to hear our instructions (obedience has its etymological root in the Latin *audire* – 'to hear'), but we may answer back. Our bodies, on the other hand, cannot produce light, only cast silent (mathematically definable) shadows.

Such indeterminacy and ambiguity does not resonate well with the visual mind. Because sound emanates from people it has the potential to dis-organise. Such voices are noise (*nausea*) in a hierarchical chain of command/communication. You 'know where you are' with vision, and where you stand has come to determine whether your voice is heard, and whether a sound is classified as signal or noise. Furthermore, the eye is good at noticing stillness and the absence of movement – aiding and abetting the convenient conceptualisation of organisations as more-or-less stationary, static entities. Conversely, the ear cannot detect stillness. As Walter Ong (1982) argues, sound signals the exercise of power since it must be in active production in order to exist at all. Without movement there is no sound.

If organisation means to endow with organs, our understanding of the organised body is a peculiarly ectopic one with a single disembodied eye displacing the mouth and ear. So, how might psychosonic research on organisations be conducted? Unlike ocularcentric research, research on sound and silence has no focused location, no form, no permanence, no object. No-one or no-thing is silenced and this opens up the world of the organisation to the researcher in ways which fundamentally differ from current forms of research and perhaps needs support more from the music theory of John Cage than the organisational theory of, say, John Child.

According to Larry Soloman (1998), John Cage's music theory encapsulates three basic concepts: indeterminacy, interpenetration and ecology.

Indeterminacy

For Cage, music is an exploration of non-intention. His most famous piece, 4'33", is a silent work in three parts which explores indeterminacy. It is the sounds surrounding the

performance which become the actual performance, and these sounds (traffic noises, involuntary sounds from the audience, etc.) will differ every time the piece is played.

Optocentric organisational research (OOR) tends to hold a fixed gaze at the subject matter under scrutiny. Often there is a theoretical position to be proven. 'Good' researchers know how and where to look; where to focus their attention; what to expect. Acoustic organisational research (AOR) would have no clear focus, but would remain alert to any movement – a kind of acoustic psychogeography, perhaps?

Interpenetration

Like the Surrealists and Situationists, Cage saw no distinction between art and life. OOR make a clear distinction, not only between research and naive lived experience, but also between subject and object, researcher and the researched. AOR immerses researchers in the organisational cacophony where they uncomfortably straddle such dualisms. The researchers' voice is not authoritative, but merely one amongst many.

Ecology

John Cage believed that sounds should be honoured rather than enslaved. Every sound is important. OOR enslaves its subject and rarely, if ever, enables them to speak for themselves. There must be 'expert interpretation' to clarify meaning and to allow one subject to be compared meaningfully with another. The categories, standards, measures, and values which compose such a comparison are, of course, not given by the subject but are disciplined by OOR itself. OOR cannot see everywhere at once, so only a limited number of subjects can be seen. AOR doesn't have the privileged position to impose such a discipline and must struggle to make any sense of the organised vocalic/sonorous body.

Steven Connor summarises the difference between OOR and AOR thus:

> the power of capturing, retaining, and therefore reordering the world which is associated with sight, and with a view of the world formed around its domination, is expressed in the creation of a sense of manipulable, permanent, homogenous space. It requires and allows the sense of clear and coherent distinctions between the inside and the outside of the body, and the relative disposition of different bodies in space. A world apprehended primarily through hearing, or in which hearing predominates, is much more dynamic, intermittent, complex, and indeterminate. Where the eye works is governed and explicated space, the ear imparts implicated space. (2000: 18)

Finale

This paper is not a call to blindness, nor is it an appeal to only listen to organisations. It is a call for us to admit the optocentricism of our dominant philosophies and the partialities this entails. The history of organising practice is one dominated by sound, whilst the history of organisation theory is dominated by vision. I would like to 'see' more recognition of this apparent paradox and efforts made to develop sound organisation theory.

Perhaps we have been so busy looking at organisations through modern eyes that we have missed something of fundamental importance. This is not as unlikely as it may seem. Take the example of archaeology, which, like organisation studies, is distinctively optocentric. Paul Devereux (2001) suggests that archaeological researchers have been deaf to the role of sound in the construction and social function of ancient sites. For example, virtually all documented research on Stonehenge, England's most famous megalithic site, has focused on the alignment of the ancient stone structures to the sky and the ground. Yet research reveals that human vocalic sound and resonance are at their clearest and loudest on the axis of the monument, the line pointing towards the midsummer sunrise position. As with the Paleolithic caves in France, it may be that such sites were constructed to fulfill an important acoustic, as well as visual, function. The caves – famous for their paintings – have another defining quality: they greatly amplify sounds with an harmonic frequency range identical to that produced by the human voice.

What sounds emanate from within the organisational body? Why are some sounds loud and others quiet? Why are some bodies silent, and how is this achieved? What function, if any, do sounds/silence have? How does architecture and interior building design affect sound and our psychological reactions to it? When recorded music is re-played in work environments, is it an amnesiac, or a means to violently silence the human voice; to control and discipline the body; or to quieten discontent (cf Attali, 1985)? What is the sound of emotional labour? As organisational researchers we have rendered organisations silent and perhaps we are in danger of becoming incapable, or unwilling, to listen to the sounds of that silence. We should not forget that Narcissus fell victim to the deadly fascination of vision having ignored the warning cries of the sonorous nymph, Echo.

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