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The Fourth Dimension in Cinema [38]

1929

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I

Exactly a year ago on 19 August 1928, before I had started work on the montage for *The General Line*, I wrote about the visit of the Japanese theatre in 'An Unexpected Juncture':

> [In the Kabuki] a single monistic sensation of theatrical 'stimulation' takes place. The Japanese regards each theatrical element not as an incommensurable unit of the various categories of affect (on the various sensual organs) but as a single unit of *theatre*....
>
> Addressing himself to the sensual organs, he bases his calculations on the final *sum* of stimulants to the brain, ignoring *which* path that stimulation takes.[39]

This characterisation of the Kabuki theatre was to prove prophetic.

It was this method that lay at the basis of the montage for *The General Line*. Orthodox montage is montage by dominants, i.e. the combination of shots[40] according to their predominant (principal) sign. Montage by tempo. Montage by the principal direction within the frame. Montage by length (duration) of sequences, etc. Montage by foreground.

The dominant signs of two shots side by side result in a particular conflicting relationship that produces a particular expressive effect (I have in mind here a *pure montage* effect).

This situation covers every level of intensity in montage juxtaposition or shock:

from a complete opposition between the dominants, i.e. a sharply contrasting construction,

to a scarcely noticeable 'modulation from shot to shot. (All cases of conflict are of necessity cases of complete absence of conflict.)

As for the actual dominant, we must in no way regard it as something independent, absolute and invariably stable. There are technical ways of treating a shot so that its dominant can be more or less specifically defined, but never absolutely.

The characteristics of the dominant are variable and profoundly relative.

The revelation of its characteristics depends on the actual combination of shots for whose combination it is itself the condition.

A circle? an equation with two unknown quantities?

A dog, chasing its own tail?

No, simply a precise definition of what is.

In fact, even if we have a *series* of montage shots:

  1. A grey-haired old man,

  2. a grey-haired old woman,

3. a white horse,

4. a snow-covered roof,

it is far from clear whether this series works on 'old age' or 'whiteness'.

This series might continue for a very long time before we finally come upon the signpost shot that immediately 'christens' the whole series with a particular 'sign'.

That is why it is better to place this kind of indicator as near as possible to the beginning (in 'orthodox' construction). Sometimes it is even necessary to do this … with an intertitle.

These reflections completely exclude a non-dialectic postulation of the question of the unambiguity of the shot in itself.

The shot never becomes a letter but always remains an ambiguous hieroglyph.

It can be read only in context, just like a hieroglyph, acquiring specific *meaning, sense* and even *pronunciation* (sometimes dramatically opposed to one another) only *in combination with* a separate reading or a small sign or reading indicator placed alongside it.

The General Line was edited in a different way from orthodox montage by individual dominants.

The 'aristocracy' of unambiguous dominants was replaced by the method of 'democratic' equal rights for all the stimulants, viewed together as a complex.

The point is that the dominant (with all due obeisance to its relativity) is far from being the only stimulant in the shot, even if it is the most powerful. For example, the 'sex appeal'[41] of the American heroine-beauty is accompanied by various stimulants: texture – like the material of her dress; light – the character of the lighting; race and nation (positive: the 'all-American type' or negative: the 'coloniser-oppressor' for a Negro or Chinese audience); social class, etc.

In a word a whole complex of secondary stimulants always accompanies the *central* stimulant (like the sexual one in our example).

This is precisely what happens in acoustics (in the particular instance of instrumental music).

There, alongside the resonance of the basic dominant tone, there is a whole series of secondary resonances, the so-called overtones and undertones. Their collision with one another and with the basic tone, etc., envelops the basic tone with a whole host of secondary resonances.

Whereas in acoustics these secondary resonances become merely 'interference', in music (which is calculatedly composed) they are one of the most remarkable means of influence for Left composers like Debussy and Scriabin.[42]

It is exactly the same in optics as well. All sorts of aberrations, distortions and other defects that are present and that can be remedied by systems of lenses, can, if calculatedly composed, produce a whole series of compositional effects (changing a 28 lens to a 310).

In combination with a calculation of the secondary resonances of the actual filmed material this produces, by analogy with music, the visual *overtonal* complex of the shot.

This is the method on which the montage of *The General Line* is constructed. This montage is not constructed on the *individual dominant* but takes the sum of *stimuli* of all the stimulants as the dominant.

That distinctive montage *complex within the shot* that arises from the collisions and combinations of the individual stimulants inherent within it, of stimulants that vary according to their 'external nature' but are bound together in an iron unity through their reflex physiological essence.

Physiological, in so far as the 'psychic' in perception is merely the physiological process of a *higher nervous activity*.

In this way the physiological sum total of the resonance of the shot *as a whole*, as a complex unity of all its component stimulants, is taken to be the general sign of the shot.

This is the particular 'feeling' of the shot that the shot as a whole produces.

And for the montage shot this is the same as the Kabuki method for its individual scenes (see the beginning).

The basic sign of the shot can be taken to be the final sum total of its effect on the cortex of the brain as a whole, irrespective of the ways in which the accumulating stimulants have come together.

The *sum totals* thus achieved can be put together in any conflicting combination, thereby opening up quite new possibilities for montage resolutions.

As we have seen, because of the actual genetics of these methods, they must be accompanied by an extraordinary *physiological* quality.

Just like the music that constructs its works on a special deployment of overtones.

Not the *classicism* of Beethoven, but the *physiological* quality of Debussy or Scriabin.

Very many people have remarked on the extraordinary physiological quality of the effect of *The General Line*.

This is precisely because it is the first film to be edited on the principle of visual overtone.

The actual *method* of montage can be interestingly verified.

If, in the brilliant classical distances of the future, cinema uses both overtonal montage and, simultaneously, montage by dominant sign (tonic), then, as always, the new method will in the first instance always assert itself by highlighting the principle of a problem.

In the first stages of its emergence overtonal montage had to take a line in sharp *contrast* to the dominant.

It is true that in many cases, even in *The General Line*, you will find such 'synthetic' combinations of tonal and overtonal montage.

For example, the 'diving under the icons' in the 'religious procession' or the grasshopper and the mowing-machine are edited *visually* according to their *sound* association with a deliberate revelation and their spatial similarity.

But the methodologically significant constructions are, of course, those that are without a dominant. Or those in which the dominant appears in the shape of a purely physiological formulation of the task (which is the same thing). For instance, the montage of the beginning of the 'religious procession' is carried out according to the degree to which the individual shots are 'saturated with fervour' and the beginning of the *sovkhoz* sequence is graded according to its 'carnivorousness'. The conditions of the extra-cinematic disciplines that place the most unexpected signs of equality between materials are logically, formally and in an everyday context absolutely neutral vis-à-vis one another.

There is also a mass of cases of montage junctures that make a resounding mockery of orthodox scholastic montage by dominants.

The easiest way to demonstrate this is to run the film on a 'cutting table'. It is only then that the complete 'impossibility' of the montage junctures that *The General Line* abounds in is quite clearly revealed. At the same time the extreme simplicity of its metre and its scale is disclosed.

Whole long sections of reels comprise shots that are quite equal in length or of absolutely primitive repeated shortness. The entire, complex, rhythmically *sensual* nuancing of the combination of shots is carried out almost exclusively in accordance with the 'psychophysiological' resonance of the shot.

It was on the cutting table that I myself discovered the extremely sharply defined uniqueness of the montage of *The General Line.*

When I had to cut and shorten it.

The 'creative ecstasy' that accompanies the assembly of the shots and the composition of the montage, the 'creative ecstasy' when you hear and feel the shots, that moment had already passed.

Cutting and shortening do not require inspiration, only technique and skill.

There I was, winding the 'religious procession' on the table and I could not fit the combination of shots into one of the orthodox categories (where you can lord it because of your sheer experience).

On the table, *immobile*, the sign that dictated their selection was quite unintelligible.

The criteria for their assembly turned out to lie outside the usual formal cinematic criteria.

And here is revealed yet one more curious feature of the similarity between the visual overtone and the musical.

It cannot be sketched in the statics of the shot, just as musical overtones cannot be sketched into the score.

Both emerge as a real constant only in the dynamics of the musical or cinematic *process.*

Overtonal conflicts, which are foreseen but not 'recorded' in the score, emerge only through dialectical formation when the film passes through the projector or an orchestra performs a symphony.

The visual overtone proves to be a real piece, a real element ... of the fourth dimension.

Of what is spatially unrepresentable in three-dimensional space and only emerges and exists in the fourth dimension (three plus time).

The fourth dimension?!

Einstein? Mysticism?

It is time to stop being frightened of this 'beast', the fourth dimension. Einstein himself assures us:

> The non-mathematician is seized by a mysterious shuddering when he hears of 'four-dimensional' things, by a feeling not unlike that awakened by thoughts of the occult. And yet there is no more common-place statement than that the world in which we live is a four-dimensional space-time continuum.[43]

With such an excellent instrument of cognition as cinema even its primitive form – the sensation of movement – is resolved by the fourth dimension. We shall soon acquire a concrete orientation in this fourth dimension and feel just as much at home as if we were in our bedsocks!

And then the question would arise of a fifth dimension!

Overtonal montage emerges as a new montage category in the series of montage processes that

we are already familiar with.

The direct *applied* significance of this method is *immense.*

And that is just as true for the burning question of the moment in cinema – for sound film.

In the article I have already cited at the beginning, referring to the 'unexpected juncture' – the similarity between the Kabuki and sound cinema – I wrote about the contrapuntal method of combining the visual and sound image: 'To master this method you have to develop within yourself a new *sense: the ability to reduce visual and sound perceptions to a new denominator ...'*[44]

Whereas *sound* and *visual* perceptions are *not reducible* to a single denominator.

They are constants in different dimensions.

But the visual overtone and the sound overtone are constants in a *single dimension*!

Because, while a shot is a visual *perception* and a tone is a sound perception, *both visual and sound overtones are totally physiological sensations.*

And, consequently, they are of *one and the same kind*, outside the sound of acoustic categories that serve merely as guides, paths to its achievement.

For the musical overtones (a beat) the term 'I hear' is no longer strictly appropriate.

Nor 'I see' for the visual.

For both we introduce a new uniform formula: 'I feel'.[*][45]

The theory and methodology of the musical overtone have been elaborated and made known (Debussy, Scriabin).

The General Line establishes the concept of the visual overtone.

The contrapuntal conflict between the visual and the sound *overtones* will give rise to the composition of the Soviet sound film.

II

Is the method of overtonal montage something foreign to cinema, something artificially grafted on to it, or is it simply a quantitative regrouping of a single sign so that it makes a dialectical jump and begins to figure as a new qualitative sign?

In other words, is overtonal montage the next dialectical stage of development of the general montage system of methods and does it stand in staged succession in relation to other kinds of montage?

The four categories of montage with which we are familiar are as follows (there is such a thing as a 'category' of montage, because we characterise montage by the specific quality of the process in various cases, and not by the external 'signs' that attend these processes):

1. Metric Montage

The basic criterion is the *absolute length* of the shots. The shots are joined together according to their lengths in a formula-scheme. This is realised in the repetition of these formulas.

Tension is achieved by the effect of mechanical acceleration through repeated shortening of the lengths of the shots while preserving the formula of the relationship between these lengths ('double', 'triple', 'quadruple', etc.).

The primitive form of the method: Kuleshov's montages in time, march-time and waltz-time (3:4,

2:4, 1:4, etc.).

The degeneration of the method: metric montage using a beat of complex brevity (16:17, 22:57, etc.).

This beat ceases to exert a physiological effect because it contradicts the 'law of prime numbers (relationships)'.

Simple correlations that preserve clarity of perception make for that same maximal effect.

That is why they are always to be found in wholesome classics in every field: architecture, the colour in a painting, a complex composition by Scriabin – they are always crystal clear in their 'articulation'. The geometricisation of *mises en scéne*, the clear schemes of rationalised state enterprises, etc.

Dziga Vertov's *The Eleventh Year* can serve as a similar negative example: the metric module is mathematically so complex that you can only determine its pattern 'with a ruler in your hand', i.e. by measuring rather than perceiving.

This in no way implies that the metre should be 'recognisable' at the moment of perception. Quite the contrary. Even though you are not conscious of it, it is nevertheless an indisputable precondition for the *organisation* of our feeling.

Its clarity joins the 'pulse-beat' of the film and the 'pulse-beat' of the audience 'in unison'. Without this there can be no 'contact' between the two.

Overcomplexity in the metric relationships will instead produce a chaos of perception rather than a distinct emotional tension.

A third instance of metric montage lies between the other two: it is a metric refinement in a complex alternation of shots that have a simple relationship with one another (or vice versa).

Examples: the *lezginka*[46] in *October* and the patriotic demonstration in *The End of St Petersburg*. (The second example can be considered a classic of *purely metric montage*.)

In this kind of montage what lies within each shot is completely *subordinated* to the absolute length of the shot. Hence it adheres to the primitive dominant character of the resolution (the possible 'unambiguity' of the shot).

2. Rhythmic Montage

Here the content within the shot is an *equivalent* element in determining the actual lengths of the shots.

Abstract scholastic determination of the lengths is replaced by a flexibility in the correlation between *actual* lengths.

Here the actual length does not coincide with the mathematical length allotted to it in accordance with the metric formula. Here the practical length of a shot is defined as the derivative of the specific quality of the shot and of the 'theoretical' length allocated to it according to the scheme.

Here it is quite possible to find a case of complete metric *identity* between the shots and the reception of the rhythmic figures exclusively through the combination of shots in accordance with signs within the shot.

Formal tension through acceleration is here achieved by shortening the shots, not just in accordance with the basic scheme's formula of repetition, but also in violation of this canon.

Best of all by introducing more intensive material into the same temporal signs.

The 'Odessa Steps' may serve as a classic example. There the 'drumbeat' of the soldiers' feet descending the steps destroys all metrical conventions. It occurs outside the intervals prescribed by the metre and each time it appears in a different shot resolution. The final build-up of tension is produced by *switching* from the rhythm of the soldiers' tread as they descend the steps to another, new form of movement – the next stage in the intensification of the same *action* – the pram rolling down the steps.

Here the pram works in relation to the feet as a direct staged accelerator.

The 'descent' of the feet becomes the 'rolling down' of the pram.

Contrast this with the previously cited example from *The End of St Petersburg*, where the tensions are resolved by cutting the *same* shots down to minimal cellular montage.

Metric montage is quite adequate for that kind of simple march-time resolution.

But it is not adequate for more complex rhythmic tasks.

Its forcible application 'come what may' to these sorts of cases leads to montage failures. That is what happened, for example, in *Storm over Asia*[47] with the religious dances. This montage, edited on the basis of a complex metric scheme that had not been adjusted to the specific weighting of the shots, could not achieve the necessary rhythmic effect.

And in many cases this provokes bewilderment among specialists and inconsistent perception among the lay audience. (This kind of case can be artificially corrected by the musical accompaniment, as happened in this particular example.)

I have called the third type of montage:

3. Tonal Montage

This term appears for the first time. It is the next stage after rhythmic montage.

In rhythmic montage by *movement* within the shot we mean actual transposition (either of an object within the scope of the shot or of the eye along the guiding lines of an immobile object).

But here, in this instance, movement is understood in a wider sense. Here the concept of movement embraces *all sorts of vibrations* that derive from the shot.

But to assert that, from the standpoint of perception, it is characterised by the emotional tonality of the shot, i.e. by an apparently 'impressionistic' measurement, is a simple delusion.

The characteristics of the shot can be measured just as precisely here as in the simplest instance of 'ruler' measurement in primitive metric montage.

Only the units of measurement are different here. And the actual amounts to be measured are different.

For example, the degree of light variation in a piece cannot only be gauged by a selenium light-element but can be fully perceived in all its gradations by the naked eye.

If we give a conventional, emotional designation of 'more gloomy' to a shot that is to be predominantly resolved by lighting, this can be successfully replaced by a mathematical coefficient for a simple degree of illumination (a case of 'light tonality').

In another instance, were we designate the shot as a snarp sound, it is extremely easy to apply this designation to the overwhelming number of acutely angled elements of the shot that prevail over the rounded elements (a case of 'graphic tonality').

A play on combinations of degree of 'soft-focus'[48] or various degrees of sharpness is the most typical example of tonal montage.

As I said above, this case is constructed on the *dominant* emotional resonance of the shot. Some examples: 'Fog in the port of Odessa' (the beginning of the 'Mourning for Vakulinchuk' sequence in *Potemkin*).

Here the montage is built exclusively on the emotional 'resonance' of individual shots, i.e. on the rhythmic vibrations that do not produce spatial transpositions.

In this regard it is interesting that, alongside the basic tonal dominant, a second, accessory *rhythmic* dominant of shots is operating in the same way.

It acts as a link between the tonal construction of this particular scene and the rhythmic tradition, whose furthest development is tonal montage as a whole.

Because rhythmic montage is a special variant of metric montage.

This secondary dominant is realised in the scarcely perceptible ripple on the water, the slight bobbing of vessels at anchor, the slowly swirling mist, the seagulls landing slowly on the water.

Strictly speaking, these too are elements of a *tonal* order. The movements are transpositions of material edited according to their tonal, rather than their spatial-rhythmic, sign. For here the spatially incommensurable transpositions are combined according to their emotional resonances.

But the principal indicator for the assembly of the shots remains entirely in the sphere of the combination of shots according to their basic optical light variations (degrees of 'obscurity' and 'illumination'). And it is in the structure of these variations that the identity with a minor harmony in music is revealed.

In addition, this example gives us a model of a *consonance* in internal combinations of movement as *transposition* and movement as *light variation.*

Here too the intensification of tension follows the *intensification* of the same 'musical' sign of the dominant.

The scene of the 'delayed harvest' (in the fifth reel of *The General Line*) may serve as a particularly graphic example of this build-up.

In both the construction of the film as a whole and this particular case its basic method of staging has been observed.

Namely, conflict between 'content' and its traditional 'form'.

An emotional structure applied to non-emotional material. The stimulant has been separated from its characteristic situation (e.g. the treatment of the erotic in the film) right down to paradoxical tonic constructions. The industrial 'monument' turns out to be a typewriter. There is a wedding ... but between a bull and a cow. And so on.

Thus the thematic *minor* of the harvest is resolved by the thematic *major* of the storm, the rain. (And even the harvest – a traditionally major theme of fertility under the sun's blazing rays – is used to resolve the minor theme and is in addition soaked by the rain.)

Here the increase in tension proceeds by internal reinforcement of the resonance of that same dominant chord. The growing *pre-storm 'oppressiveness'* of the shot.

As in the previous example, the tonal dominant – movement as light variation – is here accompanied by a second dominant, a rhythmic one, i.e. movement as transposition.

Here it is realised in the growing force of the wind, condensed from air 'streams' into the watery 'torrents' of rain.[49] (A complete analogy with the soldiers' feet passing to the pram.)

In this general structure the role of the rain and wind is quite identical to the link between the

rhythmic rocking and the haziness of the lens in the first example. In fact, the *character* of the relationships is the direct opposite. In opposition to the consonance of the first example we have here the reverse.

The heavens gathering into a black stillness are contrasted with the strengthening dynamic force of the wind, that grows and condenses from air 'streams' to watery 'torrents' – the next stage of intensity of the dynamic attack on women's skills and the delayed rye.

Here this collision between two tendencies – the intensification of the static and the intensification of the dynamic – provides us with a clear instance of *dissonance* in tonal montage construction.

From the point of view of emotional perception the 'harvest' sequence is an example of the *tragic* (active) minor key, as distinct from the *lyrical* (passive) minor like the 'port of Odessa' sequence.

It is interesting that both examples are edited according to the first appearance of movement, which follows movement as transposition. That is, according to 'colour':

in *Potemkin*, moving from dark grey to misty white (real-life equivalent: 'dawn'),

in the harvest sequence, from light grey to lead black (real-life equivalent: 'the approaching storm'), i.e. according to the frequency of light variations, that are *increasing in frequency* in one instance and *decreasing*, according to the sign, in the other.

We have a complete repetition of the picture of simple metric construction, but perceived in a new and significantly higher category of movement.

The fourth montage category can be justly called:

4. Overtonal Montage

As we can see, overtonal montage, as I characterised it at the beginning of this essay, is the furthest organic development of tonal montage.

As I have already indicated above, it distinguishes itself by taking full account of all the stimulants in the shot.

This characteristic enhances perception from a *melodically emotional colouring to a direct physiological sensation.*

I think that this also marks an advance on the other stages.

These four categories are the *methods of montage.* They become a *montage construction* proper when they enter into conflicting relationships with one another (as in the examples cited).

In this process, replacing one another in accordance with the scheme of their interrelationships, they move towards more refined variants of montage that flow organically from one another.

Thus, the transition from the metric to the rhythmic method arose from the emergence of conflict between the length of the shot and movement within the shot.

The transition to tonal montage resulted from the conflict between the rhythmic and tonal principles of the shot.

Lastly, overtonal montage resulted from the conflict between the tonal principle of the shot (the dominant) and the overtonal.

These considerations provide us in addition with an interesting criterion with which to evaluate montage construction from the standpoint of its 'pictorial quality' [*zhivopisnost'*]. Pictorial quality as opposed to cinematic. Aesthetic pictorialism as opposed to physiological animation.

To pass judgment on the pictorialism of a *shot* in cinema is naive. It is for people with a reasonable knowledge of painting but absolutely no qualifications in cinema. This kind of judgment could include, for example, Kazimir Malevich's statements on cinema. Not even a film novice would now analyse a film shot as if it were an easel painting.[50]

I think that the criterion for evaluating the 'pictorialism' of a montage construction, in the broadest sense of the term, must be this: is the conflict resolved within one of the montage categories, i.e. without a conflict arising between different montage categories?

Cinema begins where the collision between different cinematic measures of movement and vibration begins.

For example, the 'pictorial' conflict between a figure and the horizon (whether static or dynamic is irrelevant), or the alternation of differently lit shots purely according to the conflicts between the light variations, or between the forms of the object and its illumination, etc.

We should also note the characteristics of the effect of individual montage variants on the 'psychophysiological' complex of the perceiver.

The first category is characterised by the primitive motor of effect. It is capable of leading the audience into specific outwardly motor states.

This is how the hay-making sequence in *The General Line*, for example, is edited. The individual shots move – 'unambiguously' – in a single movement from one side of the frame to the other, and I really laughed when I watched the more impressionable section of the audience as they rocked slowly from side to side with the increasing acceleration or when the shots got shorter. The effect was the same as that of a drum and brass playing a simple march.

We call the second category rhythmic, although it could also be called primitive emotional. Here the movement is more subtly calculated, because the emotion is also the result of movement, but of movement that never reaches the primitive external transposition.

The third category – tonal – could be called melodic emotional. Here the movement, which in the second case had already ceased to be transposition, clearly passes over into emotional *vibration* of a still higher order.

The fourth category – a new influx of pure physiologism – repeats with the greatest intensity the first category, once more finding a new stage in the intensity of the direct motor effect.

In music this is explained by the fact that, from the moment when overtones appear in parallel with the underlying resonance, there also appear so-called beats, i.e. kinds of vibrations that once again cease to be perceived as tones but are perceived rather as purely physical 'parallaxes' on the part of the perceiver. This applies to strongly pronounced timbre instruments where the overtonal principle is greatly preponderant.

They sometimes achieve the sensation of physical 'parallax' almost literally: very large Turkish drums, bells, organ.

In some places in *The General Line* I managed to achieve conflicting combinations of the tonal and overtonal lines. Sometimes they also collide with the metric and rhythmic lines. For example, individual junctions in the religious procession: 'diving' beneath the icons, the melting candles and the panting sheep at the moment of ecstasy, etc.

It is interesting that, while making our selection, we quite unconsciously produced evidence of the essential equality between *rhythm* and *tone*, establishing the same kind of staged unity between them as I had previously established between the concepts of *shot* and *montage*.

Hence, tone is a stage of rhythm.

For those who are afraid of such gradational reductions to a common denominator and of the extension of the characteristics of one stage into another for the purposes of research and methodology, I shall recall a quotation concerning the basic elements of the dialectic:

> These, apparently, are the elements of the dialectic. These elements may be presented in a more detailed way thus: ...
>
> (11) an endless process of deepening the human cognition of objects, phenomena, processes, etc., from appearances to essence and from the less profound to the more profound essence.
>
> (12) from coexistence to causality and from one form of connection and interdependence to another, deeper and more general.
>
> (13) repetition, at the highest stage, of certain traits, characteristics etc. of the lowest stage and
>
> (14) return, as it were, to the old. ...[51]

After this quotation I think that there will be no objection to the next order of montage, established as an even higher category of montage, i.e. intellectual montage.

Eisenstein meets Mickey Mouse, 'my best friend in the USA, in Hollywood, September 1930.

Intellectual montage is montage not of primitively physiological overtonal resonances but of the resonances of overtones of an intellectual order,

i.e. the conflicting combination of accompanying intellectual effects with one another.

The gradation is here determined by the fact that there is no difference in principle between the motive force of a man rocking to and fro under the influence of primitive metric montage (viz., the hay-making example) and the intellectual process within it, for the intellectual process is the same oscillation – but in the centres of higher nervous activity.

Whereas in the first case under the influence of 'tap-dance montage' [*chechetochnyi montazh*] the hands and feet quiver, in the second case this quivering, provoked by an intellectual stimulant combined differently, produces an identical reaction in the tissues of the higher nervous system of the thought apparatus.

Whereas, judged as 'phenomena' (appearances), they seem in fact to be different, judged as 'essence' (process), they are, of course, identical.

The application of the experience of work on lower lines to categories of a higher order gives us the opportunity to carry the attack into the very heart of objects and phenomena.

Hence, the fifth category was the case of the intellectual overtone.

The sequence of the gods in *October* may serve as an example of this. In it all the conditions for their juxtaposition are conditioned by the class-intellectual (class, because, whereas the emotional 'principle' is universally human, the intellectual principle is profoundly coloured by class) resonances of the shot of 'god'.

These shots were assembled on a descending intellectual scale and lead the notion of god back to a block of wood.

But this, of course, is not yet the intellectual cinema that I have been announcing for some years now.

Intellectual cinema will be the cinema that resolves the conflicting combination of physiological overtones and intellectual overtones,[52] creating an unheard-of form of cinema which inculcates the Revolution into the general history of culture, creating a synthesis of science, art and militant class consciousness.

As we see it, the question of the overtone has enormous significance for the future.

We must examine the problems of its methodology all the more attentively and conduct a thorough investigation of it.

Notes

[38] Only the first part of this essay, written in Moscow in August and September 1929, was published in Russian in E's lifetime as

'Kino chetyrekh izmerenii' [Four-Dimensional Cinema], *Kino*, 27 August 1929

. This appeared in English as

'The Fourth Dimension in the Kino', *Close Up*, March 1930

. The second part of the essay, written in London in November and December 1929, appeared for the first time in English as

'The Fourth Dimension in the Kino: II', *Close Up*, April 1930

.

Jay Leyda re-translated both as 'The Filmic Fourth Dimension' and 'Methods of Montage'

respectively in *Film Form*, pp. 64–71 and 72–83

. The complete piece was published in Russian for the first time only in 1964 in *IP*, vol. 2, pp. 45–59 as 'Chetvertoe izmerenie v kino' [The Fourth Dimension in Cinema], which is the title given to the present translation.

[39] See

ESW 1, p. 117

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[40] The Russian word here is *kuski*, plural of *kusok*, which may also be translated as a 'fragment', 'piece' or 'strip'.

[41] In English in the original.

[42] E is using 'Left' here to denote avant-garde composers generally. Claude Debussy (1862–1918) was a French composer; Alexander N. Scriabin (also Skryabin, 1871–1915) was a Russian pianist and composer who tried to develop audio-visual techniques.

[43] A Einstein, *Relativity: The Special and the General Theory* (London: 1920), p. 65

, the opening sentence of Ch. XVII, 'Minkowski's Four-Dimensional Space'. This quotation does not appear in the published Russian text of this document.

[44] See

ESW 1, p. 119

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[*] Here it is a question of the same kind of de-individualisation of the *character* of a category of feeling as you find, for instance, in a different 'psychological' phenomenon: when you feel the *pleasure* that derives from extreme *suffering*. Stekel writes of this: 'In cases of affective hypertension pain ceases to be regarded as pain, but is felt as nervous tension …. But any powerful nervous tension has a tonic effect, and the heightened tone provokes a feeling of satisfaction and pleasure.'

[45] W. Stekel was a German psychologist and psychoanalyst of the Freudian school. See also

ESW 4, p. 104

. E's quotation is presumably from *Nervöse Angstzustände und ihre Behandlung* [Nervous Anxiety States and Their Treatment] (3rd edn, Berlin/Vienna: 1921).

[46] See 1923, n. 21.

[47] *Storm over Asia* was the overseas release title given to Vsevolod Pudovkin's film *Potomok Chingis-khana*, literally *The Heir to Genghis-Khan* [USSR, 1929].

[48] In English in the original.

[49] A play on words between the Russian *tok*, meaning a 'stream' and *potok*, meaning a 'current'.

[50] See 1929, n. 20.

[51] The quotation is from Lenin's 'Conspectus of Hegel's

Science of Logic and appears to be a paraphrase of the section reproduced in *Collected Works*, vol. 38 (Moscow: 1961), p. 132

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[52] E is making a cross-reference here to

'Perspectives', *ESW 1*, pp. 151–60

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